

Last Month at the Federal Circuit

Special Edition

Federal Circuit Restricts Patent Protection Available to Business Methods and Signal Claims Under 35 U.S.C. § 101

In two decisions issued September 20, 2007, the Court of Appeals for the Federal Circuit limited the reach of patent protection under 35 U.S.C. § 101, which permits patenting “any new and useful process, machine, manufacture, or composition of matter.” In *In re Comiskey*, the Court held that claims reciting business methods can be patented only if a claimed process involves another class of statutory subject matter, such as a computer. In *In re Nuijten*, the Court held that a signal is unpatentable subject matter because “transitory electrical and electromagnetic signals propagating through some medium” do not fall within a statutory category of patentable subject matter.

In re Stephen W. Comiskey

No. 2006-1286 (Fed. Cir. Sept. 20, 2007)

Erika H. Arner

Judges: Michel, Dyk (author), Prost

[Appealed from Board]

In *In re Stephen W. Comiskey*, No. 2006-1286 (Fed. Cir. Sept. 20, 2007), the Federal Circuit affirmed the Board’s decision rejecting claims to a mandatory arbitration process in U.S. Patent Application No. 09/461,742 by Stephen W. Comiskey (“Comiskey”). Although the Board had affirmed the Examiner’s rejections based on prior art under 35 U.S.C. § 103, the Federal Circuit did not consider that reasoning, but instead affirmed the rejections of the method claims on the grounds that they did not recite patentable subject matter under 35 U.S.C. § 101. The Court remanded the case to the PTO for further consideration of the system claims in the application.

Comiskey’s application claimed methods and systems for performing mandatory arbitration resolution regarding one or more unilateral documents. The PTO Examiner rejected the claims under 35 U.S.C. § 103(a)

as obvious over a combination of prior art references. The rejections were affirmed by the Board, and Comiskey appealed to the Federal Circuit. Though the PTO had not rejected Comiskey’s claims as unpatentable under 35 U.S.C. § 101, the Federal Circuit raised the issue during oral argument. In particular, Chief Judge Michel noted that the claims were broader than any computer-implemented system, and the judges wondered aloud whether method claims that do not require any machine or computer fall within the scope of section 101. After oral argument, the Federal Circuit requested supplemental briefing on the section 101 issue.

In its decision, the Court expressly did not reach the obviousness rejections affirmed by the Board, instead finding that many of the claims were barred by the threshold requirement of compliance with section 101. The Court cited with favor the PTO’s own Manual of Patent Examining Procedures as correctly treating the requirements of section 101 as a predicate to the other requirements for patentability, such as novelty and nonobviousness.

In its Discussion, the Court first addressed Comiskey’s argument that the issue of patentable subject matter

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could not properly be raised by the reviewing Court. Although Comiskey admitted at oral argument that the Federal Circuit could affirm the claim rejections based on section 101, he argued in his supplemental brief that the Court was limited to reviewing the Board's decision based on the record before the PTO, citing the Administrative Procedure Act. The Court rejected this argument and cited the Supreme Court's holding in *Securities & Exchange Comm'n v. Chenery Corp.*, 318 U.S. 80 (1943), that a reviewing court can and should affirm an agency decision on legal grounds not relied on by the agency when there is no issue of fact, policy, or agency expertise. Noting that whether claims recite statutory subject matter under section 101 is a question of law reviewed without deference, the Court continued with its analysis.

Beginning with the Constitutional provision authorizing Congress to grant patents to promote the "useful Arts," the Court examined the scope of subject matter that falls within the four categories set forth in the Patent Act of 1952, i.e., any new and useful process, machine, manufacture, or composition of matter. While patentable subject matter under the Act is "extremely broad," the Court noted that not every process is patentable. For example, the Court continued, the unpatentable nature of abstract ideas has been repeatedly confirmed. Slip op. at 16.

Regarding the prohibition against patenting abstract ideas, the Court stated that the requirements of section 101 have long meant that an abstract concept with no claimed practical application is not patentable. Going one step further, the Court stated that "a claim reciting an algorithm or abstract idea can state statutory subject matter only if, as employed in the process, it is embodied in, operates on, transforms, or otherwise involves another class of statutory subject matter, i.e., a machine, manufacture, or composition of matter." *Id.* at 17.

The Court next analyzed Supreme Court cases finding an algorithm patentable if it is tied to a machine or if it acts to transform subject matter to a different state or thing. *Diamond v. Diehr*, 450 U.S. 175 (1981); *Cochrane v. Deener*, 94 U.S. 780 (1876); *Tilghman v. Proctor*, 102 U.S. 707 (1880). The Court also examined several of its previous decisions, stressing that the mathematical algorithms in earlier cases were

found to be patentable because they claimed practical applications and were tied to specific machines. *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998); *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994); *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999). "Thus," held the Court, "a claim that involves both a mental process and one of the other categories of statutory subject matter (i.e., a machine, manufacture, or composition) may be patentable under § 101." Slip op. at 18.

Considering the nature of business method patents, the Court noted that business methods are "subject to the same legal requirements for patentability as applied to any process or method," including section 101. *State Street Bank*, 149 F. 3d at 1375. Therefore, according to the Court, "the present statute does not allow patents to be issued on particular business systems—such as a particular type of arbitration—that depend entirely on the use of mental processes." Slip op. at 21.

Turning to Comiskey's application, the Court held that the claims reciting methods for mandatory arbitration resolution, which Comiskey admitted did not recite any computer or other apparatus, were impermissible attempts to patent the use of "human intelligence in and of itself." *Id.* at 22. Thus, the Court affirmed the rejections of Comiskey's method claims on the grounds that they were drawn to unpatentable abstract ideas rather than falling within a statutory category.

Finally, the Court held that Comiskey's system claims, which did recite computer components, were patentable subject matter under section 101. However, the Court found that the independent system claims "at most merely add a modern general purpose computer to an otherwise unpatentable mental process and [the dependent claims] merely add modern communication devices." *Id.* at 24. Citing *Leapfrog Enters. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007), the Court remanded the case to the PTO, warning that "[t]he routine addition of modern electronics to an otherwise unpatentable invention typically creates a prima facie case of obviousness." Slip op. at 24. The Court also noted that its remand would afford Comiskey the opportunity to amend his application in light of the section 101 issues first raised on appeal.

In re Nuijten

No. 06-1371 (Fed. Cir. Sept. 20, 2007)

Rachel L. Emsley

Judges: Gajarsa (author), Linn (concurring-in-part and dissenting-in-part), Moore

[Appealed from Board]

In *In re Nuijten*, No. 06-1371 (Fed. Cir. Sept. 20, 2007), the Federal Circuit affirmed the decision of the Board in which the Board had rejected “signal” claims in Petrus A.C.M. Nuijten’s application as unpatentable subject matter outside the scope of 35 U.S.C. § 101. The Federal Circuit held that “[a] transitory, propagating signal like Nuijten’s is not a ‘process, machine, manufacture, or composition of matter’” and that since “[t]hose four categories define the explicit scope and reach of subject matter patentable under . . . § 101[,] . . . such a signal cannot be patentable subject matter.” Slip op. at 18.

Mr. Nuijten’s patent application discloses a technique for reducing distortion induced by the introduction of “watermarks” into signals. In the context of signal processing, watermarking is a technique by which an original signal (such as a digital audio file) is manipulated so as to embed within it additional data. This ability to encode additional data into a signal is useful to publishers of sound and video recordings, who can use watermarks to embed in the media information intended to protect that media against unauthorized copying. Mr. Nuijten’s technique improves existing watermark technology by further modifying the watermarked signal in a way that partially compensates for distortion introduced by the watermark.

Mr. Nuijten’s application included claims to “[a] method of embedding supplemental data in a signal,” “[a]n arrangement for embedding supplemental data in a signal,” “[a] storage medium having stored thereon a signal with embedded supplemental data,” and “[a] signal with embedded supplemental data.” *Id.* at 5-6. The PTO allowed the method and “arrangement” claims, but rejected the “storage medium” and “signal” claims as directed to nonstatutory subject matter under § 101. In addition, the PTO rejected some of the claims for obviousness type double patenting. On appeal, the Board reversed the double patenting rejections and

found the “storage medium” claim to be statutory. However, the Board affirmed the Examiner’s § 101 rejections of the “signal” claims. Mr. Nuijten appealed.

On appeal, the Federal Circuit first addressed the issue of whether Mr. Nuijten’s “signal” claims were limited to covering only physical instances of signals, or whether they also covered intangible, immaterial strings of abstract numbers. The Court reasoned that “[a] ‘signal’ implies signaling—that is, the conveyance of information” and that “[t]o convey information to a recipient[,] a physical carrier, such as an electromagnetic wave, is needed.” *Id.* at 9. Thus, the Court noted that in order to be a “signal,” as required by the claims, “some carrier upon which the information is embedded [was] required.” *Id.* at 9-10. At the same time, however, the Court noted that while the claims were limited so as to require some physical carrier of information, they did not in any way specify what carrier element was to be used. Accordingly, the Court concluded that “some physical form for the signal [was] required [by the claims], but any form will do, so long as a recipient can understand the message—the nature of the signal’s physical carrier [was] totally irrelevant to the claims at issue.” *Id.* at 10.

After construing the claims, the Federal Circuit addressed the issue of whether Mr. Nuijten’s “signal” claims were directed to statutory subject matter. It noted that Mr. Nuijten and the PTO agreed that the claims included “physical but transitory forms of signal transmission such as radio broadcasts, electrical signals through a wire, and light pulses through a fiber-optic cable, so long as those transmissions convey information encoded in the manner disclosed and claimed by Nuijten.” *Id.* at 11. The Court held that such transitory embodiments are not directed to statutory subject matter. In so holding, the Court noted that its “inquiry here, like that of the Board, will consider whether a transitory, propagating signal is within any of the four statutory categories: process, machine, manufacture, or composition of matter.” *Id.* The Court observed that in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1375 n.9 (Fed. Cir. 1998), it recognized that for claimed subject matter to be statutory, it must fall into at least one of those four categories. In doing so, noted the Court, it was advising courts not to be concerned about debates over which of the four categories the subject

matter falls into—that is, “not to be overly concerned with pigeonholing subject matter once the court assures itself that some category has been satisfied.” *Id.* at 11-12.

The Court then considered each of the four categories to determine whether Mr. Nuijten’s “signal” claims fell into any of them. Mr. Nuijten argued that a signal of the type covered by his claims was a “process” under that term’s statutory meaning, arguing both that a process need not be defined by reference to an act or series of steps, and that his signal claims did refer to the performance of acts. In rejecting these arguments, the Federal Circuit noted that “[t]he Supreme Court and [it has] consistently interpreted the statutory term ‘process’ to require action.” *Id.* at 13. In addition, it noted that although Mr. Nuijten’s claims recited that the signal was “encoded in accordance with a given encoding process,” such claims were still directed to the ultimate product, not the underlying process. *Id.* at 14. The Court observed that “[t]he presence of acts recited in the claim does not transform a claim covering a thing—the signal itself—into one covering the process by which that thing was made.” *Id.* Accordingly, the Court concluded that because a process claim must cover an act or series of acts and Mr. Nuijten’s “signal” claims did not, his claims were not directed to a process.

With respect to the “machine” category, the Court observed that the Supreme Court has defined the term “machine” as “a concrete thing, consisting of parts, or of certain devices and combination of devices.” *Id.* at 14 (citation omitted). It reasoned that “[a] transitory signal made of electrical or electromagnetic variances is not made of ‘parts’ or ‘devices’ in any mechanical sense” and that “[w]hile such a signal is physical and real, it does not possess concrete structure” *Id.* at 14-15. Accordingly, it concluded that “[a] propagating electromagnetic signal” was not a “machine” as that term is used in § 101.

Regarding the “manufacture” category, the Court noted that the question of whether the claimed signals are “manufactures” was more difficult. It observed that the claimed signals were “man-made, in the sense of having been encoded, generated, and transmitted by artificial means,” but that “artificiality [was] insufficient by itself to render something a ‘manufacture.’” *Id.* at 15. Citing to Supreme Court decisions defining “manufacture” and using the same

dictionary the Supreme Court relied on for its definition of “manufacture” for the definition of the term “article,” the Court determined that “articles” of “manufacture” are “tangible articles or commodities.” *Id.* at 15-16. It found that “[a] transient electric or electromagnetic transmission [did] not fit within that definition.” *Id.* at 16. It reasoned that “[w]hile such a transmission is man-made and physical[,] . . . it is a change in electric potential that, to be perceived, must be measured at a certain point in space and time by equipment capable of detecting and interpreting the signal.” *Id.* It added that “[i]n essence, energy embodying the claimed signal [was] fleeting and [was] devoid of any semblance of permanence during transmission.” *Id.* It noted that “[a]ll signals within the scope of the claim [did] not themselves comprise some tangible article or commodity” and that “[t]his is particularly true when the signal is encoded on an electromagnetic carrier and transmitted through a vacuum—a medium that, by definition, is devoid of matter.” *Id.* at 16-17. Accordingly, the Court held that Mr. Nuijten’s signals, standing alone, were not “manufactures” under the meaning of that term in § 101.

Finally, with respect to the “composition of matter” category, the Court noted that Mr. Nuijten had not challenged the Board’s conclusion that his signal was not composed of matter and was clearly not a “composition of matter.” The Court, nonetheless, explained that the Supreme Court has defined “composition of matter” to mean “all compositions of two or more substances and all composite articles, whether they be the results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids.” *Id.* at 17-18 (citation omitted). It reasoned that “[a] signal comprising a fluctuation in electric potential or in electromagnetic fields [was] not a ‘chemical union,’ nor a gas, fluid, powder, or solid.” *Id.* at 18. It thus concluded that Mr. Nuijten’s signals were not “composition[s] of matter.” *Id.*

In sum, the Federal Circuit found that “[a] transitory, propagating signal like Nuijten’s is not a ‘process, machine, manufacture, or composition of matter.’” *Id.* It held that because those four categories define the explicit scope and reach of subject matter patentable under § 101, such a signal cannot be patentable subject matter. It thus affirmed the Board’s rejection of Mr. Nuijten’s “signal” claims.

Judge Linn agreed with the majority that a “signal,” as used in the claims at issue, referred to something with a “physical form,” but disagreed with the majority’s holding that the claims were not directed to statutory subject matter under § 101. In his opinion, the Supreme Court’s definition of “manufacture” did not limit the term “manufacture” to “non-transitory, tangible things.” Linn Dissent at 2. He noted that when the Supreme Court defined “manufacture,” it emphasized that “[i]n choosing such expansive terms as ‘manufacture’ . . . modified by the comprehensive ‘any,’ Congress plainly contemplated that the patent laws would be given wide scope.” *Id.* (citation omitted). According to Judge Linn, because the patent

claim at issue contemplated some physical carrier of information, it required that some input “material”—whether a pulse of energy or a stone tablet—had been given a new form, quality, or property by direct human action or by a machine. In his view, the resulting signal was thus a “manufacture” in the expansive sense of § 101. He added that because he believed that the claimed signal was a “manufacture,” it was necessary for him to examine the alternative argument that the claimed signal was an unpatentable abstract idea. He noted that because the claim at issue was both “new” and “useful,” it was not an abstract idea. For these reasons, he would reverse the Board’s decision.

Abbreviations | Acronyms

ALJ	Administrative Law Judge	IDS	Information Disclosure Statement
ANDA	Abbreviated New Drug Application	IP	Intellectual Property
APA	Administrative Procedures Act	ITC	International Trade Commission
APJ	Administrative Patent Judge	JMOL	Judgment as a Matter of Law
Board	Board of Patent Appeals and Interferences	MPEP	Manual of Patent Examining Procedure
Commissioner	Commissioner of Patents and Trademarks	PCT	Patent Cooperation Treaty
CIP	Continuation-in-Part	PTO	United States Patent and Trademark Office
DJ	Declaratory Judgment	SEC	Securities and Exchange Commission
DOE	Doctrine of Equivalents	SJ	Summary Judgment
FDA	Food & Drug Administration	SM	Special Master

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