Assessing 6 Years of Court And USPTO Alice Interpretations

By **Michael Kasdan, Nikko Quevada and Vincent Violago** (July 22, 2020)

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In its 2014 landmark ruling in Alice Corp. v. CLS Bank International, the U.S. Supreme Court struck down as patent-ineligible CLS Bank's patents for mitigating settlement risk. At the time, it was widely believed that Supreme Court guidance was needed to help sort out what inventions were patent-eligible and which were not.

As we continue to struggle with a consistent understanding of how to apply the Alice framework, the demarcation between patent-ineligible concepts and patent-eligible applications of concepts remains elusive.

Six years after Alice, it seems a good time to ask: What has been its impact both at the U.S. Patent and Trademark Office and in court, and has that impact changed over time?

We now have a robust set of data to answer these questions.

Alice, Berkheimer and USPTO Guidance on Patent Eligibility

We first note another more recent patent-eligibility case that has had a substantial impact: Berkheimer v. HP Inc.[1]

In the wake of Berkheimer, defendants seeking summary adjudication of patents under Section 101 of the Patent Act have faced the additional hurdle of having to convince a court there are no genuine issues of fact on this point. Berkheimer's impact as a softening of Alice was not limited to the litigation arena.

It also changed prosecution practice. Following the Berkheimer decision, the USPTO issued a memorandum in April 2018 to clarify its examination guidelines for Section 101. Under the Berkheimer memo's directive, examiners conducting a Section 101 analysis were required to make a specific factual determinations regarding whether one or more claim elements at issue were routine or conventional.

The USPTO further expanded on its guidance on patent eligibility in its January 2019 revised patent subject matter eligibility guidance. Among other changes, it split the previous Step 2A of USPTO's Section 101 Alice-based patent-eligibility analysis into two separate prongs. Under the second prong, a claimed invention deemed to recite a judicial exception is considered to be not directed to the asserted judicial exception if the claim as a whole "integrates the recited exception into a practical application of that exception."

Alice's Aftermath: The Alice Report

In April 2020, the USPTO published a report titled "Adjusting to Alice: USPTO patent examination outcomes after Alice Corp. v. CLS Bank International." The report provides us with a good dataset from which to study the impact of Alice over time.

The Alice report presented pre- and post-Alice trends relating to Section 101 rejection rates,

as well as the variability in patent-eligibility findings across examiners in the first office action stage of the examination. The Alice report also observed trends relating to first office action Section 101 patent-eligibility rejections following the issuance of the Berkheimer memo and 2019 patent-eligibility guidance.

The Alice report was based on a study that covered patent applications that received first office actions with Section 101 rejection during the 2011-2015 and 2017-2019 periods. To eliminate possible contributions to Section 101 rejection rates arising from the potential behavioral changes spurred by Alice among patent applicants, the study included only patent applications filed before June 19, 2014, when Alice was decided.[2]

The dataset for the study was then divided into those that correspond to Alice-affected technologies and other technologies.[3]

According to the Alice report, only 33 out of the 415 (8% of the total) U.S. patent classifications were affected by Alice. On the other hand, almost one-third of all the patent applications in the study's dataset covered one or more of the 33 Alice-affected technologies.

Thus, applicants should probably be mindful of the potential greater exposure to a Section 101 patent-eligibility examination or litigation posed by claimed inventions that cover one or more Alice-affected technologies. A majority of the litigated claimed inventions' technologies pertained to data processing and communications, but several related technology groups were not affected by Alice.

***Alice*-Affected Technologies**

Total number of computer/data processing/communications related groups		21
(i)	data/digital processing-related groups	11
(ii)	communications (e.g., radio, telephonic, etc.) groups	6
(iii)	computer/information security groups	2
(iv)	imaging-related groups	2

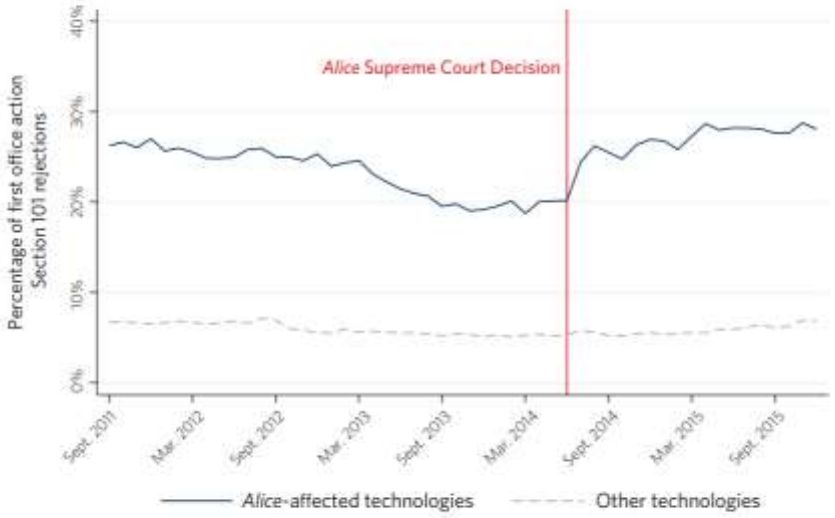
Some Technology Groups Not Among the *Alice*-Affected Groups

USPC 717 (Data Processing: Software Development, Installation and Management)
USPC 369 (Dynamic Information Storage Or Retrieval)
USPC 706 (Data Processing: Artificial Intelligence)

The Rise and Fall of Section 101 Rejection Rates

The number of First office actions with Section 101 rejections increased by 31% a year and a half after Alice.[4] The report partly attributes this uptick in Section 101 rejections to the applicability of Alice's patent-eligibility test to a broader array of technology areas that now face a greater likelihood of Section 101 scrutiny.[5]

Figure 1: The probability of receiving a first office action with a Section 101 rejection in *Alice*-affected technologies and in other technologies, Sept. 2011 - Dec. 2015.

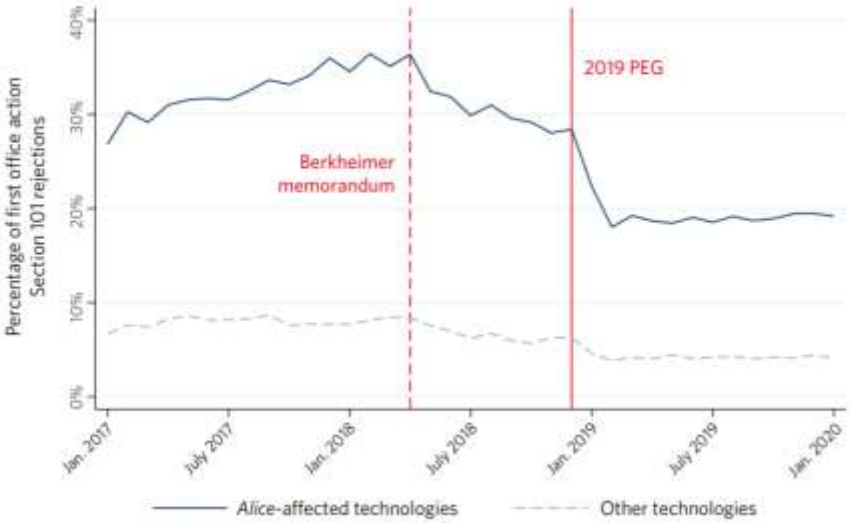


Note: Patent applications included in this figure are restricted to those filed before June 2014 to minimize any influence of applicant drafting and filing decisions in response to Alice.

As shown in Figure 3 of the Alice report reprinted below, Section 101 rejection rates exhibited an another overall upward trend beginning January of 2017 and reached a peak at around 36% after about a year.

The issuance of the Berkheimer memo in April 2018 marked the beginning of the decline in Section 101 rejections. Immediately following the release of the 2019 patent-eligibility guidance, Section 101 rejection rates showed a steep decline, bottoming out around March 2019 and remaining more or less stable at about 18-19%.[6]

Figure 3: The probability of receiving a first office action with a Section 101 rejection in *Alice*-affected technologies and in other technologies, Jan. 2017 - Jan.2020.



Note: Patent applications included in this figure are restricted to those filed before January 2019 to minimize any influence of applicant drafting and filing decisions in response to the 2019 PEG.

Examiners and Patent Applicants: The Roles They Play in Section 101 Rejection Rates' Decline

The Alice report suggests that the Berkheimer memo's more stringent requirements have made it less likely for examiners to issue a Section 101 rejection. One obvious potential explanation for the decline in the Section 101 rejections following the issuance of the Berkheimer memo is the examiners were unable to find factual evidence in many cases to support a "routine or conventional" conclusion.

It is also possible that even where examiners did find some factual evidence they were unsure if it was sufficient to satisfy the Berkheimer memo's edict, so they chose to err on the side of caution and decided in favor of the patentee.

Thus, it is quite plausible that many of the claim elements previously determined to be merely routine or conventional before the issuance of the Berkheimer memo would have been treated differently by the examiners in light of the Berkheimer memo.

Otherwise, the issuance of the Berkheimer memo by itself would not have led to a statistically significant and immediate decline in the observed Section 101 rejection rates. Of course, correlation is not causation, so other factors could have also contributed to the abrupt trend reversal.

The sharp reversal of the previous upward trajectory of the Section 101 rejection rates following the issuance of the Berkheimer memo was not only sustained with the release of the 2019 patent-eligibility guidance, but accelerated.[7]

The striking drop in Section 101 rejection rates, which was clearly precipitated by the 2019 patent-eligibility guidance's release — the second phase of what is essentially a two-phase Section 101 rejection rates downward trajectory — could have been partly due to the examiners' enhanced proficiency and confidence in conducting patent-eligibility assessments.

If examiners had any lingering doubts or misgivings regarding their previous findings of patent-eligibility in similar previous cases, those doubts were likely to have receded with the availability of the 2019 patent-eligibility guidance. On the other hand, the dataset on which Figure 3 of the Alice report was based, comprised patent applications filed before April 2018 and January 2019, which would have included patent applications filed after Alice.

Thus, it is also likely that the subsequent decline in the first office action Section 101 rejection rates was partly a reflection of the patent applicants' increasing compliance with the requirements and recommendations of the 2019 patent-eligibility guidance and the Berkheimer memo.

Meandering Up and Down the Canyons Into a Flat Savannah: Have the Section 101 Rejection Rates Now Reached a Statistical Convergence?

Given the passage of time after Alice and the developed body of USPTO guidance for examiners, most patent examiners will probably ultimately attain an upper threshold of proficiency in conducting Section 101 analysis. We therefore expect variability among the specific examiner assigned to play a diminishing role in the decreasing Section 101 rejection rates.

On the other hand, we likewise expect that an increasing number of patent applicants would endeavor to adapt a patent strategy that complies with the requirements and recommendations of the Berkheimer memo and the 2019 patent-eligibility guidance.

Post- Versus Pre-Alice: A Net Section 101 Rejection Rate Increase?

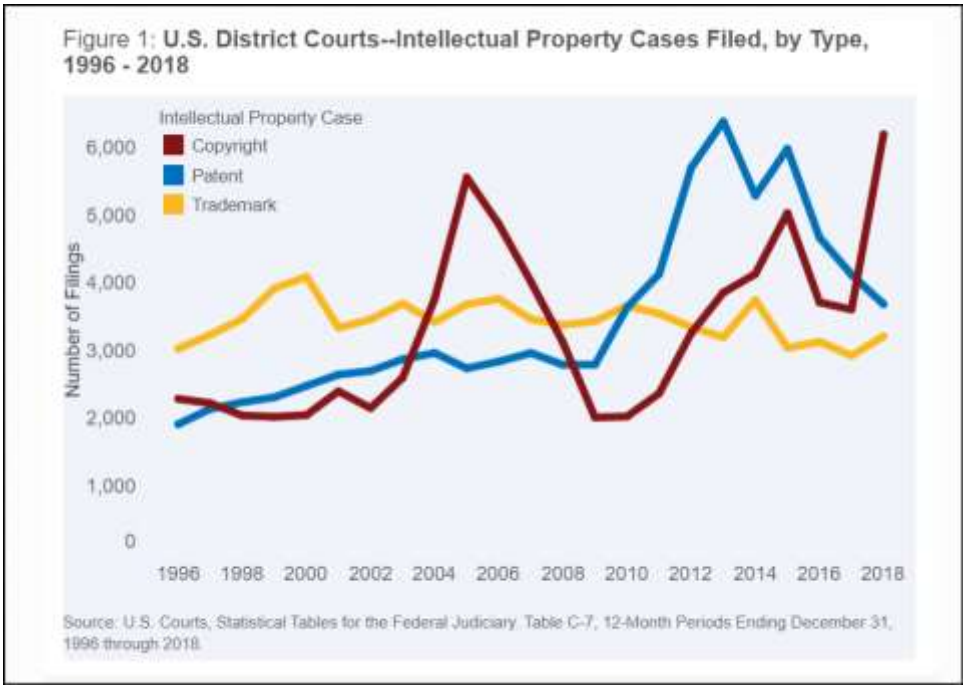
Regardless of the decline in the Section 101 rejection rates after the issuance of the 2019 patent-eligibility guidance, one would still expect that the yearly average percentage of post-Alice rejections would show a net increase, rather than a net decrease, compared to those in the pre-Alice era.

The percentage of first office actions with Section 101 rejections hovered between 19-20% during the last 1.5 years preceding Alice. Interestingly, the percentage of rejections dropped sharply from around 27-28% to around 17-18% within the first few months following the release of the 2019 patent-eligibility guidance.

From there, it remained relatively stable at around 18-19% between around February-March 2019 until January 2020. Interestingly, these seemingly stable lowest rejection rates are similar to the 19-20% rejection rights around 1.5 years before Alice.

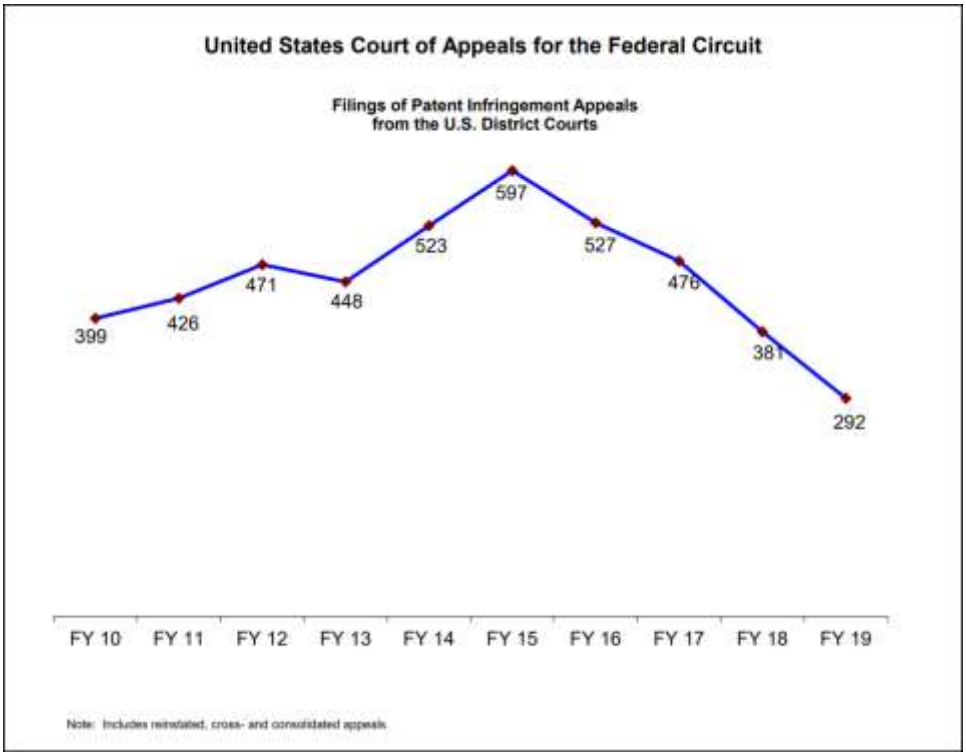
The District Courts and the Federal Circuit: Similarly Marked by Upward-Downward Trends

The upward-downward trends observed in Section 101 rejections by examiners after Alice were mirrored by the increase in the number of district court and U.S. Court of Appeals for the Federal Circuit patent cases following Alice. For example, the number of district court patent cases rose from 2014 until 2015. From there until 2018, the number of district court patent cases steadily declined.[8]



Similarly, the number of Federal Circuit patent cases climbed from 448 in 2013 (pre-Alice) and then peaked at 597 in 2015 (post-Alice). As with the district court patent cases, the

number of Federal Circuit patent cases showed a downward trend beginning 2015 until 2019.[9]



Seeking Solace in the Courts: A Tough Sell for Section 101 Survivor Patents

It seems plausible that the decrease in the number of Federal Circuit patent cases from 2014-2018 was due primarily to the steady decline in district court patent case filings over the same period.

On the other hand, the steady downward trend in the district court patent case filings may have been caused by the high number of cases in which the patents at issue were found patent-ineligible by the district courts during the first year of Alice. That the Federal Circuit affirmed majority of the lower courts' patent-ineligibility finding after Alice could have further discouraged potential plaintiffs from filing cases after 2015 when the number of patent cases began their slide.

For example, during the Jun. 2014-May 2020 period, the Federal Circuit upheld 82% of the district courts' finding of patent-ineligibility involving software-related patents. If we include the number of district court cases that were reversed based on the Federal Circuit's finding that the patents at issue were patent-ineligible, the percentage of software-related claimed inventions held patent-ineligible by the Federal Circuit jumps to 90%.

In addition, the Federal Circuit agreed with the Patent Trial and Appeal Board's finding of patent-ineligibility in all 16 cases appealed from the PTAB during the 2014-2020 period. Thus, if we combine the June 2014-May 2020 district court and PTAB cases in which the Federal Circuit held the claimed inventions patent-ineligible, the percentage of software-related patents at issue held patent-ineligible by the Federal Circuit climbs to a whopping 92%.

The Courts' and the USPTO's Incongruent Approaches to Alice's Two-Prong Test

Six years later, Alice has transformed Section 101 from something relatively rarely touched on in the courts into a seriously worrisome issue for plaintiffs whose patents are now more vulnerable to Section 101 challenges.

At the same time, the USPTO's Berkheimer memo and 2019 patent-eligibility guidance seem to have succeeded in providing examiners and patent applicants with a clearer path for determining patent eligibility. There is no denying that the USPTO has leaned on the side of pragmatism by putting the practical application requirement to the fore in their version of Alice's two-prong test, and practitioners have, over time, gotten better at presenting claims that will survive USPTO scrutiny, based on that guidance.

The USPTO's approach to Alice's two-prong test is a compromise approach intended to allow examiners to perform patent-eligibility analysis in a more practical and less onerous way. Standing alone, Step 2A's two-pronged analysis is already complicated. Besides, even if an examiner found a claimed invention patent-eligible under Step 2A's second prong thus sparing it from an inventive concept scrutiny, the examiner must still also put it under the lens of Sections 102, 103 and 112.

By contrast, a majority of the Federal Circuit's patent-ineligibility findings were based on the conclusion that none of the claimed invention's limitations contained an inventive concept, an approach faithful to Alice's original conception of the two-prong test. But six years after Alice, the courts' analyses relating to, for example, the notion of inventive concept reveal the continuing complexity of applying the Alice test, and criticisms of Alice have focused on the lack of predictability in results.[10]

No matter how hard the courts rationalize the supposed distinctions between Sections 102, 103 and 112 and their doppelgangers stitched into Alice's Section 101 analysis, their explanations often seem just as difficult to consistently apply as Alice's two-prong test itself. In some ways, the difficulty of explaining and applying Alice's two-prong test is inevitable, because the test itself is based on criteria that lend themselves too easily to many different possible interpretations, none of which necessarily better than another.

On the other hand, one may point out that Alice is and always was intended to be a flexible fact-oriented test that provides general guidelines, but lets litigants and the courts figure out the ultimate question of whether the claims at issue are abstract, i.e., directed to an idea, not an invention. Tests like these often rise and fall on the strength of lawyering and specific facts, sometimes in that very order.

Six Years After Alice, Are We Now in a Better Place?

Six years after the Alice court chose to tackle what was then an increasingly thorny patent-eligibility issue under Section 101, the fierce controversy it provoked among a broad swath of the patent community appears to have abated somewhat.

But the USPTO and the courts' incongruent approaches to patent-eligibility analysis appear to steer them in opposite directions judging from the more recent outcomes of their Section 101 scrutiny: an overall easier passage under Section 101 for software-type claimed inventions at the USPTO, but a dire fate that they are very likely to be meted out in the courts, particularly for those directed to Alice-affected technologies.

Somewhat unsurprisingly, the group that was affected the most due to its patents' being

held ineligible by the courts comprised only a relatively small number of patent stakeholders. That is not to say, of course, that the rest of the patent stakeholders remained largely unscathed from the legal and economic uncertainty generated by Alice over the last six years or so.

The courts' patent-eligibility analysis has resulted in many of the litigated software-related patents' being held patent-ineligible. This trend appears to be correlated with the reduction in the number of patent litigation cases filed in the district courts and the Federal Circuit. Further, the data suggests that an increasing number of patent applicants are adopting patent strategies that are more closely aligned with recent USPTO recommendations and court holdings.

Overall, despite the uncertainty that Alice brought, the USPTO appears to have made strides toward providing the much-needed clarity that was lacking during Alice's early years. In the courts, while there have been steps in that direction, the flexible and fact-intensive inquiry has provided less certainty and predictability.

Perhaps Alice — and its evolution at the USPTO and in the courts — is merely symptomatic of the courts' and agency's continuous struggle to keep up with the dizzying pace of technological innovation. In all events, without further guidance from the Federal Circuit or Supreme Court, or legislative changes from Congress, in all likelihood these trends at the USPTO and in the courts will continue.

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[1] 881 F.3d 1360 (Fed. Cir. 2018). Berkheimer addressed when pre-trial motions can be used to invalidate patent claims under 35 U.S.C. § 101. Previously, Alice had been used by defendants with increasing frequency to obtain dismissals or early summary judgment victories on patent ineligibility grounds. Berkheimer pumped the brakes on this practice. The Federal Circuit in Berkheimer emphasized that the § 101 patent eligibility inquiry may turn on issues of fact and not amenable to resolution as the pleading stage on a Rule 12(b)(6) motion or on summary judgment. Significantly, the Federal Circuit stated that:

> Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination. Whether a particular technology is well-understood, routine, and conventional goes beyond what was simply known in the prior art. The mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional.

[2] Similarly, only patent applications filed before April of 2018 and January of 2019 were included in the datasets used to determine possible shifts in § 101 patent-eligibility rejection patterns following the release of the Berkheimer Memo and the 2019 PEG, respectively.

[3] The technologies in both groups were assigned U.S. Patent Classification (USPC) codes that comprise a total of 415 USPCs. The USPTO defined "Alice-affected technologies" as those USPC-designated technologies involved in § 101 patent-eligibility litigations in the Federal Circuit and the Supreme Court.

[4] See, for example, Figure 1 of the Alice Report, reprinted below.

[5] See Figure 1. For example, the claimed invention at-issue in Alice covered subject matter that would encompass numerous software and covered business method patent applications, e.g., finance, business practices, data processing, file management, and other processes involving various kinds of human transactions. The report also ascribed the § 101 rejection rate increase to the initial prevailing uncertainty and divergent opinions on how Alice's two-prong test would be implemented during Alice's early years. Source: "Adjusting to Alice USPTO patent examination outcomes after Alice Corp. v. CLS Bank International," Office of the Chief Economist, IP Data Highlights, Number 3, April 2020, https://www.uspto.gov/sites/default/files/documents/OCE-DH_AdjustingtoAlice.pdf.

[6] See Figure 3. Source: "Adjusting to Alice USPTO patent examination outcomes after Alice Corp. v. CLS Bank International," Office of the Chief Economist, IP Data Highlights, Number 3, April 2020, https://www.uspto.gov/sites/default/files/documents/OCE-DH_AdjustingtoAlice.pdf.

[7] See Figure 3.

[8] See Figure 1. Source: Just the Facts: Intellectual Property Cases—Patent, Copyright, and Trademark February 13, 2020, https://www.uscourts.gov/news/2020/02/13/just-facts-intellectual-property-cases-patent-copyright-and-trademark.

[9] See the graph below. Source: Statistics, United States Court of Appeals for the Federal Circuit, http://www.cafc.uscourts.gov/sites/default/files/the-court/statistics/03-Patent_filings_historical_Final.pdf.

[10] For example, courts have struggled to determine whether an invention merely recites something "well-understood, routine, and conventional." In addition, some decisions seem to find what strikes many as a non-abstract applications of technology to be patent ineligible. See, e.g., Chamberlain Group, Inc. v. Techtronic Industries Co. Ltd. , No. 18-2103 (Fed. Cir. 2019) (finding claims drawn to garage door opener invalid as patent ineligible because they were "directed toward the abstract idea of "wirelessly communicating status information about a system."