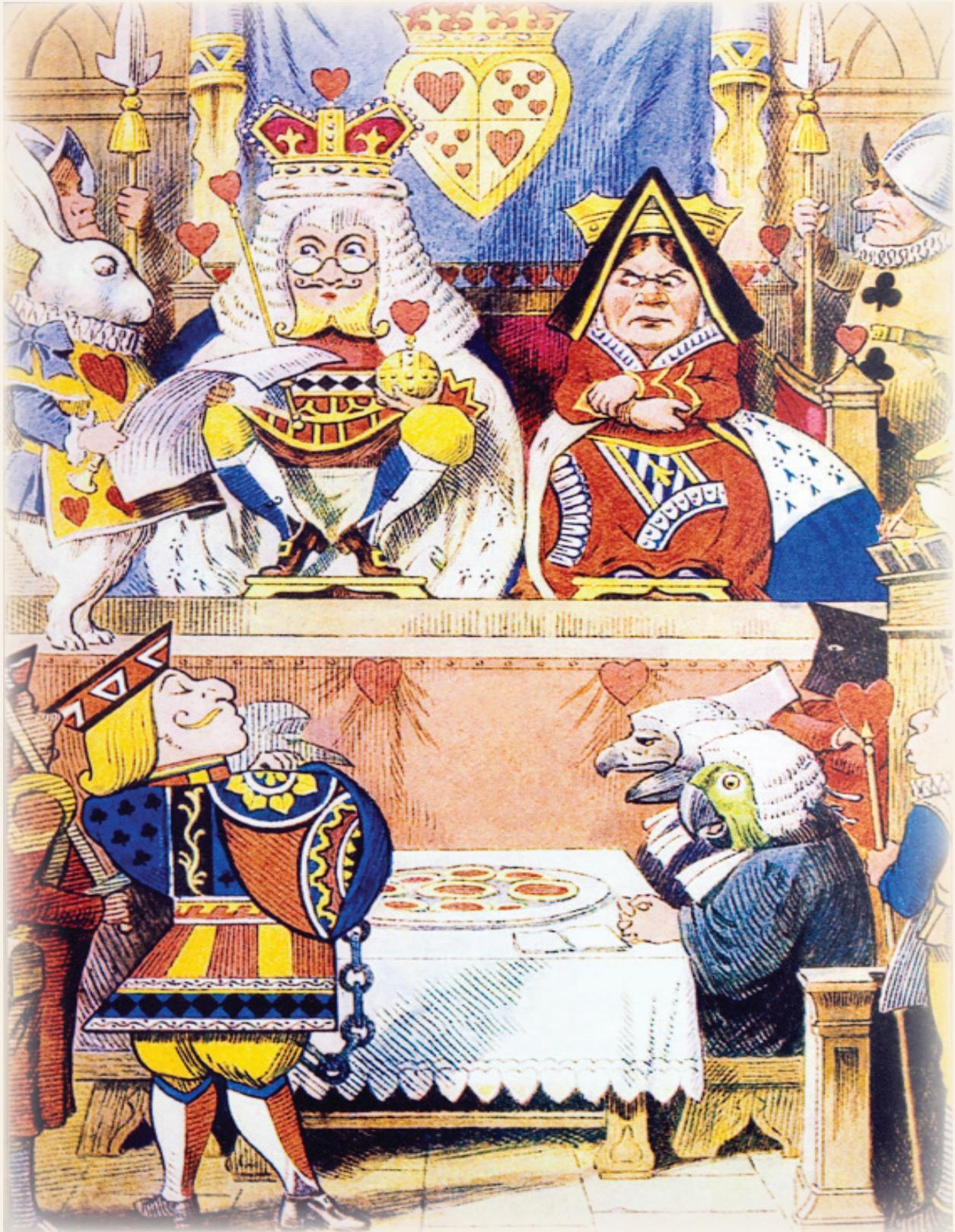


Adventures in Post-Alice Wonderland



Ji-Yong David Chung
Snyder Clark Lesch & Chung LLP

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I. Introduction



When the Queen screamed, “Off with their heads!”, many innocent claims were beheaded.

In *Alice Corp. Pty Ltd. v. CLS Bank Int’l*, 573 U.S. ___, 134 S. Ct. 2347, 2355 (June 19, 2014) (“*Alice*”), the Supreme Court described a “101 test” for determining the subject matter eligibility of a patent claim. The described 101 test includes two prongs: (1) determining whether the claim is directed to an abstract idea; and (2) if an abstract idea is present in the claim, determining whether any element or combination of elements in the claim is sufficient to ensure that the claim amounts to significantly more than the abstract idea. If no such element or combination of elements is found by applying the second prong, the claim is deemed patent ineligible.

While some patent practitioners initially opined that *Alice* would lead to invalidation of almost all software patents, subsequent court case law has proven this view too dire. *Alice* appears to have taken patent law into an unfamiliar landscape, however, akin to descending into the rabbit hole in Lewis Carroll’s *Alice’s Adventures in Wonderland* (“*Wonderland*”). Like *Wonderland*’s Queen of Hearts who arbitrarily decrees, “Off with their heads!”, a misguided application of the 101 test may cut short the

life of a valid claim. In attempting to escape this metaphorical decree, patent practitioners may find useful a distillation of arguments to use for crossing the 101 wonderland, like the magical tonics that Alice uses to escape from her predicaments.

Brewing a figurative magic tonic or potion requires formulating a recipe. To discover possible ingredients for the recipe, this paper embarks on a tour of post-*Alice* decisions from the Federal Circuit, District Court, and the Patent Trial and Appeal Board at the United States Patent and Trademark Office.



*WARNING: a magic
potion can produce
unpredictable results*

II. Journey through Post-*Alice* 101 Decisions

1. *Digitech Image Technologies, LLC v. Electronics For Imaging, Inc.*, 768 F.3d 1344 (Fed. Cir. July 14, 2014) (“*Digitech*”)

The first stop in the journey is *Digitech*. Method claims in *Digitech* related to obtaining data profiles for image processing devices, with the following steps: “generating first data ... through use of measured chromatic stimuli and device response characteristic functions; generating second data ... through use of spatial stimuli and device response characteristic functions; and combining said first and second data into the device profile.” *Id.*, at 1351.

The Federal Circuit stated that the process claim was drawn to an abstract idea because the claim described a process of gathering and combining data that did not require input from a physical device. *Id.* As the claim was not tied to a specific structure or machine, the court indicated that it was not necessary to consider whether tying the claims to an image processor would lead the court to conclude that the claims are directed to patent eligible subject matter under the 101 test. *Id.*

In *Digitech*, the court characterized one of the method claims under review as “an ineligible abstract process of gathering and combining data that does not require input from a physical device.” *Id.* This naturally raises questions as to why the court viewed the claim merely as “gathering and combining data” and why the court’s analysis in determining that the claims were abstract did not give weight to claim terms such as “spatial stimuli,” “chromatic stimuli,” and “device

characteristic functions.” Had the court factored in these elements in its application of either of the two prongs of the 101 test, perhaps the outcome of *Digitech* would have been different. More broadly, *Digitech* raises the following question: is there any reasonable basis for determining to what specific abstract idea a claim is directed, rather than arbitrarily selecting one?



In the 101 wonderland, courts make riddles without answers, and we get paid for guessing the answers.

Digitech is reminiscent of the tea party in *Wonderland*, where the Mad Hatter asks Alice, “Why is a raven like a writing desk?” Alice tries to answer the riddle, only to find herself in the midst of a big argument with other characters in *Wonderland*. Sadly, the Mad Hatter also does not know the answer to the riddle.

2. *Planet Bingo, LLC v. VKGS*, No. 2013-1653, slip op. (Fed. Cir. Aug. 26, 2014) (nonprecedential) (“*Planet Bingo*”)

In *Planet Bingo*, by asserting that the claims were abstract because the steps of the claims could be performed mentally, the Federal Circuit resurrected the mental steps test, which appeared to be on its way to extinction, for determining software patentability. *Id.*, at 4. The mental steps test is much like the *Wonderland*’s Caucus race managed by a Dodo bird, where everyone runs in a circle with no clear winner.

The method claims in *Planet Bingo* addressed computerized management of bingo games. The patentee argued that its claims were not abstract because the invention could not be carried out manually. *Id.*



The mental steps test, unlike Dodo birds, refuses to stay extinct.

For the first prong of the 101 test, the court determined that the claims were directed to the abstract idea of “selecting, storing, and retrieving two sets of numbers, assigning a player identifier and a control number, and then comparing a winning set of bingo numbers with a selected set of bingo numbers.” *Id.* Contrary to the patentee’s arguments, the court reasoned that the claims “[fell] far short of capturing an invention that necessarily handles ‘thousands, if not millions’ of bingo numbers or players,” *id.*, at 5, and therefore the steps of the claims could be carried out manually. *Id.*, at 4-5.

For the second prong of the test, the court ruled that the claim recited a generic computer implementation of the abstract idea and therefore, the claims did not have an inventive concept sufficient to transform the claimed subject matter into a patent-eligible subject matter. *Id.*, at 5-6.

There are a number of reasons why the mental steps test may not be well suited for determining software patent eligibility. For example, evolution of computer technology, from Babbage’s adding machine to Artificial Intelligence was partly fueled by theories in mathematics (i.e., formal logic/systems, computability, etc.) and the idea of rendering machine computation *indistinguishable from human thought*. This was implicitly expressed by a British mathematician Alan Turing in his formulation of the Turing test for assessing a machine’s ability to emulate human behavior.

Computers today can emulate at least some aspects of human mental processes. Furthermore, because computers were originally conceptualized based on mathematics, a human mind can perform every operation of a computer (given a pencil, paper and sufficient time). Accordingly, applying the mental steps test to determine whether a claimed step (omitting conventional elements) is abstract is likely to yield an affirmative result in the framework of the 101 test. Consequently, most software claims would be viewed as covering patent ineligible subject matter.

3. *PNC Bank v. Secure Access, LLC*, CBM 014-00100, Paper No. 10 (PTAB, Sept. 9, 2014) (“*PNC Bank*”)

Alice’s rabbit hole led to two paths: one to *Digitech* and the other to *Planet Bingo*. Each raised an issue in applying the 101 test. In *PNC Bank*, the Patent Trial and Appeal Board (“Board”) grappled with the issue discussed above with respect to *Digitech* – arbitrary selection of an abstract idea to which claims are allegedly directed. In doing so, the Board took an approach not yet used in earlier post-*Alice* Federal Circuit cases.

The claims in *PNC Bank* were directed to inserting an authentication key into data and retrieving the authentication key to retrieve a preference file. *Id.*, at 5. The Board handled the first prong of the 101 test by rejecting the petitioner’s characterization of the claims as an abstract idea of “computerizing a purported centuries old practice of placing a trusted stamp or seal on a document to indicate the authenticity of the document.” *Id.*, at 21. The Board ruled that such a purported abstract idea was not adequately tied to the claim language. *Id.*

In addition, the Board ruled that: (1) the petitioner did not provide sufficiently persuasive evidentiary support that the placing of a trusted stamp or seal on a document was a “fundamental economic practice” or “building block of the modern economy,” *id.*; and (2) the challenged claims recited “transforming ... received data” and thus required a fundamental change to the data, a change that could not be performed in the human mind. *Id.*, at 22.

The requirement that the chosen abstract idea be accurately “tied to” the claim language makes sense, because, as indicated above for *Digitech*, it is possible to characterize a given claim as directed to more than one abstract idea. Requiring the purported abstract idea to be appropriately tied to the claim may help corral the arbitrariness associated with the first prong of the 101 test, although the approach leaves the following question unanswered: when is a purported abstract idea “appropriately tied” to the claim?

As in *Wonderland*, where sanity is neither recognized nor embraced, no post-*Alice* court decisions has yet endorsed the Board’s approach.

4. *California Institute of Technology v. Hughes Communications, Inc.*, Case No. 2:13-cv-07245-MRP-JEM, 2014 U.S. Dist. LEXIS 156763 (C.D. Cal. Nov. 3, 2014) (“*Caltech*”)

As the Board moved to clarify the first prong of the 101 test in *PNC Bank*, in *Caltech*, the District Court for the Central District of California veered away from the mental steps test of *Planet Bingo*.

In *Caltech*, the patents were directed to encoding and decoding Irregular Repeat-Accumulate (IRA) codes. *Id.*, at 4. For the first prong of the 101 test, the court concluded that the purpose of the claims was directed to the abstract idea of correcting errors. *Id.*, at 45-48. For the second prong, the court ruled that additional elements of the claims, although mathematical algorithms, represented inventive concepts. *Id.*



“How do you know I’m mad?” said Alice.
“You are discriminating between ‘abstract ideas’ from ‘non-abstract ideas’ without defining what ‘abstract’ means,” the cat replied.

To the court, the mental steps test and pencil-and-paper test were inappropriate because: (1) the pencil-and-paper test is a stand-in for a concern that humans engaged in the same activity long before the invention of computers, and the software claims do not become conventional simply because humans can do math; and (2) the human mind and pencil-and-paper cannot do what computers can do literally at a physical level. *Id.*, at 49-52.

The court also sided with the notion that the Supreme Court precedents, such as *Diamond v. Diehr*, 450 U.S. 175, 101 S. Ct. 1048, 67 L Ed. 2d, 155 (1981), allowed mathematical formulas to be considered in 101 analysis. *Id.*

In *Wonderland*, Cheshire cat engages Alice in rationality. In *Caltech*, the District Court provided rational reasons for its ruling that the “extra stuff” in the claim that rendered the purported abstract idea patent eligible could also be abstract.

5. *DDR Holdings, LLC. v. Hotels.com, L.P.*, slip op. (Fed. Cir. Dec. 5, 2014) (“*DDR*”)

In *DDR*, the Federal Circuit focused the analysis on the inventive concept of the claims. The court’s ruling bears similarities to *Caltech*’s rationale that claims are patent eligible because the mathematical algorithms underlying the claims are inventive.

The claims in *DDR* were directed to a system for generating a web page. *Id.*, at 4-6. According to the language recited in the claims, when a user activates a link to another website (“host website”), the system responds by combining graphical elements from the host website with product information from a merchant, and by presenting a combination of the graphical elements and the product information to the user. The generated hybrid web page would have the “look and feel” of the host site. *Id.*

The court focused on the second part of the 101 test, explaining that the claims satisfied step two of the 101 test because the subject matter addressed the problem of retaining website visitors by providing the look and feel of the host site. *Id.*, at 20-22.

In determining that the claims were patent eligible, the court distinguished the claims from those in earlier Supreme Court and Court of Appeals decisions, stating that the claims did not recite “a commonplace business method aimed at processing business information, applying a known business process to the particular technological environment of the Internet, or creating or altering contractual relations using generic computer functions and conventional network operations, such as the claims in *Alice*.” *Id.*, at 23-24.

Furthermore, the court explicitly addressed the preemption issue, stating that the “claims do not attempt to preempt every application of the idea of increasing sales by making two web pages look the same, or of any other variant.” *Id.*, at 23.

The court in *DDR* also recognized the difficulty in identifying the abstract idea to which the claims were directed (as discussed above with respect to *Digitech* and *PNC Bank*). The court stated, “[d]istinguishing between claims that recite a patent eligible invention and claims that add too little to a patent-ineligible abstract concept can be difficult, as the line separating the two is not always clear.” *Id.*, at 16. However, rather than identifying an abstract idea appropriately tied to the claim language, the court went directly to the second prong of the test.

In *Wonderland*, a caterpillar points Alice to a magic mushroom, which allows Alice to shrink and grow. Like the caterpillar, the *DDR* court points to the inventive concept underlying claims as the magic ingredient for rendering the claims patent eligible.



Magic mushrooms may be beneficial in understanding the totality of 101 case law.

6. *Content Extraction and Transmission, LLC v. Wells Fargo Bank NA*, slip op. (Fed. Cir. Dec. 23, 2014) (“*CET*”)

CET claims were related to scanning, digitizing and extracting information from within a particular field of a scanned document. *Id.*, at 4. However, in *CET*, the Federal Circuit characterized the claims as being drawn to the abstract concept of: (1) collecting data; (2) recognizing certain data within the collected data set; and (3) storing that recognized data in a memory. *Id.*, at 7. Having thus reduced the claims to an absurdly simple level, the court predictably concluded that the recitation of well-known, routine, and conventional functions of scanners and computers in the claims was insufficient to render the claims patent eligible. *Id.*, at 9-11.

Apparently, the court did not comprehend the technological merits of the claims. Otherwise, the court would have identified (1) a different, patent-eligible concept as what the claims are drawn to, or alternatively, (2) “extra stuff” in the claims that transformed the purported abstract idea into something patent eligible.

To understand why this may be the case, it is helpful to consider scanner technology in the context of the problem the invention solves. When a scanner digitizes a document, the scanner outputs image data. Assuming that the document includes fields (e.g., fields that have been filled out by a computer or person), the image data would not identify what information is in the fields (e.g., address).

However, in many situations, the filled out information needs to be processed differently from the rest of a scanned image. For example, assume that a person submits a document Y (e.g., a document required for a loan application) to entity Z. Also assume that for Z to automatically process Y, Z’s program needs the filled-out data in Y as its input. Because scanning Y only yields image data, which is not comprehensible to the program, Z needs to have its employee view a scanned image of Y, identify the filled-out data, and manually enter the identified data into the program.

The claimed technology in *CET* eliminates (or reduces) the need for the manual intervention. The claimed technology automatically recognizes, within the scanned image, data that are filled out and extracts such data. In the above example, rather than having its employee physically enter the filled-out data in Y into the program, Z can use the claimed technology to automatically identify the filled-out data (from the scanned data) and input the identified data into the program.

The problem of manually transferring field data from a scanned image into another program for processing stems from the scanner technology. The claimed technology solves this problem. Thus, the claims are not drawn to something conventional or abstract. Furthermore, even if one were to conclude that the claims were drawn to the abstract idea of merely manipulating data, the “extra stuff” (identifying field data in scanned documents) should have been recognized as transformative of the purported abstract idea into something patent eligible.

Authored by Judge Chen, who also penned for the majority in *DDR*, *CET*’s written opinion underscores the importance of conveying technological merits of the claims, the central theme in *DDR*, to the court.

III. Summary of the Cases

Caltech and *DDR* indicate that it may be helpful for a patentee to show, to the court, that *the claims express an inventive concept*. *CET* is consistent with this view.

In general, post-*Alice* cases have not yet addressed the arbitrariness in selecting an abstract idea to which the claims are purportedly directed. Although *PNC Bank* sheds some light, the courts have not yet adopted the Board's approach in *PNC Bank*.

In an attempt to solidify the basis for determining whether a claim is directed to an abstract idea, the *Planet Bingo* court used the mental steps test. As explained by the *Caltech* court, however, the mental steps test does not appear appropriate for determining software patent eligibility. At this point, it is unclear whether the mental steps test is good law.

In summary, *PNC Bank*, *Caltech*, and *DDR* show arguments favorable to the patentee. The arguments demonstrate that:

- (A) *the claims express an inventive concept*;
- (B) a purported abstract idea of the claims needs to be appropriately tied to the claim language;
- (C) the claims do not preempt all applications of an abstract idea; and
- (D) the claims are distinguished from patent-ineligible claims in other precedential cases.

Planet Bingo and *CET* indicate roughly that *the inventiveness of the claims* (i.e., the claim elements that purportedly transform the abstract idea into something patent eligible) *cannot rest on conventional application of well-known technology*.

IV. Other Decisions

In addition to the cases discussed above, other possible stops in the 101 wonderland journey include: *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350 (Fed. Cir. Sept. 3, 2014) ("*buySAFE*"), and *Ultramercial, Inc. v. Hulu, LLC*, 2014 U.S. App. LEXIS 21633 (Fed. Cir. Nov. 14, 2014) ("*Ultramercial*"). *BuySAFE* and *Ultramercial* are not covered in this paper, as they mostly re-illustrate many of the above-discussed issues in *Digitech*, *Planet Bingo*, *PNC Bank*, *Caltech*, *DDR*, and *CET*.

V. Conclusion

From the journey, it is clear that *Caltech*, *DDR*, and, to some extent, *CET* highlight the idea that: (1) *a patent eligible claim expresses an inventive concept*. In contrast, *Planet Bingo* and *CET* highlight the idea that: (2) *the inventive concept of a claim cannot rest merely on a conventional application of well-known technology*. Thus, the cases suggest that the above-identified two ideas may serve as the main ingredients for brewing a potion, what may help in better understanding post-*Alice* 101 case law.

Combining the two ideas results in the following brew: *a claim is patent eligible (1) if the claim expresses an inventive concept (2) that does not rest on a conventional application of well-known technology*. The brew is the distillation of most of post-*Alice* 101 cases discussed above, as well as *buySAFE* and *Ultramercial*, but excluding *Digitech*. *Digitech* seems to share more in common with pre-*Alice* courts' analyses for determining whether claims are abstract, than with other post-*Alice* 101 decisions.

The brew can be viewed as courts' interpretation of *Alice*, a virtual rule that the courts, *in effect*, applied in their decisions. The interpretation brings insight into the 101 test.

For example, the virtual rule does not include the first prong of the 101 test. At some level, *all claims are drawn to abstract ideas*, and hence, an abstract idea to which a claim is drawn (i.e., a result of applying the first prong) is not a characteristic that can be used to distinguish one claim from another claim (e.g., a patent eligible claim from a patent ineligible claim). Thus, it is expedient to focus on the crux of the 101 test, the second prong, as did the court in *DDR*.



In closing, it is interesting to observe how the lower courts have given meaning to *Alice*. This interplay between the Supreme Court and the lower courts is perhaps reflected in the following exchange between Humpty Dumpty and Alice, in Lewis Carroll's *Through the Looking Glass*:

"When I use a word," Humpty Dumpty said in rather a scornful tone, "it means just what I choose it to mean - - neither more nor less."

"The question is," said Alice, "whether you can make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master - that's all." (Through the Looking Glass, Chapter 6).