Before the

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In the Matter of

Transitional Program for Covered Business Method Patents—Definition of Technological Invention

Docket No. PTO-P-2011-0087

In the Matter of

Changes to Implement Transitional Program for Covered Business Method Patents

Docket No. PTO-P-2011-0085

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COMMENTS OF PUBLIC KNOWLEDGE AND ELECTRONIC FRONTIER FOUNDATION

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I. INTRODUCTION

A. Overview


B. Interest of Public Knowledge & Electronic Frontier Foundation

Public Knowledge is a non-profit public interest organization advocating for consumers' rights in new technology. Electronic Frontier Foundation (“EFF”) is a member-supported nonprofit civil liberties organization that has worked for more than twenty years to protect consumer interests, innovation, and free expression in the digital world.

In line with their constitutional purpose, patents benefit the public when they foster technological innovation, but cause harm when they are overbroad or improvidently granted. Public Knowledge and EFF urge the United States Patent and Trademark Office to implement the Transitional Program for Covered Business Method Patents in accordance with these goals.

C. Summary of Comment

When Congress created the Transitional Program for Covered Business Method Patents (“the Transitional Program”), it did so recognizing that improvidently granted or overbroad method patents for non-technological inventions cause serious problems. The Transitional Program has the potential to provide expedited relief to parties who have been threatened with suit for infringement of some of these problematic patents, but it will fall short of its intended purpose if the term “technological invention” is not well-defined. The proposed definition of “technological invention”\(^1\) is both too vague, which would create substantial uncertainty, and potentially overbroad, which could contravene Congress’s intent to provide Transitional Program review to all financial method patents that do not claim a “technological invention.” Because the proposed definition provides no clear boundary between technological and non-technological business method patents, it creates an exception that could nearly swallow the rule, and runs the risk that artful drafting by patent lawyers will substantially undermine the Transitional Program by excluding patents that Congress intended to be reviewed under the program.

\(^1\) 77 Fed. Reg. 7096 (Feb. 10, 2012).
To address this problem, we propose an alternative definition for “technological invention” that will provide the necessary level of clarity and avoid the potential for overbreadth that plagues the proposed definition. Drawing on legislative history and Supreme Court precedent, we propose an alternative definition of “technological invention”:

A patent for a “technological invention” must (1) claim at least one technological element that (2) is novel and unobvious over the prior art, and the claimed element (3) must be essential to solving the problem that the patent as a whole seeks to solve. For purposes of this definition, “technological element” shall be defined as a human-made machine, manufacture, or composition of matter.

This definition reduces vagueness and the risk of an overbroad exception by drawing upon terms established in case law. By providing the necessary clarity and scope to the term “technological invention,” our proposed definition ensures that the Transitional Program will serve its intended purpose and provide an effective mechanism through which covered non-technological method patents can be challenged.

In addition, we note that the proposed rules do not clarify which party bears the burden of proof with respect to the "technological invention" exception. Given that Congress intended the transitional program to be efficient and streamlined, we recommend that patentee bear the burden of proving that the patent in question qualifies for the "technological invention" exception. A requirement that the petitioner must prove that the patent in question is not a technological invention would be unduly burdensome to petitioners, and would be inefficient given that the patentees will be more knowledgeable about the patents in suit than the petitioners.

II. THE DEFINITION OF TECHNOLOGICAL INVENTION SHOULD BE CLEARLY DEFINED IN ORDER TO ENABLE EFFICIENT USE OF THE TRANSITIONAL PROGRAM AS CONGRESS INTENDED

A. Congress Intended the Transitional Program for Covered Business Method Patents to Allow Litigants to Challenge Business Methods in A Timely and Cost-Effective Manner

Congress enacted the Transitional Program in order to address the problems caused by the frequency with which faulty business method patents have been asserted against others in the field of finance. In the wake of State Street Bank & Trust Co. v. Signature Financial Group, 149 F.3d 1368 (Fed. Cir. 1998), in which the Federal Circuit

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held that a business method—a data processing system for mutual funds—was patentable, a flood of "low quality" business method patents of "dubious validity" have been taxing the economy.\(^3\) Banks and other businesses eager to avoid high litigation costs are often forced to pay settlements over such business method patents, an avoidable trend which has harmed the economy by diminishing the availability of funds for worthy borrowers and raising costs for consumers.\(^4\) Business method patents are litigated at a rate that far exceeds those of other patents,\(^5\) and some critics have identified non-technological business method patents as the most prominent failure of our patent system.\(^6\) Congress created this program in order to give those who are accused of infringing business method patents a cost-effective alternative to litigation that will provide relief faster and more cheaply than litigation.\(^7\) As we discuss below, the currently proposed definition of “technological invention” is inconsistent with these goals and should be revised.

B. Consistent with Congress’s Intent and the Public Interest, “Technological Inventions” Should be Clearly Defined

Section 18(d)(1) of the Leahy-Smith America Invents Act defines a covered business method patent as a "patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions." Because the scope of review under the Transitional Program is bounded by the breadth of the "technological inventions" exception, it is critically important that this term be clearly defined.

1. A Vague Definition Will Result in Uncertainty and Unpredictability, Which Will in Turn Prompt the Parties and the USPTO to Waste Resources Litigating Over the Interpretation of the Definition.

Unclear rules require litigants to expend substantial time and resources arguing over the proper interpretation, and waste judicial resources. Furthermore, where page limits restrict the length of pleadings, as they do for the Transitional Program, unclear

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\(^4\) Id. at S1365.
\(^5\) JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE, 22 (2008).
rules force litigants to spend precious textual space addressing definitional issues that can easily be avoided if the rulemaking body provides clarity at the outset. A clear definition will allow this program to be used for its intended purpose—evaluating business method patents relating to financial products and services—and not gamesmanship.

2. A Vague Definition Could Potentially Result in an Overbroad Exception, Which Will in Turn Produce a Chilling Effect and Hinder the Use of the Program

A vague definition allows for numerous interpretations of its meaning, leaving room for interpretations that are broader than was intended by legislators. If “technological invention” were given an overbroad definition, a substantial number of financial service business method patents that Congress has deemed appropriate for review through the Transitional Program could end up being ineligible for such review. Such an interpretation would prevent many alleged infringers of financial service business method patents from seeking resolution through the Transitional Program and could undermine the program’s overall efficacy.

III. THE PROPOSED DEFINITION OF "TECHNOLOGICAL INVENTION" IS INADEQUATE

A. The Proposed Definition is Vague Because The Proposed Rules Do Not Clarify What “Technological Feature,” “Technical Problem,” or “Technical Solution” Mean

The USPTO has proposed the following definition of “technological invention”: “whether the claimed subject matter as a whole (1) recites a technological feature that is novel and unobvious over the prior art; and (2) solves a technical problem using a technical solution.”8 Neither the proposed rules nor the legislative history clarifies with any certainty what the terms "technological feature," "technical problem," or "technical solution" mean. Nor do dictionaries or common usage shed light on what the definition of "technical" might be in the context of the “technological invention” exception.

The proposed definition for “technological invention” is vague because it defines the term circularly, using the term “technological feature,” and relies on the phrase “solves a technical problem using a technical solution” without clarifying what “technical problem” or “technical solution” mean or how “technical” within those terms is different from the term “technological.” The legislative history sheds little light on these questions, and dictionary definitions make clear that, without further guidance, the proposed definition is susceptible to many different interpretations. For example, several dictionaries define “technical” as an adjective describing a connection with mechanical or

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8 77 F.R. 7096.
scientific knowledge. The concepts of “mechanical” and “scientific” knowledge themselves are both vague and quite different from each other, and could yield a variety of conflicting decisions by Patent Trial and Appeal Board (“the Board”) on the “technological invention” exception. It is just this type of uncertainty that the PTO should try to avoid in implementing the Transitional Program.

B. The Proposed Definition is Overbroad Because it Could be Interpreted to Exclude Many Non-Technological Financial Service Business Method Patents from Review in the Transitional Program

The proposed definition for “technological invention” is potentially overbroad because it could be read to encompass more financial service business method patents than Congress intended, thereby excluding patents that Congress intended to be subject to review from the Transitional Program. In fact, given the ordinary definition of "technological invention," it is possible that nearly any patent meeting the patentability requirements of Section 101 could be classified as a "technological invention." Such a result would render the entire Transitional Program pointless.

On the face of the proposed definition, a non-technological financial service business method patent could recite a novel, unobvious “technological feature” that is merely tangential to the purpose of the patent as a whole—but that patent could still be precluded from review under the Transitional Program so long as it potentially uses even a vague “technical solution” to solve a “technical problem,” even if that “technical solution” has been widely used in the past. Similarly, patentees could merely include trivial claims involving the use of a computer or some other piece of technology in an effort to preclude review in the Transitional Program. Clearly, Congress did not intend for the Transitional Program to be useless at the outset, or rendered useless through gamesmanship.

In addition, as we discuss above, the term “technical” is subject to very broad interpretation. A scientific problem could very well be interpreted to be a “technical problem,” while a scientific solution could be interpreted to be a “technical solution.” Thus an anomaly in a natural phenomenon, which is a scientific problem, could be considered a technical problem, while a theoretical explanation of the phenomenon could be considered a technical solution. Of course, natural phenomena are unpatentable. Clearly then, patents such as this also pertain to financial products or services should not escape review. This example, though somewhat extreme, portrays but one of the problems with overbreadth that may arise given the proposed definition.

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IV. SUGGESTED DEFINITION OF "TECHNOLOGICAL INVENTION"

A. Suggested Definition of “Technological Invention”

Consistent with the goals of the Transitional Program and the considerations set forth above, we propose the following definition for “Technological Invention”:

A patent for a “technological invention” must (1) claim at least one technological element that (2) is novel and unobvious, and the claimed technological element (3) must be essential to solving the problem that the patent as a whole seeks to solve. For purposes of this definition, “technological element” shall be defined as a human-made machine, manufacture, or composition of matter.

1. **Technological Element** Should Further Be Defined as A Human-Made Machine, Manufacture, or Composition of Matter.

Given that the purpose of the transitional program is to evaluate a subgroup of process patents that are not-technological, the clearest and most practicable way to begin to define a limitation based on “technology” is by removing processes from the definition. The term “technological elements” therefore should explicitly comprise compositions of matter, machines, or manufactures that are made by humans—the non-process categories mentioned in § 101 of the Patent Act. As we discuss above, the application of the terms “technological feature,” “technical solution,” and “technical problem” could differ drastically given that neither the USPTO nor Congress has provided any further clarity on what those terms mean. On the other hand, human-made machine, manufacture, and composition of matter have always been patentable subject matter in US patent law and it will be easy for parties and the Board to apply this definition. The legislative history provides further support for this definition. As but one example, Representative Smith explained that “[i]nventions related to manufacturing

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10 "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. 101

11 A wealth of case law provides a solid and clear basis for defining “machine,” “manufacture,” and “composition of matter.” “Machine” is accepted to mean "a concrete thing, consisting of parts, or of certain devices and combination of devices." *Burr v. Duryee*, 68 U.S. 531, 570 (1863). See also, *In re Nuitjen*, 500 F.3d 1346, 1355 (Fed. Cir. 2007) “Manufacture” is accepted to mean “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.” *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 51 S.Ct. 328, 330, 75 L.Ed. 801 (1931). “Composition of matter” is accepted 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.” *Shell Development Co. v. Watson*, 149 F.Supp. 279, 280 (D.C.1957) (citing 1 A. Deller, Walker on Patents § 14, p. 55 (1st ed. 1937)).
and machines that do not simply use known technology to accomplish a novel business process would be excluded from review.\textsuperscript{12}


This prong of our proposed definition is similar to the "novel and unobvious over the prior art" requirement in §42.301(b)(1) of the USPTO proposed rules: the petition for review should be allowed to go forward unless the patentee can demonstrate that the claimed technological element is both novel and non-obvious.\textsuperscript{13} Congress intended that in order for an invention to be considered a “technological invention,” the technological element that is the very heart of the inquiry must not be known; many Senators and Representatives went out of their way to make this very point.\textsuperscript{14} Furthermore, the legislative history makes clear that novelty and non-obviousness of the technological element are critical to the determination of whether the technological invention exception applies.\textsuperscript{15} In fact, review for novelty and non-obviousness is the best means by which

\begin{itemize}
\item\textsuperscript{12} 157 Cong. Rec. H4497 (daily ed. June 23, 2011)(statement of Rep. Smith); Senator Coburn also explained:
\begin{itemize}
\item For example, section 18 would not cover patents related to the manufacture and distribution of machinery to count, sort, and authenticate currency. It is the intention of section 18 to not review mechanical inventions related to the manufacture and distribution of machinery to count, sort, and authenticate currency like change sorters and machines that scan paper instruments, including currency, whose novelty turns on a technological innovation over the prior art.
\end{itemize}
\item 77 Fed. Reg. 7096.
\item 157 Cong. Rec. S1364 (daily ed. March 8, 2011) (statement of Sen. Schumer)("[The Transitional Program] is not meant to exclude patents that use known technology to accomplish a business process or method of conducting business - whether or not that process or method appears to be novel"); 157 Cong. Rec. S1379 (daily ed. March 8, 2011)(statement of Sen. Kyle)( "These patents consist of long recitations of technology created by others to implement the supposed 'invention' ..... when patents such as the Ballard patents recite elements incorporating off-the-shelf technology or other technology 'know to those skilled in the art,' that should not preclude those patents' eligibility for review under this program."); 157 Cong. Rec. S5409 (daily ed. Sept. 8, 2011) (statement of Sen. Schumer)("Business method patents are anathema to the protection that the patent system provides because they apply not to novel products or services but to abstract and often very common concepts of how to do business."); 157 Cong. Rec. S5428 (daily ed. Sept. 8, 2011)(statement of Sen. Coburn)("The technology innovation exception does not exclude a patent from section 18 simply because it recites technology. Inventions related to manufacturing and machines that do not simply use known technology to accomplish a novel business process would be excluded from review under section 18."); 157 Cong. Rec. H4497 (daily ed. June 23, 2011)(statement of Rep. Smith)("The technological innovation exception does not exclude a patent simply because it recites technology. Inventions related to manufacturing and machines that do not [sic] simply use known technology to accomplish a novel business process would be excluded from review").
\item 15 E.g., 157 Cong. Rec. S1364 (daily ed. March 8, 2011)(statement of Sen. Schumer)("The 'patents for technological inventions' exception only excludes those patents whose novelty \textit{turns on} a technological innovation over prior art...") (emphasis added); 157 Cong. Rec. S1379 (daily ed. March 8, 2011)(statement of Sen. Kyle)("Section 18's definition of business-method patents, and its authorization to raise prior-art challenges in the petition for review, are designed to allow the Office to recognize a business-method
the Board can evaluate whether a technological element is “known”. The concept of whether a technology is “known” addresses novelty—if an invention is new, then it was not previously known—and non-obviousness—if an invention is obvious, then patent law indicates that the difference between the invention and what was generally known to a person having ordinary skill in the art does not warrant a patent. Finally, well-established precedent in the novelty and non-obviousness inquiries provides sufficient guidance when pleading this prong of the test.

It is important to note that this inquiry is different from a standard inquiry into the patent’s validity; for purposes of the “technological invention” exception, the inquiry would be focused solely on the technological element, and not on the patent as a whole.

3. The Claimed Technological Element is an Essential Component of the Patent if the Process Could Not Achieve its Claimed Result Without the Claimed Element.

The legislative history makes abundantly clear that Congress intended that "technological inventions" comprise "those patents whose novelty turns on a technological innovation over prior art." In other words, the novel and non-obvious technological element claimed in the patent must be sufficiently central to the operation of the process as a whole that achieving the entire process will depend on the availability and efficacy of the technological element. The “Essential Component” prong of our proposed definition fulfills this directive.

This prong is consistent with well-established Supreme Court precedent that makes clear that the role "technological elements" play in a process claim can be relevant to the patentability of the claimed invention. The Supreme Court in Parker v.

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16 35 U.S.C. §102(a) states that a "person shall be entitled to a patent unless the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent." 35 U.S.C. §103(a) provides that "A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." In other words, non-obviousness is also judged according to what would have been known to a person of "ordinary skill in the art." See also, Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 15 (1966).


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*Flook*, 437 U.S. 584, 590 (1978), held that technological elements in a process must amount to more than mere insignificant pre- or post-solution activity; otherwise, it will not be patentable.¹⁹ In *Diamond v. Diehr*, 450 U.S. 175, 194-95 (1981), the court ruled that mathematical formulas do not become patentable subject matter simply because some token post-solution activity is added. Certainly, if the claimed technological element is merely an instrument of the process, or merely part of pre- or post-solution activity, the patent should not qualify as a "technological invention" given the legislative intent discussed above.²⁰

It is important to emphasize that if the patent is merely capable of being carried out by a machine but does not improve the performance of the machine, it should not constitute a "technological invention." Even though a "technological element" may be an essential component, the element could merely be a machine on which the process is carried out. It is clear that Congress did not intend for such inventions to be considered "technological inventions" and thereby excluded from the Transitional Program. In any event, the Supreme Court has held that a process does not become patentable merely because it can be carried out on a machine, and that the process that is actually practiced on a machine does not change the character of the claim from mental to technological. *Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972); *See Flook at 600*. These are the types of patents that Congress intended to be reviewed in the Transitional Program.

V. THE PATENTEE SHOULD BEAR THE BURDEN OF PROVING THAT THE PATENT IN SUIT IS A "TECHNOLOGICAL INVENTION"

The proposed rules do not clarify which party bears the burden of proof with respect to the "technological invention" exception.²¹ Given that Congress intended the transitional program to be efficient and streamlined,²² the patentee should bear the burden of proving that the patent in question qualifies for the "technological invention" exception. To require the petitioner to prove that the patent in question is not a technological invention would be unduly burdensome to the petitioners, given that the petitioner already must include the grounds for standing ("The petitioner must demonstrate that the patent for which review is sought is a covered business method patent, and that the petitioner meets the eligibility requirements of § 42.302") and a "statement of the precise relief request," which includes the claim, the statutory grounds,

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¹⁹ This holding has been affirmed by *Bilski v. Kappos*, 130 S.Ct. 3218, 3230 (2010).

²⁰ 157 Cong. Rec. S5428 (daily ed. Sept. 8, 2011)(statement of Sen. Coburn)("The technological innovation exception does not exclude a patent from section 18 simply because it recites technology"). The Supreme Court has recently affirmed that laws of nature are not patentable if the patent merely states the law of nature and recites application of that law. See *Mayo Collaborative Services v. Prometheus Laboratories*, Inc., 566 U.S. ___, 3 (2012).


²² Id. at 7097.
recommended claim constructions, relevant evidence and exhibits in his or her initial petition.\textsuperscript{23}

In most cases, whether something is a "technological invention" should be readily ascertainable simply by reading the claim language. For example, patents that do not contain language that sets limitations on the technological element are facially not technological inventions given that where the technological element is itself novel and non-obvious, there will be language within the patent that will define the metes and bounds of this element: patents that claim a novel and non-obvious machine, for example, will contain language that describes the structure of the machine. On the other hand, if the technological element is only mentioned as a part of limitation to a process, then the technological element is facially obvious and not novel. When a reading of the claims does not make clear whether the patent claims a technological invention, then the patentee should bear the burden of proving that according to the test described above. Furthermore, due to the fact that patentees are more knowledgeable about the patents in suit than the petitioners, a rule requiring that patentees carry the burden of proving that their patents constitute technological inventions conserves resources and allows the Transitional Program to proceed in a more timely and efficient manner.

\textbf{VI. CONCLUSION}

The Transitional Program for Covered Business Method Patents has the potential to dramatically improve the patent system by providing an efficient, affordable mechanism through which improvidently granted non-technological financial business method patents may be challenged. The Transitional Program will fail to achieve this end, however, if the proposed definition for "technological invention" is not reformulated. For the reasons discussed above, the USPTO should adopt our proposed definition of "technological invention" and place the burden on patentees to prove that a patent at issue is a “technological invention” under this reformulated definition.

\textsuperscript{23} Id. at 7095.