

GAMING PATENTS AND “ABSTRACT IDEAS”: WHAT ARE THE RULES OF THE GAME?



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Ideas (and algorithms) cannot be patented. Mental processes cannot be patented. The rules of a game cannot be patented (unless there is a sufficiently inventive concept to “transform” the rules into patent-eligible subject matter ... but what does that even mean?). The patent-eligible subject matter exception to 35 U.S.C. § 101 is one of the greatest impediments to obtaining (and enforcing) patents in the gaming arts. This article examines the current state of patent-eligible/ineligible subject matter (particularly, “abstract ideas”) and then offers strategies to navigate that landscape and protect gaming innovations (including through alternatives or additions to patent protection).

I. “Maxims” of Subject Matter (In)eligibility

Section 101 of the patent laws defines patent-eligible subject matter as “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The Supreme Court, however, has “long held that this provision contains an important implicit exception. Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013) (internal brackets omitted) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012)). Over the years, the “abstract idea” exception in particular has led to several maxims that are important in the gaming arts. Specifically:

(1) Mathematical algorithms cannot be patented. See *Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972) (“The mathematical formula involved here has no substantial practical

application except in connection with a digital computer, which means that ... the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself.”); *Parker v. Flook*, 437 U.S. 584 (1978) (“[I]f a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.”) (internal quotations omitted) (quoting *In re Richman*, 563 F.2d 1026, 1030 (C.C.P.A. 1977); see also *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498, 507 (1874) (“An idea of itself is not patentable ...”); *Mackay Radio & Telegraph Co. v. Radio Corp. of America*, 306 U.S. 86, 94 (1939) (“[A] scientific truth, or the mathematical expression of it, is not patentable invention ...”).

(2) Mental processes cannot be patented. See *Planet Bingo, LLC v. VKGS LLC*, 576 Fed. App’x 1005, 1007 (Fed. Cir. 2014) (“The district court correctly concluded that managing the game of bingo ‘consists solely of mental steps which can be carried out by a human using pen and paper.’”).

(3) Rules of a game cannot be patented. See *In re Smith*, 815 F.3d 816, 820 (Fed. Cir. 2016) (“[T]he rejected claims are drawn to the abstract idea of rules for a wagering game and lack an ‘inventive concept’ sufficient to ‘transform’ the claimed subject matter into a patent-eligible application of that idea....”); *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157, 1162 (Fed. Cir. 2018) (“[T]he claims are drawn to the abstract idea of rules for playing a dice game and lack an ‘inventive concept’ sufficient to ‘transform’ the claimed subject matter into a patent-eligible application of that idea.”).

These maxims seem generally straightforward. But, as one examines the real-world application of those maxims to real-world inventions, several things become clear: (1) there is a spectrum of subject-matter-eligibility along which gaming inventions—which frequently involve (or can involve) mathematic algorithms, mental processes, and/or rules—can fall; (2) once an invention starts to move away from, for example, a pure mathematical algorithm (which is not patent eligible), there is no bright-line test for what is and is not patentable; and (3) the cases provide only guideposts from which to estimate whether a particular invention (as claimed) is subject-matter-eligible for patent protection.

As such, it is worthwhile to examine some of these guidepost cases to understand where and how gaming inventions may fall upon the subject-matter-eligibility spectrum.

II. Subject-Matter-Eligibility Guideposts

A. The U.S. Supreme Court’s Subject-Matter-Eligibility Trilogy—*Benson*, *Flook*, and *Diehr*

1. *Gottschalk v. Benson*, 409 U.S. 63 (1972)

This Supreme Court decision involved software containing an algorithm to convert binary-coded decimal numbers into true binary numbers. The Court found that a patent on the concept would pre-empt the entire mathematical algorithm and that the algorithm in question was not patentable because it was an abstract idea.

2. *Parker v. Flook*, 437 U.S. 584 (1978)



This Supreme Court decision involved software containing an algorithm for updating an alarm limit (used to signal abnormal conditions) in a catalytic converter. The only difference between the invention (as claimed) and the prior art was the algorithm that calculated the new alarm limit. The Court found the invention unpatentable “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.”

3. *Diamond v. Diehr*, 450 U.S. 175 (1981)

This Supreme Court decision involved an invention for heating and curing rubber. The invention utilized software and a computer to calculate and control the heating times for the rubber. The invention (as claimed) included not only the computer program but also steps relating to heating the rubber and removing the rubber from the heat. The Court found that the invention was not merely a mathematical algorithm, but was a process for molding rubber and, hence, was patentable, even though the only new feature of the invention was the timing process controlled by the computer.



B. Subsequent Decisions of Note from the U.S. Supreme Court

1. *Bilski v. Kappos*, 561 U.S. 593 (2010)

This Supreme Court decision examined the so-called machine-or-transformation test that had been announced by the Federal Circuit as the sole test for determining the patentability of processes. Specifically, the Federal Circuit held that a process is patentable if “(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.” The Supreme Court ruled that the machine-or-transformation was not the sole test for the patentability of processes. Instead, the Court stated that the test should be viewed as “a clue” to this analysis. Ultimately, the Court found that the *Bilski* claims recited an unpatentable abstract idea.

2. *Mayo Collaborative Servs. v. Prometheus Labs.*, 566 U.S. 66 (2012)

This Supreme Court decision found that, when a fundamental principle is involved, the invention (as claimed) must include “enough” additional subject matter to amount to “significantly more” than the principle alone. Indeed, steps adding only well-known or routine subject matter are unlikely

to be “enough” to qualify as patentable subject matter. The Court also discussed another underlying concern: too much patenting can foreclose future innovation.

3. *Ass’n for Molecular Pathology v. Myriad Genetics*, 569 U.S. 576 (2013)

This Supreme Court decision found that isolated, but naturally occurring, DNA was not subject matter eligible. The main takeaway for us, however, was the Supreme Court’s admonishment that courts must balance (i) the incentives patents provide for innovation with (ii) the benefits that a free-flow of information provide for innovation. Put another way, courts must balance patent protections versus the impediment to innovation that can occur from “bottling up” information (or ideas) that are needed for further innovation.

C. Three Recent Decisions of Note from the U.S. Court of Appeals for the Federal Circuit

1. *Planet Bingo v. VKGS*, 576 F. App’x 1005 (Fed. Cir. 2014)

This decision involved two patents for computer-aided management of bingo games. In affirming a rejection of the patent claims at issue, the Federal Circuit applied the two-part framework introduced in *Mayo* and further explained in *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208 (2014). First, the court determined whether the claims at issue were directed to patent-ineligible subject matter. Because they were, the court then examined the elements of the claim(s) to determine whether they contained an “inventive concept” sufficient to “transform” the claimed abstract idea into a patent-eligible application.

Indeed, the court first determined that the claims at issue (i) “recited methods and systems for managing a game of Bingo,” (ii) “were similar to the claims at issue in *Bilski* ... and *Alice*,” and, accordingly, (iii) were “directed to an abstract idea.” Specifically, the court found the claims were “directed to the abstract idea of solving a tampering problem and also minimizing other security risks during bingo ticket purchases.”

Next, the court examined the claims to determine whether they contained an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible application. The court determined the claims at issue did not contain any such inventive concept. Specifically, the court determined that the claims merely “recite[d] a generic computer implementation of the covered abstract idea.”

2. *In re Smith*, 815 F.3d 816 (Fed. Cir. 2016)

This Federal Circuit decision involved a patent application for a “Blackjack Variation” that was “a wagering game utilizing real or virtual playing cards” in which a dealer engaged in the “conventional steps of shuffling and dealing” the cards. The patent examiner rejected the applicants’ patent claims, finding that they were “an attempt to claim a new set of rules for playing a card game” and, as such, “an abstract idea.”

In affirming the patent examiner’s rejection, the Federal Circuit agreed with the Patent Trial and Appeal Board (“PTAB”) that “a wagering game is, effectively, a method of exchanging and resolving financial obligations based on probabilities created

during the distribution of cards.” Further, the court found that “appending purely conventional steps to an abstract idea”—i.e., claiming steps of shuffling and dealing as part of the rules of the game—did not supply a sufficiently inventive concept to “transform” the claimed abstract idea into patent-eligible subject matter.

The court did acknowledge, however, that innovations in the gaming arts are eligible for patent protection. For example, the court noted that a patent application claiming “a game using a new or original deck of cards” could (potentially) be patent eligible. It should also be noted that the patent application’s claims directed to a computer-implemented version of the game were allowed by the examiner.

3. *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157 (Fed. Cir. 2018)

This Federal Circuit decision involved a patent application for a “Casino Game and a Set of Six-Face Cubic Colored Dice” that related to “dice games intended to be played in gambling casinos, in which a participant attempts to achieve a particular winning combination of subsets of the dice.” The patent examiner rejected the applicant’s patent claims, concluding that the claims were directed to the abstract idea of “rules for playing a game,” which fell within the realm of “methods of organizing human activities.”

In affirming, the Federal Circuit relied heavily on *In re Smith* in concluding that the applicant’s invention was drawn to an abstract idea. Specifically, the court found that “Applicant’s claimed method of playing a dice game, including placing wagers on whether certain die faces will appear face up, is, as with the claimed invention in *Smith*, directed to a method of conducting a wagering game, with the probabilities based on dice rather than on cards.”

The court again, however, acknowledged that innovations in the gaming arts are eligible for patent protection.

III. Where Does All of This Leave Us?

A. Subject-Matter-Eligibility for Innovations in the Gaming Arts
In the wake of the Supreme Court’s recent subject-matter-eligibility decisions—which revived and expanded upon much of the rationale and analysis from its 1970s-era subject-matter-eligibility trilogy (*Benson*, *Flook*, and *Deihr*)—and the Federal Circuit’s subsequent application of those recent Supreme Court decisions, several things are clear. Innovations in the gaming arts face some serious headwinds in obtaining patent protection. First, non-video innovations that constitute variations on existing games (e.g., variations on blackjack or craps) are likely to be found to be rules of a game and, without more, rejected as abstract ideas—i.e., patent-ineligible subject matter. Second, the patentable aspects of video game innovations are more likely to be found in the user interface of the game than in (i) the rules of the game, (ii) the software underlying the game, or (iii) the hardware on which the game runs, particularly where the video game innovation is a variation of an existing casino game. Finally, attempts to transform non-eligible subject matter into eligible subject matter are more likely to be successful, for

example, through (i) a new/original deck of cards than (ii) a new/original set of dice. This is particularly true where the new deck of cards is tied to a new game—e.g., the new/original deck used in a game like UNO—as opposed to where the new set of dice is simply an alternative way of playing existing games—e.g., a new/original set of dice is used to play a game like Yahtzee. That is not to say, however, that new/original decks of cards or dice that, for example, employ new security or anti-counterfeiting technology would not be patentable, as long as the technology itself (or the technology in combination with playing cards or dice) is itself patentable.

B. Alternative (or Additional) Avenues of Protection for Innovations in the Gaming Arts

As an alternative to, or in addition to, patent protection, there are, of course, other avenues of IP protection one can pursue to protect gaming innovations. Trademark, copyright, and trade secret protections, depending on the nature of the innovation, can provide alternative and/or overlapping protection of gaming innovations. Trademark or trade dress can protect, for example, the “brand” of a new game, whether a new slot, table, or video game. Copyright can protect, for example, the layout (i.e., felt) of a new table game or the code underlying a new video game. Last, some aspects of a new game may be protected by trade secret protections, as long as adequate steps are (and have been) taken to limit and protect proprietary aspects of the game. :: CGI

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For complex and high-profile patent and IP actions, such as Hatch-Waxman (ANDA) litigations, numerous Fortune 500 companies have trusted Ryan with their cases. Ryan has litigated a broad range of intellectual property (IP) cases, including litigations over “blockbuster” pharmaceutical products with global sales exceeding \$1 billion per year and bet-the-company gaming litigations involving a blend of IP and contract issues. His complex patent litigation experience includes multidistrict litigations (MDL), Hatch-Waxman (ANDA) litigations, and unfair import investigations (section 337 patent infringement actions) in the U.S. International Trade Commission. Ryan has also handled high-stakes trademark and trade secret litigation.

Prior to joining the firm, Ryan practiced intellectual property law at Watson Rounds, a firm Brownstein merged with September 1, 2015, Finnegan Henderson in Washington, D.C., and Fitzpatrick Cella in New York, NY. Prior to law school, he worked as a high school teacher and varsity lacrosse and soccer coach.