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Alice in Wonderland v. CLS Bank: The Supreme Court's Fantastic Adventure Into Section 101 Abstract Idea Jurisprudence

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I. Introduction ..............................................................................................................2

II. Constitutional and Statutory Framework for Patent Protection, as well as Supreme Court Precedent That Gave Life to the Abstract Idea Exception ..................................................4
   A. Reviewing the Constitutional and Statutory Framework for Obtaining a Patent ..............................................................4
      1. Constitutional Basis for Patent Protection .................................4
      2. Section 101 .................................................................................5
      3. Section 102 .................................................................................5
      4. Section 103 .................................................................................6
   B. Giving Life to the Abstract Idea Exception: Parker v. Flook ..................................................................................7
      1. Early Cases Did Not Explicitly Reference an “Abstract Idea” Exception, but Rather Held That Principles of Nature Generally Were Not Patent Eligible.................................................................8
      2. *Parker v. Flook*: The First Reference to “Abstract Ideas” in Supreme Court Jurisprudence ........................................8
   C. Post-Flook Decisions Regarding Abstract Idea Jurisprudence .............................................................................11

III. The Supreme Court’s Alice Decision and Its Federal Circuit Progeny .............................................................................13
   A. The Supreme Court’s Decision in Alice Corp. v. CLS Bank ....................................................................................13
   B. Subsequent Federal Circuit Decisions: Ultramercial and DDR Holdings ...............................................................15
      1. Ultramercial v. Hulu ......................................................................15
      2. DDR Holdings v. Hotels.com ......................................................16

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I. INTRODUCTION

In a unanimous decision, the Supreme Court of the United States in *Alice Corp. Pty. v. CLS Bank International*¹ asserted that certain claims involving computer software constituted ineligible subject matter² under section 101 of the Patent Act.³ Much of the media coverage and legal scholarship surrounding the case focused on the Supreme Court’s broad repudiation of software patents. However, what many commentators have missed is that *Alice* sanctioned a section 101 framework for determining patent-eligible subject matter that will lead, and has led, to extensive confusion in lower courts. Indeed, just months after *Alice*, the Federal Circuit issued *DDR Holdings, LLC v. Hotels.com, L.P.*,⁴ a decision where the majority and dissent both utilized the muddied *Alice* framework to reach staggeringly different results.

The *Alice* decision forces lower courts to engage in mental

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³ *Id. at 2352.
gymnastics when divining patent eligibility under section 101. Under Alice, judges must first determine whether a claim is an “abstract idea” such that it is ineligible for patent.  However, not all claims directed to abstract ideas are patent-ineligible, as “inventive concepts” of abstract ideas are patent-eligible.  Such a paradigm where judges must decide under section 101 whether an invention meets the confusing thresholds of being an “abstract idea” or “an inventive concept of an abstract idea” is not tenable. Indeed, decisions both before and after Alice have confronted these questions with disastrous incoherence. What makes the Supreme Court’s section 101 jurisprudence particularly irksome is that while section 101 of the Patent Act is not equipped to determine whether a claim is an “abstract idea” or an “inventive concept of an abstract idea,” section 103 of the Patent Act handles these inquiries effectively. More specifically, section 103 allows for a judge to determine whether an idea is an invention in relation to a concrete framework (specifically, the universe of relevant prior art as judged by a person having ordinary skill in that art), whereas section 101 provides no such analogous basis. Rather, under section 101, a judge is left to rely on his or her subjective sentiments to determine inventiveness.

This Article proposes a solution to the current problems surrounding section 101 and patent-eligibility. Specifically, it advocates for an amendment to section 101 of the Patent Act that eliminates the abstract idea exception when conducting a patent eligibility analysis. This approach has several advantages, including the fact that judges no longer need to provide logically contorted explanations as to why one idea is “abstract” and another is not. Nor will judges have to decide whether an abstract idea can still be patent eligible by virtue of being an “inventive concept of an abstract idea.”

Part II of this Article reviews (a) the Constitutional and statutory framework for patent protection; (b) Supreme Court precedent that first gave life to the abstract idea exception; and (c) subsequent decisions that have struggled to apply ostensibly clear precedent. Part III (a) recaps the latest abstract idea decision from the Supreme Court, Alice v. CLS Bank, and (b) examines key post-Alice Federal Circuit decisions. Part IV notes the problems associated with current abstract idea jurisprudence. This section also proposes that amending the Patent Act

5. Alice, 134 S. Ct. at 2354.
6. Id. at 2357.
8. Id.
to eliminate any inquiry into whether an idea is abstract would be beneficial and extinguishes the problems identified. Moreover, it argues that such an amendment would not lead to the proliferation of unwarranted patents, as proper application of section 103 would serve as a meaningful bar to patent issuance.

II. CONSTITUTIONAL AND STATUTORY FRAMEWORK FOR PATENT PROTECTION, AS WELL AS SUPREME COURT PRECEDENT THAT GAVE LIFE TO THE ABSTRACT IDEA EXCEPTION

In order to properly contextualize the abstract idea exception, it is helpful to review the Constitutional and statutory framework for patent protection, Supreme Court precedent that instituted the abstract idea exception, and later decisions that struggled with abstract idea jurisprudence. Thus, Section A reviews the Constitutional basis for patent protection and then examines the statutory scheme which implements this Constitutional directive. Section B explores the Supreme Court decision in Parker v. Flock,10 which first gave birth to the troubling abstract idea exception. Section C recaps post-Flook decisions that have struggled in defining the contours of abstract idea jurisprudence.

A. Reviewing the Constitutional and Statutory Framework for Obtaining a Patent

1. Constitutional Basis for Patent Protection

The Constitution empowers Congress with the authority "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."11 Of particular note is the fact that this monopoly is limited; the temporal restriction in theory serves the dual function of first, encouraging inventors to engage in research and innovation, and second, rewarding the public by having more fruit strung to the tree of human knowledge that is sufficiently ripe for consumption and progress.12 Thus, a patent, at its undeniable quintessence, is a

contract between the federal government and an inventor: in exchange for disclosing an invention, the inventor receives from the government a limited monopoly to exclude others from using or exploiting the claimed invention.\textsuperscript{13}

2. Section 101

Against this Article 1, Section 8, Clause 8 backdrop, Congress has enacted several legislative initiatives that have provided a framework for patent protection. These legislative initiatives have most recently culminated with the America Invents Act, which substantially revised the Patent Act of 1952. Section 101 of the current Patent Act governs patentable subject matter and states: “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 therefore, subject to the conditions and requirements of this title.”\textsuperscript{14} Courts have repeatedly emphasized the breathtaking scope of what constitutes patentable subject matter under section 101 by repeating the House Note to the 1952 Patent Act, which specifies that “anything under the sun that is made by man” is eligible for the patent monopoly.\textsuperscript{15} Yet the overwhelming breadth of what is patentable is not boundlessly unfettered and fantastically unrestrained. The Supreme Court has stated that natural laws, physical phenomena, and abstract ideas notably do not fall under the ambit of patentability.\textsuperscript{16} The thinking behind excluding these three areas from patentable subject matter is purportedly that they represent categories that serve as the building blocks for human ingenuity.\textsuperscript{17} If an individual could obtain a patent on these foundational building blocks, then the goal of patents would be frustrated and such ingenuity would be stifled.\textsuperscript{18} Therefore, Einstein could not have patented relativity, just as Archimedes would have lacked the ability to assert primacy of ownership over his geometric discoveries.

3. Section 102

Importantly, section 101 is not the only requirement for

\begin{thebibliography}{99}
\bibitem{13} See id.
\bibitem{15} Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289, 1304 (2012).
\bibitem{16} Id.
\bibitem{17} Robert A. Armitage, \textit{Understanding the America Invents Act and Its Implications for Patenting}, 40 AIPLA Q.J. 1, 5 (2012).
\bibitem{18} Id.
\end{thebibliography}
patentability, and several other sections are germane when considering whether to eliminate the abstract idea exception. In addition to section 101, which governs patent eligibility, section 102 contains various novelty provisions that are in place to ensure that any invention be "new." This requirement of "newness" is in the vein of making sure that a single prior art reference does not already encompass all the elements in a patent claim. Section 102 also codifies various public policy rationales, such as encouraging prompt disclosure by precluding patent protection for inventors who disclose their invention more than one year before the filing date of the patent application, as well as other so-called "loss of rights" provisions.

4. Section 103

Like section 102, a brief discussion of section 103 is necessary to understand why eradication of the abstract idea exception is appropriate. Section 103 is the "obviousness" prong of the Patent Act: in other words, patents must be granted only for those inventions that are not obvious. The full text of section 103 states:

A patent for a claimed invention may not be obtained ... if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

When making a determination as to whether a person having ordinary skill in the art ("PHOSITA") would view an invention as obvious, a court must analyze (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) various objective indicia of non-obviousness, such as commercial success of the patented invention. One helpful way of conceptualizing this obviousness analysis is to imagine a PHOSITA in a room with all relevant prior art references on a wall. The PHOSITA in this room is able to survey the

19. Id. at 6.
20. Id.
21. Id.
23. Id.
entire scope of the prior art and make a determination as to whether the invention would be obvious by combining certain prior art references.\textsuperscript{26} Indeed, many courts and scholars have noted that section 103 operates as the true litmus test as to whether a claim is truly innovative or "inventive" enough to warrant the granting of a patent.\textsuperscript{27} In other words, section 103 ensures that only those claims that are worthy manifestations of human innovation deserve the reward of the patent monopoly, as opposed to claims that are obvious to a PHOSITA in light of the existing universe of relevant prior art.\textsuperscript{28} With regard to section 103, prior case law held that inventiveness was mandatorily a product of a "flash of genius"\textsuperscript{29} as opposed to the result of long and diligent experimentation.\textsuperscript{30} However, this paradigm fell into disfavor,\textsuperscript{31} and Congress revised the Patent Act by adding the last sentence of section 103, which indicates that "[p]atentability shall not be negated by the manner in which the invention was made."\textsuperscript{32}

In addition to section 103, various other sections of the Patent Act must be adhered to, such as section 112. However, this article only focuses on sections 101, 102, and 103, as those provisions are most relevant in understanding the problems with, and solutions to, abstract idea jurisprudence.

\section*{B. Giving Life to the Abstract Idea Exception: Parker v. Flook}

This section reflects on Supreme Court precedent concerning abstract idea jurisprudence. Subsection (1) notes how, for nearly 270 years, the Supreme Court happily operated without articulating an abstract idea exception. Subsection (2) explores in detail the Supreme Court’s decision in \textit{Parker v. Flook},\textsuperscript{33} which first referenced the abstract idea exception and precipitated a tectonic shift in section 101 jurisprudence.

\begin{thebibliography}{99}
\bibitem{26} Id.
\bibitem{28} See Armitage, \textit{supra} note 18, at 5.
\bibitem{29} Id.
\bibitem{30} Id.
\bibitem{31} Id.
\end{thebibliography}

Older decisions from the Supreme Court failed to articulate a formal "abstract idea" exception. Rather, these cases simply asserted that natural laws were ineligible for patent. Indeed, as early as 1852, the Supreme Court intimated that principles of nature could not be patented. In Le Roy v. Tatham, the patentee had obtained a patent for making pipes and tubes from metallic substances. The Court held that the lead used in making the pipes could not be patented. Specifically, the Court posited that "the state of the lead, when used as described in the plaintiff's specification, being a principle of nature, is not the subject of a patent, either alone or in combination with the machine mentioned in that specification." The Court further explained that "a principle is not patentable. A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right." The Court also gave the example that electricity likewise was not patent-eligible: "The same may be said of electricity, and of any other power in nature, which is alike open to all, and may be applied to useful purposes by the use of machinery."

One year later, in O'Reilly v. Morse, the Supreme Court again vigilantly policed a patentee's attempt to claim a principle of nature. When the patentee attempted to claim electromagnetism in relation to printing, the Court firmly propounded that "the mere discovery of a new element, or law, or principle of nature is not the subject of patent . . . . [One] may patent his combination of the machinery, but not his art." Indeed, many cases in the latter part of the nineteenth century and the former part of the twentieth reaffirmed this general notion that principles of nature were not properly the subject of a patent. Notably, however, none of these cases referenced an "abstract idea" exception. When, then, did this notion of an "abstract idea" that was separate and distinct from "principles of nature" develop?

2. Parker v. Flook: The First Reference to "Abstract Ideas" in

34. Le Roy v. Tatham, 55 U.S. 156 (1852).
35. Id. at 163.
36. Id.
37. Id. at 174.
38. Id. at 175.
40. Id.
Supreme Court Jurisprudence

The very first time a Supreme Court Justice mentioned the phrase “abstract ideas” was in 1971 when Justice Stewart employed the term in his dissent in *Parker v. Flook.* Justice Stewart stated:

> It is a commonplace that laws of nature, physical phenomena, and abstract ideas are not patentable subject matter. A patent could not issue, in other words, on the law of gravity, or the multiplication tables, or the phenomena of magnetism, or the fact that water at sea level boils at 100 degrees centigrade and freezes at zero—even though newly discovered.

Notably, this reference by the dissent to the phrase “abstract ideas” seems to equate the term with physical or natural laws—for example, magnetism or multiplication tables. The majority in *Flook* did not speak of “abstract ideas” per se, but rather about “abstract intellectual concepts.” Specifically, the *Flook* majority stated: “Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” Whatever terminology employed in *Flook*—“abstract idea” or “abstract intellectual concept”—the majority’s discussion of these phrases served as the starting point for today’s confusing and untenable section 101 jurisprudence. It is therefore worthwhile to examine the case in greater detail.

*Flook* involved a patent application regarding a “Method for Updating Alarm Limits.” More specifically, the patent application explained the following: “During [a] catalytic conversion process, [several variables] such as temperature, pressure, and flow rates are constantly monitored. An ‘alarm limit’ is simply when a measured variable exceeds a predetermined amount.” The patent application in *Flook* was thus directed at measuring the present value of a variable (such as temperature), algorithmically calculating a new alarm limit value, and finally adjusting the alarm limit in response to the new variable value. Understandably, the Court expressed its disdain that a patent should issue from such claims:

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42. *Id.*
43. *Id.* at 585.
44. *Id.* at 589.
45. *Id.* at 585.
46. *Id.* at 586.
47. *Id.*
The patent application does not purport to explain how to select the appropriate margin of safety, the weighting factor, or any of the other variables. Nor does it purport to contain any disclosure relating to the chemical processes at work, the monitoring of process variables, or the means of setting off an alarm or adjusting an alarm system. All that it provides is a formula for computing an updated alarm limit.48

Presumably, such an application would have an extremely difficult time maturing into a patent in light of prior art references that would render the claims obvious under section 103. After all, merely adjusting a variable in response to other variables is not particularly innovative. Indeed, the majority conceded that “the practice of monitoring the chemical process variables, the use of alarm limits to trigger alarms, the notion that alarm values must be recomputed and readjusted, and the use of computers for ‘automatic monitoring-alarming’ . . . are well known.”49 However, instead of letting the rejection germinate under section 103 by holding that the idea was obvious, the Supreme Court made the rejection under section 101—but with hints of a section 103 analysis by using the unfortunate phrase, “inventive application”:

Respondent’s process is unpatentable under Section 101, not because it contains a mathematical algorithm as one component, but because once that algorithm is assumed to be within the prior art, the application, considered as a whole, contains no patentable invention. Even though a phenomenon of nature or mathematical formula may be well known, an inventive application of the principle may be patented50

This phrase “inventive application” served as the starting point for today’s confusing section 101 jurisprudence. To recap, Flook first stated that “abstract intellectual concepts”—apart from natural laws and physical phenomena—could not be patented.51 Second, Flook implied, however, that “inventive applications” of these abstract intellectual concepts could be patented.52

At its core, the idea in Flook was simply that of monitoring—an idea that was considered by the majority to be abstract.53 However, because of the “inventive application” language, an inventive application of the abstract idea of monitoring could now be patented. Though the majority claimed that it had not incorporated the tenets of section 103

48. Id.
49. Id. at 594.
50. Id. (emphasis added).
51. Id.
52. Id.
53. Id. at 584.
into a section 101 analysis, the dissent rejected that artifice.\textsuperscript{54} The dissent asserted that the majority had dealt a "damaging blow at basic principles of patent law by importing its inquiry under 35 U.S.C. § 101 the criteria of novelty and inventiveness."\textsuperscript{55}

\section*{C. Post-Flook Decisions Regarding Abstract Idea Jurisprudence}

\textit{Flook} mandated an inquiry into whether a claimed invention was directed at an "inventive application" of an abstract idea. However, subsequent courts struggled with defining the contours of what exactly constituted an impermissible "abstract idea" or a permissible "inventive application" or "inventive concept" of that abstract idea.

For example, in \textit{Bilski v. Kappos},\textsuperscript{56} the Supreme Court held that an invention was patent ineligible.\textsuperscript{57} The invention, which claimed a method of hedging risk in the field of commodities trading in the energy market, reduced the basic concepts of hedging into a mathematical formula.\textsuperscript{58} The Supreme Court stated:

\begin{quote}
These claims attempt to patent the use of the abstract idea of hedging risk in the energy market and then instruct the use of well-known random analysis techniques to help establish some of the inputs into the equation. Indeed, these claims add even less to the underlying abstract principle than the invention in \textit{Flook} did, for the \textit{Flook} invention was at least directed to the narrower domain of signaling dangers in operating a catalytic converter.\textsuperscript{59}
\end{quote}

The Court quoted with approval a Federal Circuit judge's assertion that "hedging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class."\textsuperscript{60} The Court also asserted that "\textit{Flook} established that limiting an abstract idea to one field of use or adding token post-solution components did not make the concept patentable. That is exactly what the [claims] in petitioners' application do."\textsuperscript{61}

However, Dennis Crouch, who runs the well-renowned Patently-O blog, commented on the \textit{Bilski} decision by stating, "[i]t is unclear to me how patent office examiners will be able to apply the test for abstract
ideas in any meaningful way. I suspect they will not." Professor Stephen Pulley similarly noted that *Bilski* "leaves many questions unanswered, including: What is an abstract idea? Why is an abstract idea an exception to patentable subject matter? What is the basis for concluding that an invention is an abstract idea? [And h]ow is a patent applicant to know if an invention is an abstract idea?"

Perhaps there is no better proof of the lack of viability of the abstract idea exception than the Federal Circuit’s decision 35 years after *Flook* in *CLS Bank International v. Alice Corp. Pty. Ltd.* In determining whether certain claims that implicated the use of a computer qualified as patent eligible under section 101, the Federal Circuit produced no fewer than five separate opinions that reflected varying interpretations of how to apply the abstract idea exception. Importantly, the Federal Circuit sitting en banc did not achieve a majority consensus on abstract idea jurisprudence, and any attempt to structure a cohesive narrative regarding the abstract idea exception from *CLS Bank* is an exercise in legal masochism.

The patents in *CLS Bank* involved a way to decrease settlement risk. More specifically, in a situation where two parties are exchanging financial obligations, the patents disclose a mechanism whereby a third party computer system ensures that each of the two parties to the transaction can indeed perform its end of the bargain. The third party computer system makes use of "shadow records," which replicate the financial data of the parties, and then evaluates whether the exchange can go forward by looking to the data in the shadow records. If both parties are able to fulfill their obligations, as indicated by analyzing the shadow records, the real exchange is allowed to proceed. Alice Corp., the patentee, argued that the disclosed manipulation of the shadow records constituted patent eligible subject matter. CLS Bank, the alleged infringer, argued in contrast that the patents were directed...
toward nothing more than the concept of escrow done online.\textsuperscript{72}

Ultimately, the Federal Circuit asserted that the claims were patent ineligible under section 101.\textsuperscript{73} However, this decision constituted only a plurality opinion and not a majority as only five of the ten judges on the Federal Circuit signed on to this decision, with four other judges writing separate opinions. The plurality in \textit{CLS Bank} conceded that “deciding whether or not a particular claim is abstract can feel subjective and unsystematic, and the debate often trends toward the metaphysical, littered with unhelpful analogies and generalizations.”\textsuperscript{74}

III. THE SUPREME COURT’S \textit{ALICE} DECISION AND ITS FEDERAL CIRCUIT PROGENY

This section reviews the Supreme Court’s \textit{Alice} decision as well as subsequent cases from the Federal Circuit that have interpreted \textit{Alice}. Though the \textit{Alice} decision was unanimous, just months later the Federal Circuit issued \textit{DDR Holdings v. Hotels.com}.\textsuperscript{75} In this case, the majority and dissent reached staggeringly different conclusions as to whether an idea was abstract as well as whether an inventive concept of an abstract idea existed.

\textbf{A. The Supreme Court’s Decision in Alice Corp. v. CLS Bank}

As previously discussed, the Federal Circuit in \textit{Alice v. CLS Bank}\textsuperscript{76} could not reach a majority decision regarding whether certain claims constituted patent eligible subject matter. Despite the Federal Circuit’s internal dissonance, the Supreme Court was unanimous in finding that the claims were patent ineligible.\textsuperscript{77} Justice Thomas, writing for the Court, applied the conventional two-part framework: first, he inquired whether the claims were directed to an abstract idea, and then he examined whether the claims were allowable because they constituted an inventive concept of an abstract idea.\textsuperscript{78}

In examining whether the claims attempted to monopolize an abstract idea, Justice Thomas concluded in the affirmative, stating that the claims were “the abstract idea of intermediated settlement.”\textsuperscript{79}

\begin{itemize}
\item \textsuperscript{72} \textit{Id.}
\item \textsuperscript{73} \textit{Id.} at 1284.
\item \textsuperscript{74} \textit{Id.} at 1277.
\item \textsuperscript{75} \textit{DDR Holdings, LLC v. Hotels.com}, L.P., 773 F.3d 1245 (Fed. Cir. 2014).
\item \textsuperscript{76} \textit{Alice Corp. Pty. v. CLS Bank Int’l}, 134 S. Ct. 2347 (2014).
\item \textsuperscript{77} \textit{Id.}
\item \textsuperscript{78} \textit{Id.} at 2350.
\item \textsuperscript{79} \textit{Id.} at 2356.
\end{itemize}
Importantly, in making this determination, Justice Thomas relied on several texts that indicated the concept of intermediated settlement was long standard in the industry:


Thus, similar to section 103, Justice Thomas looked to prior art references in making a section 101 analysis, but did not provide a rubric as to how to select those prior art references.

Significantly, Justice Thomas rejected the patentee’s argument that, like mathematical formulas, abstract ideas should be limited to "preexisting, fundamental truths that exist in principle apart from any human action."81 In other words, the patentee had argued that abstract ideas should not depend on a particular timeframe of reference: whereas a natural law always existed as a natural law, an abstract idea should always be an abstract idea.82 However, Justice Thomas rejected this assertion.83 In particular, he analogized the concept of intermediated settlement to the concept of hedging risk in Bilski and noted that neither practice has always been in existence. Specifically, Justice Thomas asserted that, "[a]lthough hedging is a longstanding commercial practice, it is a method of organizing human activity, not a truth about the natural world that has always existed."84

In deciphering what precisely constituted an abstract idea, Justice Thomas conceded that he was not endeavoring to define exactly the parameters of the term: "[W]e need not labor to delimit the precise contours of the ‘abstract ideas’ category in this case. It is enough to recognize that there is no meaningful distinction between the concept of

80. Id.
81. Id.
82. Id.
83. Id.
84. Id. (emphasis added).
risk hedging in *Bilski* and the concept of intermediated settlement at issue here."  

Thus, Justice Thomas noted that the abstract idea had something to do with “intermediated settlement” and that since it was analogous to the concept of hedging in *Bilski*, it was an abstract idea for section 101 purposes.

After determining that the claims were drawn toward an abstract idea, Justice Thomas then proceeded to the next step of the *Alice* framework, namely, determining whether the claims involved any sort of “inventive concept” such that they could nevertheless be patent eligible. He concluded that no inventive concept existed as “the claims here do [no] more than simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer.”

Indeed, Justice Thomas wrote that “the function performed by the computer at each step of the process is purely conventional.” Since the claims were directed to an abstract idea and no inventive concept of the abstract idea was offered, the claims were patent ineligible under section 101.

### B. Subsequent Federal Circuit Decisions: Ultramercial and DDR Holdings

#### 1. Ultramercial v. Hulu

Shortly after the Supreme Court’s decision in *Alice*, the Federal Circuit in *Ultramercial, Inc. v. Hulu, LLC* invalidated a software patent on grounds that the claims were directed toward ineligible subject matter. In *Ultramercial*, the patentee owned a patent for a method of displaying copyrighted content over the Internet to a consumer, where the consumer would have access to the copyrighted material for free in exchange for watching an advertisement. The alleged infringer argued that the claims impermissibly covered the abstract idea of “offering free media in exchange for watching advertisements and that the mere implementation of that idea on a computer does not change that fact.”

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85. *Id.* at 2357.
86. *Id.*
87. *Id.* at 2359.
88. *Id.*
89. *Id.*
90. *Id.*
92. *Id.* at 712.
93. *Id.*
94. *Id.* at 714.
The Court agreed with the alleged infringer’s position, though it did not provide extensive background as to why the claims constituted an abstract idea but rather proclaimed that the claims covered the abstract idea of “showing an advertisement before delivering free content.” The Ultramercial Court then moved on to the second step of the Alice inquiry. In determining whether the claims constituted an inventive concept of the abstract idea of showing an advertisement before displaying free content, the Court examined whether the claims added additional features that were more than “well-understood, routine, conventional activity.” The Court decided that no inventive concept was present, and that the claims were patent ineligible under section 101. In finding that there was no inventive concept, the Court did not cite prior art, but rather summarily concluded that the claims were “routine, conventional activities.”

2. DDR Holdings v. Hotels.com

Just months after the Supreme Court issued a unanimous decision in Alice, the Federal Circuit found itself divisively split regarding abstract idea jurisprudence. In DDR Holdings v. Hotels.com, the claims were directed to a scheme to allow a website host to keep a visitor on the host’s site even when the visitor clicked a link displaying a third-party merchant’s information. Specifically, the claims disclosed a system where a visitor clicks a third-party merchant’s information on the host’s site, and the visitor is not redirected to the third-party merchant’s site. Rather, the visitor is sent to a composite page that combines elements of the host site and the third-party merchant site. Importantly, this composite page is served by the host, not the third-party site, and retains the look and feel of the host, but nonetheless allows a visitor to make purchases from the third-party merchant. The majority determined that the claims recited patent-eligible subject matter, as the claims were not directed toward an abstract idea.

95. Id.
96. Id. at 715.
97. Id.
98. Id.
99. Id.
100. Id.
102. Id. at 1249.
103. Id.
104. Id.
105. Id. at 1255.
However, the dissent vehemently disagreed, and indicated that the patentee had impermissibly monopolized an abstract idea.\textsuperscript{106} The majority opinion began by reciting the \textit{Alice} framework for determining patent eligibility under section 101.\textsuperscript{107} The Court admitted that “identifying the precise nature of the abstract idea is not as straightforward as in \textit{Alice} or some of our other recent abstract idea cases.”\textsuperscript{108} Indeed, the Court did not actually define the nature of the abstract idea at issue. However, the Court maintained that however the abstract idea was defined, step two of the \textit{Alice} framework—discerning whether an inventive concept existed—would be satisfied, no matter what the abstract idea was.\textsuperscript{109} The Court reasoned that an inventive concept of an abstract idea existed because the claims were directed toward solving the Internet-specific problem of keeping a website visitor on a host’s page.\textsuperscript{110} Rather than “recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the internet,” the claims here were “rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.”\textsuperscript{111}

The dissent lambasted the majority’s assertion that the claims were patent eligible, stating that the “patents are long on obfuscation but short on substance.”\textsuperscript{112} Rather, the dissent proclaimed that the claims “simply describe an abstract concept—that an online [host’s] sales can be increased if two web pages have the same ‘look and feel’—and apply that concept using a generic computer.”\textsuperscript{113} Further, if any inventive concept could be identified, it was the amorphous “idea for retaining control over the attention of the customer.”\textsuperscript{114} The dissent did not believe that such idea was sufficiently inventive to confer patent eligibility.\textsuperscript{115}

\textbf{IV. CLEANING UP THE Alice MESS: ELIMINATING THE ABSTRACT IDEA EXCEPTION}

The foregoing discussion makes clear that current section 101 jurisprudence is a mess. How should the mess be cleaned up? Can the

\textsuperscript{106} Id. at 1263.
\textsuperscript{107} Id. at 1256.
\textsuperscript{108} Id. at 1257.
\textsuperscript{109} Id.
\textsuperscript{110} Id.
\textsuperscript{111} Id.
\textsuperscript{112} Id. at 1264.
\textsuperscript{113} Id. at 1263.
\textsuperscript{114} Id. at 1266.
\textsuperscript{115} Id.
mess be cleaned up? The answer is yes, and the solution is relatively simple. Section 101 of the Patent Act should be amended to include the following language: “The abstractness of an idea shall not serve as a bar to its eligibility.” Such language would eliminate the confusing jurisprudence that has emerged from section 101 by conceding that determining what is or is not “abstract” is cogitatively futile and intellectually dishonest.

This amendment is favored for the following six reasons. First, courts lack a workable and consistent framework to determine whether an idea is abstract. Second, oftentimes a court’s determination of what constitutes an abstract idea depends on maintaining that the idea has been around for an established period of time; however, there is no bright line rule as to how long a basic idea must exist to be considered abstract, and regardless, such a scheme is logically indefensible. Third, even if a court can meaningfully identify what constitutes an abstract idea, it cannot cohesively assert what constitutes an inventive concept of an abstract idea. Fourth, unlike the phrases “natural law” or “physical phenomena,” the term “abstract idea” does not provide any concrete, meaningful guidance to courts, as the modifying adjective “abstract” is susceptible to talismanic interpretations. Fifth, any concern that eliminating the abstract idea exception would lead to a flood of unwarranted patents is misplaced. Rather, rigorous application of section 103 would safeguard improper issuance of the patent monopoly, particularly in light of the Supreme Court’s decision in KSR v. Teleflex. Sixth, the current Flook/Mayo framework, which focuses on determining whether a claim contains “additional substantive limitations” beyond “abstract idea limitations,” undermines a basic tenet reflected in all other areas of patent law that every limitation of a claim counts.

A. Courts Lack a Workable and Consistent Framework to Determine Whether an Idea is Abstract.

Importantly, courts lack a workable framework to determine whether an idea is abstract. In Alice, Justice Thomas proclaimed that the idea of intermediated settlement was “a fundamental economic practice long prevalent in our system of commerce.” In justifying that intermediated settlement was an abstract idea, Justice Thomas relied on various books and law review articles that served in a way as prior art

However, Justice Thomas never identified a framework for adjudicating how to identify these relevant prior art references. Which books and law review articles are to be consulted when determining whether an idea is abstract? From whose perspective should abstractness be judged—a person having skill in the art or just an ordinary person? Of course, no answers to these questions were provided. In DDR Holdings,119 the Federal Circuit admitted it was not even going to identify the precise abstract idea in question.120 Instead, the Court stated that while the abstract idea could be characterized in several different ways, “under any of these characterizations of the abstract idea, the . . . patent’s claims satisfy [the inventive contribution] step . . . .”121

Indeed, several district courts have simply concluded that an idea is abstract without providing any accompanying reasoning. For example, the Northern District of California in CardPool, Inc. v. Plastic Jungle, Inc.122 stated that “[p]laintiff is attempting to assert a patent monopoly over the abstract idea of a gift card sale or exchange. This it cannot do.”123 However, the Northern District did not explain why gift card sale was an abstract idea. Similarly, the District Court for the District of Columbia, in SmartGene, Inc. v. Adv. Biological Laboratories, SA124 asserted, without any other explanation, that “these four steps [of the claimed invention] describe abstract ideas that are commonly performed by professionals in evaluating, considering, and constructing treatment options for a patient presenting a specific medical condition.”125 In the case of Federal Home Loan Mortgage Corp. v. Graff/Ross Holdings LLP,126 the same court stated with regard to a different invention that “these claims are simply applying multiple computer limitations to the . . . abstract idea of computing a price for the sale of a fixed-income asset and generating a financial analysis output, and the ‘yield/discount field of use’ limitation in Claim 3 does little to provide additional meaningful limitations.”127 Again, the Court did not provide any

118. Id. at 2356.
119. DDR Holdings, 773 F.3d 1245.
120. Id. at 1257.
121. Id.
123. Id.
125. Id.
127. Id.
explanation as to why the claim at issue was an abstract idea, but rather summarily concluded as such.\textsuperscript{128}

B. Courts Often Rely on a Temporal Frame of Reference to Determine What Constitutes an Abstract Idea.

Various courts, when applying the abstract idea exception to invalidate a claim under section 101, often do so by noting that the idea being claimed has existed for some sufficient, though arbitrary, time period. Because the idea has existed for this time period, and because humans have become familiar with the idea, the courts will consider the idea to be abstract. However, unlike natural laws and physical phenomena that existed at the time of the Big Bang, abstract ideas are necessarily a byproduct of human cogitation; \textit{at some point}, a human first thought of that idea. Furthermore, various ideas that have been considered "abstract" were birthed in the brains of humans at various times. The fact that whether an idea is considered a fundamental building block of human ingenuity depends on some temporal frame of reference does not adequately comport with the term "fundamental."

The preceding is not merely an academic discussion; courts consistently invoke various time periods of familiarity to justify that an idea is abstract. For example, the Western District of Michigan in \textit{Planet Bingo v. VKGS}\textsuperscript{129} asserted that decades of familiarity would move an idea into the realm of the abstract. The court noted that "[b]ingo has been managed and played for \textit{decades} with humans carrying out all of the steps recited in the claims; to have a computer program carry out these steps via its basic functions is not a product of human ingenuity and does not disguise the fact that an abstract process is claimed."\textsuperscript{130} In contrast, the Southern District of New York in \textit{Lumen View Tech v. Findthebest.com}\textsuperscript{131} characterized the idea of "matchmaking" as having a much longer lifetime. This court articulated that "[m]atchmaking by having parties declare preference data and deciding on good fits is a process \textit{as old as humanity itself}."\textsuperscript{132} Similarly, the Federal Circuit chastised a patentee for attempting to enforce the patent monopoly on "what [the] defendant accurately characterizes as a \textit{millennia old practice} of an in-kind exchange of chattel – plus a computer."\textsuperscript{133} On the

\textsuperscript{128} \textit{Id.}
\textsuperscript{130} \textit{Id.}
\textsuperscript{132} \textit{Id.} (emphasis added).
other hand, the Central District of California in *Ultramercial v. Hulu* has asserted that a length of "years" is good enough to make an idea abstract.\(^{134}\) This California court recognized that "public television channels have used the same basic idea [of displaying content in exchange for watching an advertisement] for years."\(^{135}\)

Disturbingly, Justice Thomas in *Alice* did not find this scheme problematic.\(^{136}\) Rather, in a spectacular concession, he admitted that the idea of intermediated settlement in *Alice* "was not a truth about the natural world that has always existed."\(^{137}\) Justice Thomas did not substantively respond to the argument that having an abstract idea depend on a time frame was illogical. Instead, he simply concluded that *Bilski* featured the abstract idea of hedging risk and that hedging risk was similar to intermediated settlement.\(^{138}\) Simply ignoring the argument does not mean the argument lacks merit.


Even assuming that the phrase "abstract idea" amounts to more than a judge "knowing it when he sees it," the next test for adjudicating patent eligibility similarly provides ambiguity concerns. *Alice* explains this next step: "[w]ith the pertinent abstract idea identified, the balance of the claim can be evaluated to determine whether it contains additional substantive limitations that narrow, confine, or otherwise tie down the claim so that, in practical terms, it does not cover the full abstract idea itself."\(^{139}\) This requirement for additional substantive claim limitations has been referenced as "an inventive concept." Indeed, the plurality in *CLS Bank* goes to great lengths to specify that "inventive" under section 101 has a markedly distinct meaning from inventiveness under section 103.\(^{140}\) As a preliminary matter, using the term "inventive" in one context under section 101 and in another context under section 103 is not exactly a sterling example of jurisprudential clarity. Nonetheless, even if


\(^{135}\) *Id.* (emphasis added).


\(^{137}\) *Id.*

\(^{138}\) *Id.*


\(^{140}\) *Id.* at 1297.
district court judges recognize the nuance of “inventive” in the patent-eligibility domain versus the obviousness domain, these judges are still left with little guidance in deciphering the phrase “inventive application.” Current jurisprudence vivifies the phrase “inventive concept” solely by mandating that there be some “genuine human contribution” to the claims. But what is “genuine” human contribution? What exactly constitutes “contribution?” While case law may give flesh to bare-boned words, courts really have no sense of how to consistently and systematically apply the phrase “genuine human contribution.”

Moreover, despite the Supreme Court’s insistence that the phrase “inventive concept” does not conflate a section 103 analysis into a section 101 inquiry, such a proclamation in practicality rings hollow. Specifically, in Flook, the Court stated that it rejected “Respondent’s argu[ment] that [our] approach improperly imports into section 101 the considerations of ‘inventiveness’ which are the proper concerns of sections 102 and 103.”141 Yet the Supreme Court Justices at oral argument for Alice repeatedly emphasized that section 101 should be employed by courts and examiners to allow only for “real inventions.” In other words, much of the time in oral argument was spent distinguishing between those ideas sufficiently inventive to warrant the patent monopoly and those that were not. For example, Justice Breyer opined that there was a need for section 101 jurisprudence that did not “rule out real inventions with computers.”142 Likewise, Justice Kennedy harped on “the fact that [while] the computer is involved [and] necessary to make it work[,] the innovative aspect is certainly not in the creation of the program to make that work.”143 Indeed, Justice Kennedy continually referenced the fact that if Silicon Valley types or computer science undergraduates could program a computer application that incorporated an abstract idea in a couple of days, then that reflected poorly on the prospects of such a computer program to pass the section 101 requirements for patent-eligibility.144 Indeed, in DDR Holdings, the Court stressed that “well-understood, routine, or conventional activit[ies]” do not impart patent eligibility;145 meanwhile, the obviousness inquiry under section 103 exists to prevent the patent monopoly from being granted on well-understood, routine, or conventional activity.

143. Id. at 5.
144. Id.

The word “abstract” is notoriously abstract. Perhaps a court interested in quantifying the term “abstract” could resort to its dictionary definition; however, examining various dictionaries confirms that the term operates as mere linguistic surplusage. For example, Merriam-Webster defines “abstract” as “relating to or involving general ideas or qualities rather than specific people, objects, or actions.”\textsuperscript{146} But does this mean that any general idea, by virtue of being “general,” is patent ineligible? Is generality a sufficiently enlightening standard to gauge the patent eligibility of an idea? Similarly, the Cambridge Dictionary’s definition of “abstract” provides little help to a judge who is endeavoring to determine whether an idea is “abstract” and thus ineligible for patent. That dictionary states that “abstract” means “existing as an idea, feeling, or quality.”\textsuperscript{147} Again, this provides no meaningful guidance to a court for determining whether a patent claim at its core impermissibly claims an abstract idea. It is important to note that delineation of the abstract idea is the threshold inquiry in determining patent eligibility. The startling ambiguity inherent in this threshold inquiry should, by itself, be sufficient to serve as the death knell for current section 101 jurisprudence.

Is it worthwhile to castigate the phrase “abstract idea” as being substantively vacuous when “natural law” appears analogously devoid of meaning? A closer analysis of the term “law,” and then “natural,” reveals that these words provide a workable framework for judging patent eligibility. Specifically, Merriam-Webster defines “law” in several contexts: law could refer to the “set of rules made by the government” or perhaps “a general relation proved or assumed to hold between mathematical or logical expressions.”\textsuperscript{148} The definition of “natural” confirms that the latter meaning is appropriate for “law,” as “natural” describes something that is “existing in nature and not made or caused by people.” Thus, “natural” serves as a meaningful limitation for “law” and also provides worthwhile guidance to adjudicate what is or is not patent eligible. For example, the Supreme Court in \textit{Diamond v.}

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Diehr\textsuperscript{149} could assert that the Arrhenius equation was a "natural law," and the parties conceded that the particular equation fell outside the ambit of patentable subject matter.\textsuperscript{150} Likewise, in Mayo v. Prometheus, the Court held that the correlation of metabolites with the efficacy of a drug constituted a natural law and thus was ineligible subject matter.\textsuperscript{151} The Court in Mayo could clearly explain its reason why in its view this correlation constituted a natural law: specifically, the presence of certain chemical substances would respond to the presence of other chemical substances at particular levels.\textsuperscript{152} In contrast, the majority in DDR Holdings could not even articulate the abstract idea in question.\textsuperscript{153}

Further, the word "physical," as in "physical phenomenon," is vastly more concrete than "abstract." Merriam-Webster's dictionary defines "physical" as either "relating to the body of a person instead of the mind" or "existing in a form that you can touch or see."\textsuperscript{154} In oral argument in Alice, Justice Ginsburg herself noted the problem of ambiguity was uniquely intrinsic to "abstract idea": "[H]ow do you identify an abstract concept[?] The [n]atural phenomenon, a mathematical formula, those are easy to identify, but there has been . . . confusion on what qualifies as an abstract concept."\textsuperscript{155}

E. Eliminating the Abstract Idea Exception Will Not Result in the Proliferation of Unjustified Patents.

The idea of patenting the concept of escrow as applied to financial transactions may result in unease. After all, is escrow the type of thing that is deserving of a patent? While this Article argues that the idea of escrow may be patent eligible, importantly, eligibility does not automatically result in issuance. Rather, the additional safeguards of the Patent Act—sections 102, 103, and 112, among others—should sufficiently operate to prevent the issuance of unwarranted patents. In particular, section 103 acts as a meaningful bar to the grant of patents. The entire purpose of section 103 is to grant the patent monopoly only to

\textsuperscript{149} Diamond v. Diehr, 450 U.S. 175 (1981). Diehr held that mathematical formulas were not patent-eligible subject matter. However, Diehr also clarified that the presence of computer software did not automatically remove patent-eligible subject matter from the realm of being patent eligible.

\textsuperscript{150} Id. at 214-15.


\textsuperscript{152} Id.

\textsuperscript{153} DDR Holdings, LLC v. Hotels.com, L.P., 773 F.3d 1245, 1256 (Fed. Cir. 2014).


those patents deemed sufficiently inventive. Indeed, section 103, when first enacted in the 1952 Patent Act, overruled over a century of Supreme Court precedent, which had unsuccessfully grappled with how to approach “inventiveness.” Using section 103 to adjudicate inventiveness is preferred because the statutory section was drafted to address the particular question of what constituted an “invention.” Notably, a section 103 obviousness inquiry mandates that an examiner or court engage in the following steps: first, analyze the scope and content of the prior art; second, determine the level of one having ordinary skill in the relevant art; third, compare the differences between the claimed invention and the prior art; and fourth, investigate various objective indicia of non-obviousness, such as the commercial success of the patented invention, the failure of others, skepticism by experts, teaching away from the invention, recognition of the problem, and copying of the invention by competitors. Importantly, all of these considerations are ultimately questions of fact, which often involve extensive testimony to establish. In contrast, no established or cohesive rubric exists for identifying what constitutes an “inventive application” of an abstract idea. Rather, courts are left to their own devices to fashion what is meant by the term “inventive application.”

Furthermore, the Supreme Court’s decision in *KSR v. Teleflex* reaffirms that a section 103 “obviousness” analysis should operate as an effective safeguard to the issuance of unwarranted patents. In *KSR*, the Supreme Court rejected the Federal Circuit’s proclamation that the so-called teaching-suggestion-motivation (TSM) test must be satisfied in order to reject a patent application as being obvious. More specifically, the TSM test required that “a patent claim is only proved obvious if the prior art, the problem’s nature, or the knowledge of a person having ordinary skill in the art reveals some motivation or suggestion to combine the prior art teachings.” Thus, under the TSM test, rejecting a patent application on grounds of obviousness was more difficult because the examiner needed to point to some particular teaching, suggestion, or motivation to combine the teachings of the prior art. While the Supreme Court did not categorically eliminate the TSM test, the Court did explicitly hold that the TSM test was not the only test

156. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007) (“There is no necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis. But when a court transforms the general principle into a rigid rule that limits the obviousness inquiry, as the Court of Appeals did here, it errs.”).

157. *Id.* at 399.
to be used for determining obviousness.158 Because of the Supreme Court's holding in *KSR*, rejecting a patent application on grounds of obviousness under Section 103 is now much easier to do. Therefore, any need to weed out patents that are not "truly innovative" (in the words of Justice Kennedy at *Alice* oral argument) or "real inventions" (in the words of Justice Breyer) can effectively be done via section 103.

**F. The Flook/Mayo Framework Undermines a Basic Tenet of Patent Law.**

At its core, the *Flook/Mayo* framework for determining whether a patent constitutes an "inventive concept" of an abstract idea boils down to initially identifying the abstract idea. Then, "[w]ith the pertinent abstract idea identified, the balance of the claim can be evaluated to determine whether it contains additional substantive limitations that narrow, confine, or otherwise tie down the claim so that, in practical terms, it does not cover the full abstract idea itself."159 Essentially, the framework initially sanctioned in *Alice* concedes that a limitation in a claim may cover only an abstract idea; further, those limitations which encompass only an abstract idea are to be discarded, and then the remaining limitations should be analyzed. However, such a paradigm is wildly inconsistent with existing Supreme Court precedent, which mandates that each limitation of a claim is significant. For example, in *Warner-Jenkinson v. Hilton Davis*,160 Justice Thomas, writing for a unanimous Court, affirmed the continued vitality of the doctrine of equivalents in relation to infringement actions and specified that "[t]he determination of equivalence should be applied as an objective inquiry on an element-by-element basis."161 Indeed, Justice Thomas took great pains to specify that every single element in a claim must be infringed, either by literal infringement or the doctrine of equivalents, for a patentee to obtain relief.162 Specifically, he asserted that "[e]ach element contained in a patent claimed is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole."163 Admittedly, an infringement action is separate from a section 101 patentability analysis. Yet no logical reason exists why under the

158. *Id.* at 419.
161. *Id.* at 18.
162. *Id.* at 29.
163. *Id.*
first set of circumstances all claim limitations should be material, and under the second, the exact opposite is true.

V. CONCLUSION

It is time to press CTRL + ALT + DELETE and reboot section 101 jurisprudence. The abstract idea exception has operated as a malicious virus that has infected the ability of courts to engage in intellectually honest discourse as to what constitutes an abstract idea—to say nothing of what constitutes an “inventive concept” of an abstract idea. With regard to computer-related inventions, the Supreme Court at oral argument in Alice repeatedly complained of the difficulty in pinning down what would constitute an “inventive concept.” The Court struggled with the undesirable patent of a computer program that attempted to capture an abstract idea, versus a desirable patent of a computer invention that involved genuine innovation. What is particularly confounding about this current approach sanctioned by the Supreme Court is that it needlessly injects a section 103 obviousness analysis into a section 101 analysis. However, all may not be lost. Alice from Alice in Wonderland might have fallen down the rabbit hole in her dream, but she eventually awoke from the Mad Hatter’s assault of nonsense. Similarly, the Supreme Court can rehabilitate the Alice case by rejecting the logical absurdity that permeates the section 101 concepts of “abstract idea” and “inventive application” or at least by calling on Congress to amend the Patent Act as such.