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**IN THE UNITED STATES COURT OF APPEALS FOR
THE FEDERAL CIRCUIT**

in re PETRUS A.C.M. NUIJTEN

APPEAL FROM THE BOARD OF PATENT APPEALS AND
INTERFERENCES OF THE UNITED STATES PATENT AND
TRADEMARK OFFICE

APPEAL No. 2003-0853 (Patent Application 09/211,928)

**PETITION FOR REHEARING *EN BANC*
of
APPELLANT Petrus A.C.M. Nuijten**

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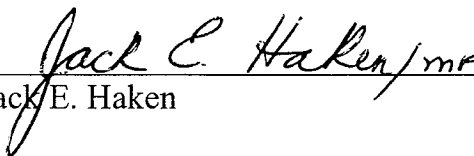
CERTIFICATE OF CORPORATE INTEREST

The undersigned attorney certifies as follows:

1. The full name of every party or amicus represented by me is
Petrus A.C.M. Nuijten.
2. The name of the real party in interest is
U.S. Philips Corporation.
3. All parent corporations and publicly held companies that own 10
percent or more of the stock of the party represented by me are:
 - a. Philips Holding U.S.A., Inc.
 - b. Koninklijke Philips Electronics N.V. (aka Royal Philips
Electronics NV)
4. The names of all law firms and partners or associates that appeared for
the party now represented by me in the agency below, or are expected
to appear in this Court are:
 - a. Jack E. Haken
 - b. Larry Liberchuk
 - c. Aaron Waxler
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October 31 , 2007



Jack E. Haken

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REQUIRED STATEMENT OF COUNSEL

Based upon my professional judgment, I believe that the panel decision is contrary to the following decisions of the Supreme Court of the United States and the precedents of this Court: *American Fruit Growers, Inc. v. Brogdex* 283 U.S. 1 (1931); *Diamond v. Chakrabarty* 447 U.S. 303 (1980); *O'Reilly v. Morse* 56 U.S. 62 (1853); *AT&T Corp. v. Excel Commc'ns, Inc.*, 172 F.3d. 1352 (Fed. Cir. 1999); and *In re Breslow* 616 F.2d. 516 (C.C.P.A. 1980).

Based upon my professional judgment, I further believe this appeal requires answers to the following precedent-setting questions of exceptional importance:

1. Are signals, per se, patentable subject matter under 35 U.S.C. §101.
2. Should this Court depart from the principles that Congress intended the statutory definitions of patentable subject matter to be given wide scope and that the purposes of the 1952 Patent Act are not properly served by a narrow construction of the scope of patentable subject matter under 35 U.S.C. §§ 100 and 101?
3. Does 35 U.S.C. § 101 require that a patentable invention, which is both man-made and physical, must also have permanence (i.e., be neither

transitory nor fleeting) and/or that such invention must be perceptible without resort to special equipment?

Jack E. Haken, MC

Jack E. Haken, Attorney of Record

ARGUMENT

Mr. Nuijten petitions the Court for a rehearing *en banc* of his appeal from a decision of the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office (USPTO), which held that his patent claims that describe his invention as a signal *per se* are not directed to patentable subject matter under 35 U.S.C. § 101. This Court should reconsider the panel decision *en banc* and reverse the holding that signals are not patentable subject matter. The majority's legal and logical errors are well laid out in the dissent and we urge the *en banc* Court to adopt Judge Linn's analysis, the principal points of which we summarize below.

Mr. Nuijten's patent application describes improved methods and apparatus for adding digital watermarks to signals that carry audio, video, and other program material in a manner that reduces noise and distortion that could otherwise manifest during playback of the programs.

The USPTO allowed Mr. Nuijten's patent claims for apparatus and processes, as well as for a signal stored on a physical medium. The only issue before this Court is whether the same signal that is patentable when claimed in storage is also patentable when claimed without reference to a storage medium.¹

1. The Panel's Analysis And Construction Of §101 Violates Clear Supreme Court Precedents And Fundamental Principles Of Statutory Construction.

A. In *Chakrabarty*, The Supreme Court Held That The Patent Laws Should Be Broadly Applied.

The Supreme Court made an express finding that Congress intended that the patent laws, and particularly §101, should be given wide scope and that the term "manufacture" is expansive.

"In choosing such expansive terms as 'manufacture' and 'composition of matter', modified by the comprehensive 'any', Congress plainly intended that the patent laws would be given

¹ The principal commercial applications of digital watermark technology are tracing and suppressing copyright infringement and other piracy of music and video programs. A lion's share of this infringing traffic flows across international borders and over the Internet. Digital programs are often produced by groups of artists, technicians and service firms who collaborate and/or serially add their inputs to the finished products. Conventional apparatus and process claims often will not reach patent infringement in these distributed network environments (*see, e.g., BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (Fed. Cir. 2007)); nor is it certain that complete infringing signals will be stored in server memories or on other physical media within the United States.

wide scope” *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980).

The Court’s guidance in *Chakrabarty* is that 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. This Court’s analysis in *AT&T Corp. v. Excel Commc’ns, Inc.*, 172 F.3d 1352, 1355, 1361 (Fed. Cir. 1999) (applying §101 by subtracting from “anything under the sun that is made by man” only the three exceptions enumerated by the Supreme Court) left little room for the term “manufacture” to impose additional limitations on the scope of patentable subject matter. (D10.)²

But the panel majority pays little heed to these fundamental principles and instead engages in a construction of §101 that substantially narrows the scope of patentable subject matter by stringing together myopic dictionary definitions with the majority’s own conjectures for three of the §101 categories of invention³ in an illogical and at times wholly unsupported

² References herein are to the page numbers of the panel’s slip opinion dated September 20, 2007. References to pages of the majority opinion are denoted “M__” and references to Judge Linn’s dissent are denoted “D__”.

³ Mr. Nuijten did not argue on appeal that his signals are compositions of matter.

argument. The majority’s analytic errors are well–described in Judge Linn’s discussion of the majority’s construction of the statutory term “manufacture,” which starts with an 1895 *Century Dictionary* definition that the Supreme Court quoted in *American Fruit Growers v. Brogdex*, 283 U.S. 1 (1931):

manufacture - “the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery.”⁴

The majority’s construction substantially narrows this definition by incorporating into it a separate 1895 definition of **article** – “a particular substance or commodity” – from which the majority deduces that manufactures must be “tangible”; a quality that, without further explanation, they go on to conclude excludes “[a] transient electric or electromagnetic transmission.” (M16.) The majority’s narrow construction of patentable subject matter under §101 violates the Supreme Court’s decision in

⁴ *American Fruit*, 283 U.S. at 11 (quoting 5 *Century Dictionary* 3620 (William Dwight Whitney ed., 1895)), quoted in *Chakrabarty*, 447 U.S. at 308 (emphasis added in the panel decision at M15).

Chakrabarty and this Court's decision in *AT&T*.⁵

B. In *American Fruit*, The Supreme Court Did Not Hold That "Manufactures" Must Be Tangible.

The majority's conclusion that precedent binds them to construe the term "manufacture" in accordance with the quoted *American Fruit* definition (M15 n.5) is erroneous. Neither *American Fruit* nor *Chakrabarty* confronted or decided a question of tangibility or permanence. The question in *American Fruit* was whether an orange impregnated with borax was a patentable "manufacture" within the meaning of the predecessor to §101 - as distinguished from an unpatentable naturally-occurring object, 283 U.S. at 11. The *Chakrabarty* Court cited the *American Fruit* definition of "manufacture" only to support the proposition that the term was expansive and that Congress plainly contemplated that the patent laws would be given wide scope. 447 U.S. at 308. In neither case did the Supreme Court decide or discuss the question that was before the panel in this appeal.

Furthermore, as explained in the dissent (D5), the *American Fruit* Court went on to quote a second definition for "manufacture" from the *Century Dictionary* in addition to the one repeated in *Chakrabarty*:

⁵ The very practice of selecting or favoring a particular dictionary definition to the exclusion of others during construction of §101 is fundamentally incorrect. The word 'any' excludes selection or distinction. *Citizens' Bank v. Parker*, 192 U.S. 73, 81 (1904).

manufacture – “anything made for use from raw or prepared materials.”

which does not, by its terms, require that a manufacture be either an article or a transformed raw material, only that it be something – **anything** – made from them. Mr. Nuijten’s signals, which the majority agrees are “man-made” and “physical,” (M11) are no doubt manufactures under this definition.

C. In *O’Reilly v. Morse*, The Supreme Court Upheld The Patentability Of Signals.

Signals are also patentable subject matter because they fall within the §100 definition of a “process.” The panel’s own reading of Supreme Court precedent in *O’Reilly v. Morse*, 56 U.S. 62 (1853), demonstrates that signals have historically been patentable and that they continue to be patentable subject matter under the 1952 Patent Act.

Mr. Nuijten argued that signals have historically been considered arts, and that 35 U.S.C. §100 expressly defines “processes” to include those inventions that were deemed to be arts before adoption of the 1952 Patent Act. But the panel held that a signal is not a process based upon their determination that binding precedents require that: (1) a process claim must specify some action and (2) a process must constitute a series of acts. In this context, the majority and dissenting opinions both focused on the precedent

of the fifth Morse telegraph code claim which the Supreme Court held patentable in 1853.

“Fifth. I claim, as my invention, the system of signs, consisting of dots and spaces, and of dots, spaces, and horizontal lines, for numerals, letters, words, or sentences, substantially as herein set forth and illustrated, for telegraphic purposes.” *O’Reilly*, 56 U.S. at 86.

The majority rationalizes that Morse’s fifth claim was, in fact, a process claim covering the method (or “art”) of signaling, with the true character of the claim being somewhat obscured “by the dated language of the claim.” (M17 n.9.) But the Supreme Court’s holding that Samuel Morse’s telegraph code constitutes patentable subject matter⁶ cannot be simply explained away as an antiquated language form for describing process steps. This is perhaps best demonstrated through application of modern principles of construction by comparing the language of Morse’s fifth claim with his use of the same language in his sixth claim, which was also found to constitute patentable subject matter:

⁶ The patentability of these claims was at issue in *O’Reilly* and validity was a necessary finding for the Court’s affirmation of infringement.

Sixth. I also claim as my invention the **system of signs, consisting of dots and spaces, and of dots, spaces, and horizontal lines**, substantially as herein set forth and illustrated, in combination with machinery for **recording them, as signals** for telegraphic purposes. (*Id.*, emphasis added.)

There is little room to rationalize the **system of signs** recited in the fifth Morse code claim as an obscure recitation of a series of process steps or as an action when that very same system of signs (consisting of dots spaces and lines) which is recited *per se* in the fifth claim is recorded **as a signal** by the machinery of the very next claim.

Quite clearly, there are no express actions or process steps recited in Morse's fifth claim. If the majority is correct in its finding that the invention of the fifth claim is a process, then Supreme Court precedent has in fact sanctioned a class of process claims that do not recite actions or process steps and Nuijten's signal claims are also patentable as §101 processes.

On the other hand, if Judge Linn's dissent is correct in observing that Morse's fifth claim recites a manufacture (D21 n.8), then it directly follows that Nuijten's signal claims are also patentable as §101 manufactures.

2. **The Majority Improperly Created Additional Limitations On The Patentability Of "Manufactures" That Are Contrary To The Precedents Of This Court And Are Unsound Legal Policy.**

After working along its tenuous thread to a proposition that a patentable “manufacture” must be an “article,” the majority takes another wholly unsupported and illogical jump to conclude that an article cannot be fleeting or devoid of permanence. Without citing any precedent or supporting authority, the majority has created entirely new limitations on the patentability of “manufactures” based upon the length of time that an embodiment of an invention exists and the need for special equipment to detect its presence.

The appeal panel construed the language of Mr. Nuijten’s rejected claims and unanimously found that they require the presence of a tangible physical carrier of information. A majority of the panel nonetheless held that these claims are not directed to patentable subject matter because their scope is so broad as to include fleeting and transitory forms of signals which, though physical, are not “tangible articles or commodities.” (M16.)

More specifically, the majority concluded that the signal claims do not constitute patentable subject matter because their scope is construed to encompass electrical and electromagnetic signals, which the majority characterizes as fleeting, transitory, and “lacking any semblance of permanence during transmission.” (M16, 17.)

While the language of the appealed patent claims does not mention electricity or electromagnetism, either by inclusion or exclusion, the panel held that “any tangible means of information carriage will suffice for the claims at issue.” (M10, emphasis in the original.) Along with digital electrical signals, Mr. Nuijten’s patent specification also describes embodiments of signals that are physically inscribed on DVD discs and, as Judge Linn notes in his dissent, the claim language is broad enough to encompass magnetic fields of a hard disk drive, a stream of photons propagating across a vacuum, or any other form that technology may put a signal in. (D17.)

The majority finding pivots on its concern that some electrical and electromagnetic signals that fall within the scope of Mr. Nuijten’s claims have fleeting and transitory characteristics during the brief periods when they are propagating from a transmitter to a receiver. However, the majority fails to acknowledge that the very same signals inherently have different and less transitory characteristics while they are being generated, prepared for transmission, received, stored, and reproduced.

Neither the Supreme Court nor this Court have previously announced a principle that an invention must remain stationary in space or time to be

patentable. A novel bullet does not become unpatentable as it travels from gun barrel to target (at which time it may only be detectable by high speed photography equipment) nor does a semiconductor implant become unpatentable when it is propagated across a fabrication-line vacuum chamber as an ion beam.⁷

As Judge Linn wisely remarks, this Court has squarely held that transitory inventions are patentable under §101. “For example, in *In re Breslow*, we held that chemical intermediates are patentable compositions of matter under §101 even if they are transitory, unstable, and non-isolatable. 616 F.2d 516, 519, 521-22 (C.C.P.A. 1980). In so holding, we recognized that the compounds can as well be considered manufactures as composition[s] of matter *Id.* at 522.” (D4, internal quotation marks omitted.)

There is also no sound statutory basis to conclude that inventions are unpatentable if they cannot be detected without resort to special equipment. The majority’s argument that an invention becomes unpatentable as a

⁷ The majority tells us that photons are not tangible (M17 n.6), but provides no basis or rule for distinguishing photons from ions or other (perhaps more tangible?) particles on an atomic or sub-atomic scale. Light is certainly tangible. Laser beams are regularly used as machine elements. There is, for example an entire new technology that utilizes light beams as elements of “optical tweezers” that are used to manipulate small particles. *See, e.g.*, U.S. Patent No. 6,416,190 (filed Apr. 27, 2001) (“Apparatus for Using Optical Tweezers to Manipulate Materials”).

manufacture when it can only be detected through use of special equipment (M16) lacks basis and literally flies in the face of modern technology and a century or more of patent practice. Broad application of this rule will exclude most inventions in the biotechnology, chemical, electrical, semiconductor, and micro-machinery arts.

The majority's statutory construction is not even supported by the authority they cite. The *American Fruit* definition of "manufacture" is not limited to tangible or non-transitory inventions by its own terms. As Judge Linn aptly remarks, raw materials that take new form to become "manufactures" need not be tangible or permanent inputs: and he further notes that the same *Century Dictionary* alternately defines **material** to mean, *inter alia*, "that which composes or makes a part of anything." (D4, citations omitted.) Even the majority's hand-picked definition for "article" provides no indication that the substance must subsist any longer than is necessary for it to be useful.

3. Signals Are Patentable Subject Matter Because They Fall Within All Of The Relevant Definitions Of A "Manufacture."

Use of the term "manufacture" in the patent statutes dates from 1793 and the appropriate dictionaries for interpreting the language are those written in the era when the statute was passed. *Smiley v. Citibank (S.D.)*,

N.A., 517 U.S. 735, 745 (1996). Late 18th century dictionary definitions demonstrate that “manufacture” was a broad term.⁸ But, even if the Court finds that the majority was correct when it adopted the narrow 1895 *Century Dictionary* definitions of “manufacture” and “article” (i.e. a particular substance or commodity) (M16) electrical signals are patentable subject matter because electricity and electric energy are commodities.⁹

CONCLUSION

For the foregoing reasons, this Court should reconsider the panel decision *en banc* and hold that Mr. Nuijten’s signals are patentable subject matter under 35 U.S.C. § 101.

⁸ Nathan Bailey, *The New Universal Etymological English Dictionary* (25th ed., 1783) defines **manufacture** to encompass “any sort of commodity made by the work of the hands.” Samuel Johnson, *A Dictionary of the English Language* (1755) defines **manufacture** as “the practice of making any piece of workmanship” or “anything made by art.”

⁹ See *Kirkwood v. Union Elec. Co.* 671 F.2d 1173 (8th Cir. 1982), *cert. denied*, 459 U.S. 1170 (1983); *Ellwood City v. Pa. Power Co.*, 570 F. Supp. 553 (W.D. Pa. 1983); and *Concord, Mass. v. Boston Edison Co.*, 676 F. Supp. 396 (D. Mass. 1988) (holding that electricity is a commodity for purposes of 15 USC § 13). *But see also Newark v. Delmarva Power & Light Co.* 467 F. Supp. 763 (D. Del. 1979). See also *Jersey Cent. Power & Light Co. v. Fed. Power Comm’n*, 319 U.S. 61, 80 (1943) (Roberts, J., dissenting) (“It had been settled that the transmission and sale of a **commodity, such as electricity**. . . in interstate commerce, did not preclude regulation of the rates. . .”) (emphasis added).

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