

UPDATE

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PRE-FILING STRATEGIES FOR PATENT VENUE



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A patent owner must account for many considerations before filing patent suits, and this is particularly important for determining possible venues under the Supreme Court's recent decision in *TC Heartland LLC v. Kraft Foods Group Brands LLC*.¹ For example, a patent owner's initial pre-filing analysis must first include a factual and legal investigation to determine what entity or entities to sue and what claims to assert, depending on where, how, and by whom the relevant activity occurs. Then, the patent owner must identify available venue(s) under *TC Heartland*, which will often require additional investigation and analysis, and may consider the possibility of utilizing pendent venue, *i.e.* establishing venue through additional non-patent claims, to identify additional venues. At this point, many patent owners end their analysis, often simply choosing whatever possible venue is closest to their "home court," or at least furthest from the defendant's. However, in many cases, additional examination may provide

significant benefits for a patentee, depending on its desired goals for the action, intended litigation strategy, and preferred budget. To that end, once a list of possible districts is determined, patentees should consider an assessment of district-by-district variances in applicable local rules or procedures for patent disclosures, production, and case schedule, and statistical evidence on average time to trial and patent owner's success rates in particular jurisdictions. In this manner, a patentee may determine an ideal forum that will not only be likely to withstand a venue challenge, but will also help ensure the litigation process and costs thereof align as best as possible with the patent owner's goals and preferences.

DETERMINATION OF POSSIBLE PATENT VENUES

For decades, plaintiffs could rely on the relatively broad provisions of 28 U.S.C. § 1391 to support venue of patent claims in any district where a "substantial part of the events or omissions giving rise to the claim occurred," such that venue was proper as long as some infringement occurred in the district, for example through any sales of the accused product.² But the Supreme Court's "sea

[MORE ▶](#)

IN THIS ISSUE

- 1 Pre-Filing Strategies for Patent Venue
- 7 Know Before You Go: Impact of the *Alice* Case on Software- and Computer-Implemented Inventions in the District Courts
- 12 Your Brand & Social Media: How to Protect Your Customers
- 16 Trends and Practice Tips in Therapeutic Antibody Patenting
- 21 Patenting Internet of Things (IoT) and Industrial IoT Inventions After *Alice*

change” decision in *TC Heartland* has dramatically narrowed the scope of forums for patent cases by limiting venue to the terms provided in 28 U.S.C. § 1400(b), which provides more limited thresholds for patent venue: 1) “residence” or 2) a “regular and established place of business” where infringement occurred.³ In this new landscape, patent owners need to perform a factual investigation into the infringer’s business activities and premises to determine what districts may provide a suitable forum under the limited grounds established in *TC Heartland*. In cases involving additional claims, however, such as unfair competition, patent owners may also assess the legal viability of pendent venue in a particular district, even if the factual investigation does not provide a strong basis for patent venue under *TC Heartland*.

IDENTIFYING VENUE OPTIONS UNDER *TC HEARTLAND*

Now, a patent owner may file a patent claim “where the defendant resides,” but residence under the patent venue statute is limited to “only” the defendant’s state of incorporation.⁴ Thus, this provision often provides little strategic benefit to plaintiffs, as the choices are often limited to the defendants’ home venue or, in many instances, Delaware.

If neither of these choices are immediately desirable, the patent owner may turn to the second ground of Section 1400(b): a district “where the defendant has committed acts of infringement and has a regular and established place of business.”⁵ The threshold requirement of “acts of infringement” follows the traditional considerations of acts of making, selling, offering to sell, etc.⁶ The interpretation of the “regular and established place of business” requirement varied greatly in the immediate wake of *TC Heartland*,⁷ but the Federal Circuit recently stepped in to define the three

conditions necessary for this concept. There must be a “physical place” in the district “of the defendant” that is “a regular and established place of business.”⁸

Under this framework, a patent owner should investigate whether a defendant has any offices, stores, or other physical locations where business activity occurs, such as a storage facility for inventory or promotional products, or a distribution center.⁹ Corroborating evidence may include promotional materials and website content where the defendant represents there is a business place in the district.¹⁰ Therefore, the plaintiff should investigate the geographic scope of the defendant’s business locations, real estate activity, advertisement and promotions, business directory listings, and Internet evidence to help identify possible “places” of business that would support venue. This analysis must also balance the threshold requirement that limits venue to places where “acts of infringement” occurred, however, as simply storing or distributing inventory may not constitute an act of infringement.¹¹ Thus, the investigation should also ensure that any districts with “place[s] of business” also provide a factual basis for acts of infringement rather than related, but arguably non-infringing, activity.

PENDENT VENUE MAY PROVIDE AN ALTERNATIVE BASIS FOR ADDITIONAL DISTRICTS

At the same time, patent owners should remember that a factual investigation to identify districts that qualify as proper venues under *TC Heartland* may not identify every possible venue. If the possible claims against a defendant include non-patent claims, then there is some support for the doctrine of “pendent venue,” *i.e.* that the propriety of venue over the other claims may support venue over an entire case including those

claims.¹² While many courts have found that the presence of additional claims will not support an alternative venue that is disqualified under the specific patent venue statute,¹³ there is some support for this doctrine. Therefore, patentees may want to assess the availability of alternative claims, such as unfair competition, and also investigate whether the pendent venue doctrine may be available in any additional, alternative venues.

In a district where pendent venue may be available, the propriety of the venue will turn on “which of the two federal claims is the ‘primary’ claim,” and that claim’s venue statute will control.¹⁴ Given that many claims rely on the broader provisions of 28 USC § 1391(b), this can potentially bring into play forums that would not be available under the more limited terms of 28 USC § 1400(b). What is the “primary” claim in a complaint may be determined by what claims provide a majority of the counts,¹⁵ what claims seek a majority of damages,¹⁶ or what claims constitute the “principal purpose” in filing the complaint.¹⁷ Therefore, if supported by the scope of the defendant’s activity, the inclusion of additional claims and utilization of pendent venue, where available, may provide additional forum choices for a patentee, who then may consider the pros and cons of these additional forums when deciding where and how to file suit.

OTHER FACTORS TO CONSIDER IN CHOOSING VENUE

After identifying venues that satisfy 28 U.S.C. § 1400(b), patent owners should consider a number of factors to choose between the available venues. These factors include: (1) local patent rules, (2) statistics such as time to trial, patent owners’ success rates, and damages award size, and (3) district court experience with technology or other issues. We address

below how these factors impact the decision on where to file suit.

LOCAL PATENT RULES

Patent owners should consider whether they want to file suit in a venue having local patent rules. Approximately 30 district courts have enacted local patent rules.¹⁸ With the exception of Delaware,¹⁹ the jurisdictions with the most patent cases in recent years all have local patent rules, including the U.S. District Court for the Eastern District of Texas, Northern and Central Districts of California, Northern District of Illinois, and New Jersey. Local patent rules are the most prominent mechanism governing the timing and required disclosure of information relating to the party’s claims and defenses.

Local patent rules provide predictability and structure to the substance and timing of disclosures but, in doing so, they inherently build in time and expense before getting to key issues in patent cases, such as claim construction.²⁰ Local patent rules typically have claim construction issues identified and briefed after parties provide their respective preliminary infringement and invalidity contentions. If a patent owner’s infringement case depends on a particular construction of a claim limitation, filing suit in a venue lacking local patent rules may provide a better opportunity to have an early claim construction before engaging in extensive and costly disclosures relating to infringement and invalidity contentions.

Choosing a venue having local patent rules may provide uncertainty as to a trial date. For example, in the Northern District of Illinois, a trial date is not typically set when the court issues a case scheduling order. Instead, a trial date is set after the court rules on dispositive motions. In contrast, the Western District of Wisconsin and Delaware, which lack local

MORE ▶

[PRE-FILING STRATEGIES, FROM PAGE 3]

patent rules, typically set a trial date in the initial scheduling order. Having a trial date is often advantageous to a patent owner in limiting costs and leveraging settlement options.

Before picking a venue from amongst a number of possible venues, patent owners should review whether a venue has local rules and any differences between local rules in available venues.

STATISTICS — SPEED TO TRIAL, PATENT OWNER SUCCESS RATES

Patent owners should also consider statistical evidence relating to patent cases handled in available venues. A number of companies provide annual reports that analyze patent cases and report information such as time to claim construction rulings, trial or case resolution, patent owner's success rate, size of damages awards, and permanent injunction success rate. For example, PricewaterhouseCoopers issues an annual patent litigation study.²¹ Other companies such as *IP Law360* and DocketNavigator issue similar reports annually.

As a strategic matter, litigants often select venue based on the speed with which their case will likely proceed to trial, believing a quick trial will help keep costs lower and obtain quicker relief. The Western District of Wisconsin and Eastern District of Virginia are well known "rocket dockets" that, based on time to trial statistics, offer a high probability of a trial date before other jurisdictions. The U.S. government provides statistics on time to trial in various jurisdictions.²²

If a patent owner has a choice between multiple venues, the patent owner's success rate may guide where to file suit. According to PWC's 2017 Patent Litigation Study, patent owners had a 54 percent overall success rate in the Eastern District of Texas but a 23 percent overall success rate in the Southern District of Texas. If both the Eastern and Southern Districts of Texas are available, patent owners should go east and more than double their statistical chance of success.

In short, patent owners should arm themselves with the statistics before picking a venue.

DISTRICT COURT EXPERIENCE WITH TECHNOLOGY OR OTHER ISSUES

Patent owners should also consider whether a particular jurisdiction is likely to have familiarity or experience with the patented technology or issues likely to arise in the case. For example, New Jersey and Delaware district courts have handled the overwhelming majority of pharmaceutical patent infringement cases filed in response to abbreviated new drug applications (ANDA) filed with the U.S. Food and Drug Administration. Since 2009, New Jersey and Delaware have each handled more than 850 ANDA cases whereas all of the other jurisdictions **combined** handled less than 700 cases.²³ Because of their experience with pharmaceutical patents and the ANDA statutes, complex chemistry, biochemistry, and pharmaceutical technology and the legal issues surrounding ANDA issues are less likely to overwhelm judges in New Jersey and Delaware.

Given its proximity to Silicon Valley, the Northern District of California has vast experience with semiconductor, networking, Internet, and software related patents. Judges in this venue have issued dozens of opinions addressing whether subject matter was patent-eligible under 35 U.S.C. §101. A patent owner anticipating an eligibility challenge to their patent should consider an available venue's experience and handling of § 101 issues. For example, a patent owner may choose to file suit in a venue where judges typically address § 101 issues on a motion to dismiss to have this important issue decided early in a case, and before expending resources on discovery.

CONCLUSION

The Supreme Court's *TC Heartland* decision narrowed the venues available to patent owners. Nevertheless, patent owners will often have a choice of multiple venues in which they may file a lawsuit. A patent owner should choose a venue that aligns with its desired litigation and possible settlement strategy, and that is appropriately in line with legal costs the patent owner is willing to incur to protect its rights. As discussed above, local patent rules and statistics provide insight on the variability in the timeline of case, extent and timing of discovery efforts, and likelihood of a patent owner's success. ■

1. 137 S. Ct. 1514 (2017).
2. 28 U.S.C. § 1391(b)(2).
3. *Westech Aerosol Corp. v. 3M Co.*, No. 17-5067, 2017 WL 2671297, at *2 (W.D. Wash. June 21, 2017); 28 USC § 1400(b).
4. *TC Heartland*, 137 S. Ct. at 1517. The Supreme Court explicitly declined to address the definition of "residence" as it applies to foreign companies, or otherwise "express any opinion" on prior Supreme Court precedence addressing venue over foreign corporations. *Id.* at 1520 n. 2.
5. *Id.* at 1517.

6. 35 USC § 271.
7. *See, e.g. Boston Scientific Corporation and Boston Scientific SciMed, Inc. v. Cook Group Incorporated and Cook Medical LLC*, No. 15-980, 2017 WL 3996110, at *14 (D. Del. Sept. 11, 2017) ("physical presence" in district is required) and *Raytheon Company v. Cray, Inc.*, No. 15-1554, 2017 WL 2813896, at *11 (E.D. Tex. June 29, 2017) ("a fixed physical location in the district is not a prerequisite to proper venue" and place of business inquiry should "be driven by a fair consideration of the totality of the circumstances, and not by the siren call of bright line rules") (vacated by *In re Cray, Inc.*, 817 F.3d 1355 (Fed. Cir. 2017)).
8. *In re Cray, Inc.*, 817 F.3d 1355, 1361 (Fed. Cir. 2017).
9. *Id.* at 1362.
10. *Id.* at 1363-64.
11. *See, e.g., 35 USC § 271. See also Milo & Gabby LLC v. Amazon.com, Inc.*, 144 F.Supp.3d 1251, 1253 (W.D. Wash. 2015) and *Milo & Gabby LLC v. Amazon.com, Inc.*, No. 13-1932, 2015 WL, 4394673, at *2, 12-14 (W.D. Wash. July 16, 2015) (in this case, it was ultimately held that Amazon did not infringe any of the asserted patents because it did not sell or offer to sell any products, and therefore did not meet any of the terms under 35 USC § 271, where any potential liability was solely tied to whether Amazon or third-parties actively offered products for sale through the Amazon website, rather than Amazon's storage and shipping of those products, which was undisputed).
12. *See, e.g., Solow Bldg. Co., LLC v. ATC Assocs., Inc.*, 175 F. Supp. 2d 465, 470 (E.D.N.Y. 2001); *Elemery v. Phillipp Holzmann A.G.*, 533 F.Supp.2d 144, 149-151 (D.D.C. 2008).
13. *See, e.g., PKWare, Inc. v. Meade*, 79 F. Supp. 2d 1007, 1018-19 (E.D. Wis. 2000). *Cf. Zumba Fitness, LLC v. Brage*, No. 11-5361, 2011 WL 4732812, at *2 (C.D. Cal. Oct. 6, 2011).
14. *Solow*, 175 F. Supp. 2d at 470.
15. *Hsin Ten Enter. USA, Inc. v. Clark Enterprises*, 138 F. Supp. 2d 449, 463 (S.D.N.Y. 2000).
16. *In re Grumman Olson Indus., Inc.*, 329 B.R. 411, 434 (Bankr. S.D.N.Y. 2005).
17. *Solow*, 175 F. Supp. 2d at 470.
18. A list of U.S. district courts enacting local patent rules may be found at www.localpatentrules.com.
19. Although Delaware has not implemented local patent rules, individual judges (e.g. Judge Stark) have standing orders for patent cases that "absent agreement of the parties or order an order of the Court" will result in a scheduling order including mandatory disclosure of infringement and invalidity contentions, as well as the production of technical and financial documents. *See* <http://www.ded.uscourts.gov/sites/default/files/Chambers/LPS/PatentProcs/LPS-PatentProcedures.pdf>. However, Judge Andrews' model scheduling order for patent cases does not include any provisions for infringement or invalidity contentions, but does include provisions addressing claim construction. *See* http://www.ded.uscourts.gov/sites/default/files/Chambers/RGA/Forms/Rule16_Scheduling_Order-Patent.pdf.
20. "Claim construction is the single most important event in the course of a patent litigation. It defines the scope of the property right being enforced, and is often the difference between infringement and non-infringement, or validity and invalidity." *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 659 F.3d 1369, 1370 (Fed. Cir. 2011).
21. PWC's 2017 Patent Litigation Study may be found at <https://www.pwc.com/us/en/forensic-services/publications/assets/2017-patent-litigation-study.pdf>.
22. The Federal Court Management Statistics may be found at <http://www.uscourts.gov/statistics-reports/analysis-reports/federal-court-management-statistics>.
23. <https://lexmachina.com/media/press/pharmaceutical-patent-litigation-filings-declined-first-time-in-three-years/> (citing data from April 27, 2017 Lex Machina's third annual Hatch-Waxman/ANDA Litigation Report).

HAPPY AIA-VERSARY! THE AIA TURNS 5 — HIGHLIGHTS, INSIGHTS AND THOUGHTS FOR THE FUTURE

By Katie L. Becker

On September 16, we celebrated the fifth anniversary of President Obama signing the Leahy-Smith America Invents Act (AIA) into law, which brought a significant change to the patent laws. Assuming the AIA survives *The Nine*,¹ it is likely that post-issuance proceedings will continue to affect U.S. patent practice. Below are some highlights, insights and thoughts for the future as we continue to navigate through the AIA:

- *Inter partes* reviews (IPRs) reign supreme: Since IPRs became available under the AIA, they have frequently been used as an alternative or supplement to district court litigation, thereby affecting the number of patent litigations pending in the district courts. According to the U.S. Patent and Trademark Office (USPTO), a total of 6,955 IPR petitions have been filed in the past five years. This alternative is attractive to accused infringers in a district court action due to the specified timeframe (final decision within a year of institution), and the fact that validity challenges tend to be more successful at the PTAB, as illustrated by statistics showing that in 81 percent of petitions, one or more of the patent owner's claims will be canceled by the Patent Trial and Appeal Board (PTAB). Moreover, several wrinkles have also been introduced into these proceedings. For instance, due to the lack of a standing requirement in AIA proceedings, a hedge fund billionaire filed a series of IPR petitions against patents covering drug products in an effort to short stock. More recently, Allergan struck a deal with and assigned its patents covering an eye drug, Restasis, to a Native American tribe in an effort to immunize the patents from IPR proceedings.
- First-to-file versus first-to-invent: The transition from first to file (at least one claim whose earliest effective filing date is March 16, 2013, or later) to first to invent seems to have been relatively seamless. The key here is advising clients of the danger of public disclosure prior to filing.
- The future of the AIA: Predicting the future of the AIA is a tough task, especially in light of the arguments at the Supreme Court in *Oil States* (see footnote below). Assuming the AIA survives the Supreme Court, we can expect IPR and post-grant review (PGR) filings to continue to increase. The Covered Business Method (CBM) program is slated to sunset in 2020, but may be extended (perhaps with modifications). As the Federal Circuit decides more cases, it is inevitable that we will receive more precedential decisions and guidance on how to proceed on issues relating to claim amendments and joinder in IPR proceedings.

It's been quite an illuminating five years. Cheers and here's to the next five!

¹ The Supreme Court granted cert and heard oral argument in *Oil States v. Greene's Energy Group, et al.*, on November 27 to address the constitutionality of an Article I tribunal's ability to extinguish patent rights afforded to patent owners.

KNOW BEFORE YOU GO: IMPACT OF THE ALICE CASE ON SOFTWARE- AND COMPUTER-IMPLEMENTED INVENTIONS IN THE DISTRICT COURTS



BY ERNEST V. LINEK AND BRIAN EMFINGER

Alice Corp. v. CLS Bank, Supreme Court 2014

The story of *Alice v. CLS Bank* is likely well-known to patent practitioners. Alice Corporation (Alice) owned four patents on electronic methods and computer programs for financial-trading systems on which trades between two parties who are to exchange payment were settled by a third party in ways that reduced “settlement risk” — the risk that one party will perform while the other will not.

Alice alleged that CLS Bank International and CLS Services Ltd. (collectively “CLS Bank”) began to use similar technology in 2002. Alice accused CLS Bank of infringement of Alice’s patents, the parties could not come to a resolution, and CLS Bank sought a declaratory judgment that the claims at issue were invalid. Alice counterclaimed, alleging infringement.

The district court ruled on CLS Bank’s motion for summary judgment, holding each of Alice’s patents invalid because the claimed inventions were directed to abstract ideas and thus not eligible for patent protection under 35 U.S.C. § 101.

On appeal to the Federal Circuit, the original panel reversed the lower court’s decision.

The Federal Circuit accepted the case for *en banc* review. The outcome was seven different opinions, with no single opinion supported by a majority on all points. Seven of the 10 judges upheld the ineligibility of Alice’s method claims and computer-readable medium claims, but they did so for different reasons. Five of the 10 judges upheld the ineligibility of Alice’s system claims as not patent eligible, and five judges disagreed. As a whole, the panel did not agree on a single standard to determine whether a computer-implemented invention is a patent-ineligible abstract idea.

In 2014, the Supreme Court reduced the Federal Circuit’s multipart test to a two-part test, namely:

- (1) Does the invention consist in significant part of a patent-ineligible concept — for example, a law of nature, natural phenomenon or abstract idea?
- (2) If so, the invention is patent-eligible only if the remaining parts provide an “inventive concept” — that is, elements that ensure a patent on the invention amounts in practice “to significantly more than a patent upon the ineligible concept itself.”

Applying this test, the Supreme Court found the Alice patents to be invalid under § 101.

Bottom line of *Alice*, if your patent claims are directed merely to the use of a general purpose computer to gather and analyze

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[IMPACT OF THE *ALICE* CASE, FROM PAGE 7]

data, those claims risk invalidation for lack of patent-eligible subject matter under § 101.

To assess the impact of *Alice* on patent litigation in the district courts for software- and computer-implemented inventions, we have analyzed rulings on challenges to patent validity under § 101. The data show notable differences across the district courts in their treatment of such challenges. Some venues appear to be more favorable to either patent owners or defendants while others appear to be fairly neutral toward each. And even within individual district courts, the data show differences between rulings on the various types of motions most often used to challenge patent validity under § 101. This data may be helpful to inform litigation strategies in light of recent court decisions that will likely limit the forums available to a party to bring a patent dispute.

VENUE CASES

Following the Supreme Court's decision in *TC Heartland* and the Federal Circuit's subsequent decision in *In re Cray*, patent owners now must file infringement actions in the jurisdiction where the defendant is incorporated, or where the defendant has a fixed physical location that qualifies as a regular and established place of business. Forum shopping by the patent owner is no longer permitted — and avoiding a court that has a history of granting *Alice* rulings may be difficult, if not impossible.

In a post-*TC Heartland* and post-*Cray* world, parties to patent litigation involving questions of subject matter eligibility under § 101 would benefit from a sober assessment of what to expect from the venues most likely to hear the dispute.

DETAILED FINDINGS

To assess the impact of *Alice* on patents directed to computer- and software-implemented inventions at the district court level, we looked at the three most popular mechanisms for asserting invalidity arising from a lack of patent-eligible subject matter: 12(b)(6) motions to dismiss, 12(c) motions on the pleadings, and motions for summary judgment of patent invalidity. Using data obtained from DocketNavigator, a patent litigation intelligence platform, we catalogued the district courts' grant and denial of such motions.¹ Where a court denied a motion, this was often due to a determination that claim construction was first necessary to understand the claimed invention. And motions both granted and denied in part were typically seen in cases asserting multiple patents with divergent conclusions as to their respective validity under § 101.

Unsurprisingly, the data showed generally high rates of invalidation at the district court level. We found that, together, these three types of motions were granted about 60 percent of the time and were denied about 40 percent of the time. Motions to dismiss under 12(b)(6) amounted to about half of the motions we analyzed while 12(c) motions on the pleadings and motions for summary judgment each represented about a quarter of the motions analyzed. However, all were equally effective in disposing of patent infringement claims. We found that courts granted each type of motion roughly 60–65 percent of the time and denied each type about 40–50 percent of the time.

Digging deeper into the data, however, revealed that the success rates of particular types of motions varied across the district

courts. We found a district court's disposition toward each type of motion could be categorized in one of three ways based on the number of motions granted versus denied: (i) generally neutral toward patent owners and defendants with an equal split between grants and denials, (ii) generally favorable toward patent owners with a tendency to deny the motion more often than grant it, and (iii) generally favorable toward defendants with a tendency to grant the motion more often than deny it. We also found that venues generally favorable to patent owners or defendants with regard to one type of motion were not necessarily the same with respect to another type of motion.

12(b)(6) Motions to Dismiss

- **Favorable to Patent Owners:** D.N.J and S.D. Tex.
- **Favorable to Defendants:** E.D. Va., N.D. Ill., D. Mass., W.D. Pa., M.D. Fla., and N.D. Tex.
- **Neutral Toward Patent Owners and Defendants:** E.D. Tex., D. Del., N.D. Cal., C.D. Cal., D. Nev., and W.D. Tex.

With respect to 12(b)(6) motions to dismiss, we found those venues that were generally favorable to defendants granted the motion to dismiss two to three times more often than denying it. In addition, only two courts, the D.N.J and the S.D. Tex., stood out as more favorable to patent owners. Finally, those venues that were generally neutral in their treatment of patent owners and defendants included some of the more popular venues for patent suits such as the E.D. Tex., D. Del., N.D. Cal., and C.D. Cal.

12(c) Motions on the Pleadings

- **Favorable to Patent Owners:** E.D. Tex., M.D. Fla., and D. Mass.
- **Favorable to Defendants:** D. Del., C.D. Cal., N.D. Ill., S.D. Cal., S.D.N.Y., N.D. Tex., D. Utah, E.D. Va., and W.D. Wash.
- **Neutral Toward Patent Owners and Defendants:** N.D. Cal.

We found a slightly different result with 12(c) motions on the pleadings. Here, we found the district courts were less likely to split grants and denials. The N.D. Cal. was the only venue exhibiting a 50/50 split. The other district courts tended to lean toward granting or denying this type of motion. Notably, the E.D. Tex. — found to be neutral toward patent owners and defendants with respect to 12(b)(6) motions — appeared to be more favorable for patent owners concerning 12(c) motions on the pleadings. We found the opposite for the D. Del. and C.D. Cal. Both of these courts, while neutral regarding motions to dismiss, appeared to be more favorable for defendants regarding motions on the pleadings. Finally, we found one court, the D. Mass, more favorable to defendants on 12(b)(6) motions to dismiss but more favorable to patent owners regarding 12(c) motions on the pleadings.

Motions for Summary Judgment of Patent Invalidity

- **Favorable to Patent Owners:** E.D. Tex. and W.D. Tex.
- **Favorable to Defendants:** D. Del., C.D. Cal., N.D. Cal., N.D. Ill., S.D.N.Y., and M.D. Fla.

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We again found a different outcome across the district courts with motions for summary judgment. Here, we found the district courts were favorable to either patent owners or defendants on motions for summary judgment of patent invalidity. We found that those district courts more favorable to defendants granted the motions for summary judgment about twice as often than denying them. And we found the two courts that were more favorable to patent owners — the E.D. Tex. and W.D. Tex. — denied those motions about twice as often as granting them. The M.D. Fla. similarly stood out as being more favorable to patent owners on 12(c) motions on the pleadings while being more favorable to defendants on motions for summary judgment.

TAKEAWAYS

The tendency to rule in favor of patent owners or defendants should not be taken as an indication of how a court is likely to rule on any particular patent. Each patent is different and must be judged on its own merits. However, to the extent that parties can observe the unique tendencies of the district courts, this can provide meaningful insight for those parties when making decisions on whether and how to engage in patent litigation involving questions of subject-matter eligibility. No party operates with unlimited resources. Understanding how

courts are more or less likely to rule on the various mechanisms for challenging subject-matter eligibility should thus help parties determine what will be the most efficient use of their limited resources during litigation.

Insight into such tendencies may assist you with your litigation strategies. For patent owners, such insight may help with decisions of what patents to assert. For defendants, this insight may guide decisions of the extent to which resources should be committed to the various mechanisms for challenging subject-matter eligibility. This can also include whether and how strenuously to argue for transfer to whatever venue might be available under the new *TC Heartland* standard. On either side, such insight may provide guidance as to potential compromises between the parties.

As non-traditional venues see more patent litigation in the aftermath of *TC Heartland* and *Cray*, time will tell if further distinctions emerge between district courts' treatment of challenges to subject-matter eligibility and the various motions for disposing of patent infringement claims on that basis. ■

1. The ability to draw meaningful conclusions from the data available should be appreciated. Some venues provided little to no data due to a dearth or lack of patent infringement suits in those venues following the *Alice* decision. Accordingly, to reach our conclusions, we included in our analysis only those district courts that have issued at least three rulings on either 12(b)(6) motions, 12(c) motions, or motions for summary judgment.



CONNECTING IP AND BUSINESS AT WITCON2017

A heartfelt thanks to all who attended WITCON 2017, Banner & Witcoff's Corporate Intellectual Property Seminar at the University of Chicago's Gleacher Center, on October 20.

We specifically tailored the program for in-house counsel, business lawyers, executives and corporate professionals who regularly work with intellectual property and related business issues, including new and emerging design patent strategies, the realities of the International Trade Commission in 2017, and whether or not *inter partes* reviews will withstand Supreme Court scrutiny in *Oil States*.

If you are interested in hearing more about any of the topics covered, or if you are interested in learning about other areas of IP law not covered during our program, please contact Chris Hummel at chummel@bannerwitcoff.com.



Maurine Knutsson (pictured) and Ross Dannenberg discussed whether social media, video games and blockchains have become a new haven for criminals in their afternoon session.



Azuka C. Dike (left) and Binal Patel explained how to obtain patent value beyond litigation in their morning session.



A record number of corporate counsel and business professionals attended WITCON 2017.

YOUR BRAND & SOCIAL MEDIA: HOW TO PROTECT YOUR CUSTOMERS



BY MAURINE L. KNUTSSON

Social media has proven itself equally helpful and harmful.

Establishing a strong presence on social media can do great things for your brand, but social media is also a haven for frauds and fakes that can harm you and your customers. There are five steps you should take to protect your brand and your customers on social media: (1) learn, (2) plan, (3) preempt, (4) take action, and (5) repeat.

(1) LEARN

In order to protect and nurture your brand on social media, it is necessary to identify potential issues and risks. Like any other problem, it is difficult to find a solution if the problem is not understood. The risks faced on social media come in two forms: those created by your use of social media and those created by third parties' use of social media.

The risks faced on social media come in two forms: those created by your use of social media and those created by third parties' use of social media.

The main legal risks presented by your use of social media are liability for using content or trademarks without the owner's permission, accidental disclosure of confidential information, and defaming others.

The legal risks presented from third parties' use of social media are multitudinous and constantly changing. These risks also vary for different industries. Some of the most common legal issues include scams;

fake accounts, aliases, pages, and ads; infringing products; and the unauthorized use of your content or trademarks.

Scams on social media platforms include phishing scams — where users are tricked into giving personal information, such as passwords, credit card numbers, or social security numbers — and fraud — where, for example, users are tricked into paying money in return for a falsely promised product or service. Scams are not only dangerous if you or your employees fall victim to one, but they can also be harmful to your brand if they are carried out by a fake social media account pretending to be you, your company, or your affiliate. Aside from scams, some fake accounts, aliases, pages, and ads on social media pretend to be you or your affiliate to attract users to webpages offering infringing products, competing products, or unrelated products. Having your brand used in a scam or

fake account can hurt you and your customers. Customers may unknowingly fall for the scam or end up with an inferior product. Your goodwill may also be at risk if people wrongly believe, but believe nonetheless, that you were responsible for the scam or fake account.

Social media is also a breeding ground for infringing products, including counterfeits, knock-offs, replicas, stolen goods, and third-shift goods. Real and fake accounts, aliases,

pages, and ads often lead users to websites and other platforms, such as Amazon and eBay, selling infringing products. Infringing goods are also commonly found in buy-in groups on social media. Buy-in groups allow individuals to pool their resources to buy bulk wholesale products that they can then resell. Many of the bulk wholesale products purchased are inexpensive, not because they are bought in bulk and cut out the middleman, but because the products are not authentic. Further, social media also offers buy-sell interfaces like Facebook Marketplace, which are flooded with infringing products.

The last common issue is the illegitimate use of trademarks and copyrights. Users may wrongly infer that you are an affiliate or sponsor by including your trademark in their posts. Copyright infringement on social media can be blatant, such as using someone else's photo or freebooting, including stripping and ripping the content identifying the original creator and reposting. It can also be more subtle, such as taking someone else's content and creating an infringing derivative work, doctoring an image, or remixing a song.

(2) PLAN

Following identification of the issues that arise on social media, you must plan to protect your brand and your customers. You will need to find your own balance for dealing with the seemingly never-ending concerns. Since the risks that arise are two-fold, a plan should cover both guidelines and best practices for employees' use of social media and tactics for minimizing and limiting third parties' actions that may harm your company or your customers.

You may develop a plan internally or hire a consultant that specializes in brand protection on social media. It is also important that your plan changes and adapts as your company grows.

(3) PREEMPT

Many companies are merely reactive when it comes to protecting their brand and their customers on social media, but there are steps that you can take to preempt issues before they arise. The steps you can take include:

- registering trademarks,
- registering copyrights,
- working with U.S. Customs and Border Protection to prevent infringing goods from entering the market,
- policing manufacturers and suppliers,
- taking steps to minimize goods being stolen,
- including unique identifiers on products,
- limiting warranties to products sold by authorized sellers,
- internal and external education,
- and creating a strong presence on social media.

Registering your trademarks and copyrights makes it easier to enforce your rights through each individual social media platform. Some platforms even require trademark registration before rights can be enforced. Another important preemptive step is to notify customs of your registered trademark and copyright rights. This can include providing Customs with a guide on how to identify counterfeit

MORE ▶

[YOUR BRAND & SOCIAL MEDIA, FROM PAGE 13]

versions of your products. Customs offers a template guide here: <https://www.cbp.gov/document/guidance/ipr-product-id-training-guide>.

Another preemptive act is taking steps to prevent third-shift goods, non-spec goods, and stolen goods from entering the marketplace. Third-shift goods are extra production runs or extra product tooling made and sold by your manufacturers and suppliers and then sold without your knowledge or authorization. Non-spec goods are goods made by your manufacturers and suppliers that did not meet your quality standards and are then sold behind your back after you have instructed that the goods be scrapped. Stolen goods are genuine products that a company planned to sell but were taken from a warehouse or while in transit.

Your employees and affiliates can be great assets when it comes to social media. Educating and providing them with tools on how to use social media, and the risks that arise on social media, can help protect you and your customers. It can also be beneficial to create well-meaning materials and information that customers can access to learn how to protect themselves from scams and infringing products found on social media. Your materials can include a list of authorized dealers or ways to tell if a product is genuine (but be careful not to create a road map for counterfeiters).

Finally, creating a strong presence on social media will make it more likely that a customer finds your genuine content and products. If a search on social media ends in your account, a customer may never be exposed to the fakes and scams.

Your employees and affiliates can be great assets when it comes to social media. Educating and providing them with tools on how to use social media, and the risks that arise on social media, can help protect you and your customers.

To assist and incentivize customers to make sure products they receive are genuine, you can include unique identifiers on products that are hard to replicate, like QR codes. You may also consider only offering warranties for products sold by authorized dealers. So, if a customer calls for a replacement or repair, you can verify that the product is under warranty. Additionally, you will have the option of taking action against unauthorized dealers falsely advertising that products sold by them are under warranty.

(4) TAKE ACTION

There are both cost-sensitive actions, including filing takedown complaints with individual websites, Digital Millennium Copyright Act (DMCA) complaints, and demand letters; and expensive actions, including district court lawsuits and International Trade Commission (ITC) proceedings, available to protect your brand and customers on social media.

Filing takedown complaints with individual websites should be a routine practice. It is

a quick and easy way to remove the clearly infringing and harmful content. But if the rights being violated are unregistered or unclear, or the infringement or harm is more nuanced, a takedown complaint may not be successful. Further, takedown complaints can feel like a “whack-a-mole” game. As soon as one scam or infringer is taken down, another one pops up. In these cases, more aggressive action may be necessary.

(5) REPEAT

Social media, like everything on the Internet, is constantly evolving. It is important to reevaluate your risks often and continue to plan, preempt, and take action to protect your goodwill and customers. ■

BANNER & WITCOFF RESOLVES DISPUTE, SUPPORTS MISSION OF PRO BONO ARTS ORGANIZATION CLIENT

Banner & Witcoff has recently come to the legal aid of Elastic Arts, a 26 U.S.C. § 501(c)(3) non-profit organization based in Chicago. Elastic Arts fosters a community of multidisciplinary art forms, including music, visual, and literary arts, by providing a venue for artists to perform and present original works of unconventional art. Regular programs include improvisational music and electro/acoustic and video performance series, among other events. Incorporated 15 years ago, Elastic Arts has developed into a leading grassroots, arts-centered organization.

Justin M. Philpott, an attorney with Banner & Witcoff, was originally referred to Elastic Arts through Lawyers for the Creative Arts (<https://law-arts.org>), a pro bono legal services organization dedicated to all areas of the arts. Elastic Arts returned to Justin for legal advice after they became involved in a music copyright dispute with a large entity. Justin assisted Elastic Arts in resolving the dispute by engaging in productive communications with the large entity, supporting Elastic Arts’ position with legal reasoning. Elastic Arts now continues its mission of creating an innovative and inspiring environment for artists and audiences alike.

For more information about Elastic Arts, please visit elasticarts.org.

TRENDS AND PRACTICE TIPS IN THERAPEUTIC ANTIBODY PATENTING



BY PEI WU AND
JOHN P. IWANICKI

Antibody technologies have evolved side-by-side with the advancement of molecular cloning, DNA sequencing, phage display and transgenic mice techniques. Since the introduction of hybridoma technique by Kohler and Milstein in 1975, therapeutic monoclonal antibodies (mAbs) have become one of the most attractive and fastest-growing classes of therapeutic agents for the treatment of diverse diseases including cancers, autoimmune diseases and infections. Currently, at least 30 therapeutic mAbs achieve multi-billion dollar annual sales in the United States.¹ Because significant time and cost is invested in bringing an antibody therapeutic to market, a sound intellectual property strategy and sufficient patent protection is necessary to ensure commercial success.

PATENTABILITY

Antibodies, also known as immunoglobulins, are proteins used as immune defense or therapeutics. Antibody patent applications are subject to similar standards for patentability as chemical compound inventions. On a basic level, a patent application for an antibody needs to satisfy novelty, nonobviousness, written description and enablement requirements to be patentable.

The novelty requirement is relatively easy to meet, *e.g.*, if the target antigen or epitope to which the antibody binds is new. Compared to novelty, the nonobviousness requirement is becoming increasingly difficult to satisfy. With about 70 mAb products projected to be on the market by 2020,² many of the pioneering antibody technologies, including production of chimeric and humanized mAbs (antibodies produced from non-human species with modified protein sequences to be more similar to antibody variants produced naturally in humans), antibody phage display (displaying antibody libraries on a phage for rapid *in vitro* selection and production), transgenic mice (mice engineered to have integrated human immunoglobulin (Ig) loci for the production of human antibodies), Fc engineering (antibodies having engineered constant regions for improved efficacy) and antibody-drug conjugation (antibodies linked to drug molecules), are now becoming routine. Therefore, the mere generation of yet another therapeutic mAb, absent of any improved efficacy or unexpected functional properties, is going to be considered obvious, especially if the target antigen or epitope is already known. Post-KSR, the bar for showing that an antibody is nonobvious has been raised, and there is an increased tendency for U.S. Patent and Trademark Office patent examiners to reject an antibody claim on the grounds that it is merely applying a known technique to a known method or product ready for

improvement to yield predictable results; or “obvious to try” — choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success.³

Written description represents another battleground in antibody patenting. In the 1990s, it was a usual practice for applicants to broadly claim a genus of antibodies

Because significant time and cost is invested in bringing an antibody therapeutic to market, a sound intellectual property strategy and sufficient patent protection is necessary to ensure commercial success.

To survive the obviousness challenge, counsel and inventors must work closely to characterize the antibody therapeutic and related technology as much as possible. For example, is there any data that support unpredictability such as a showing of no reasonable expectation of success to produce claimed antibody therapeutic, or a showing that claimed antibody therapeutic has unexpected or synergistic results with comparative studies? Additionally, does the antibody have unusual structural features or recognize a new epitope? Functional properties such as improved efficacy, prolonged half-life, reduced toxicity, increased affinity or inhibition of a biological process or target, as well as follow up *in vivo* data and clinical observations are useful to support unpredictability. To anticipate rebutting the rejection, counsel can work with inventors post-filing to design experiments for inclusion in expert declarations to further support unpredictability. Finally, secondary indicia of nonobviousness such as commercial success and long-felt unmet need can also be used to rebut obviousness rejections.

by relying on what the USPTO called the “antibody exception,” which suggested that disclosure of an antigen alone can satisfy the written description requirement for any antibody that binds to that antigen. However, a few recent Federal Circuit decisions have significantly narrowed the “antibody exception.” When the target antigen is novel, the Federal Circuit, in its 2004 decision in *Noelle v. Lederman*, required that a specification disclose a “fully characterized antigen” to support a claim to an antibody defined by its binding affinity to an antigen.⁴ In another case where the novel antigen is not characterized, the Federal Circuit, in its 2008 decision *In re Alonso*, held that written description is insufficient for a claim to a method of treating neurofibrosarcoma using human monoclonal antibodies, where the specification taught nothing about the structure, epitope characterization, binding affinity, specificity or pharmacological properties common to the large family of antibodies implicated by the method.⁵

On the other hand, when the antigen is already known, the Federal Circuit, in its

[MORE ▶](#)

2011 decision in *Centocor v. Abbott*, found that written description is not sufficient for claimed anti-TNF-alpha antibodies wherein both the variable and constant regions were derived from human antibodies, when the specification only describes a chimeric antibody having the “variable” region of a mouse anti-TNF-alpha antibody with the “constant” region of a human antibody.⁶ In another 2014 case, *AbbVie v. Janssen*, the Federal Circuit held AbbVie’s written description insufficient to support a claim to a whole genus of human antibodies to interleukin-12 when the specification only describes 300 human VH3/lambda-type antibodies, which are not representative of the VH5/kappa-type of the later-invented Stelara mAb by Janssen.⁷

As a separate requirement, enablement frequently comes up with written description in antibody patenting to challenge the scope of claimed antibody genus. A key distinction from written description is that applicants can use post-filing data to show application enables claim. In a 2017 case in the U.S. Court for the District of Delaware, *Amgen Inc. et al. v. Sanofi et al.*, Amgen’s claim to monoclonal antibodies that bind to particular epitope residues on a known protein PCSK9 and block low density lipoprotein receptor (LDLR) signaling for treatment of high cholesterol survived an invalidity challenge for lacking written description and enablement brought by Sanofi and Regeneron.⁸ Sanofi and Regeneron had an anti-PCSK9 antibody,

In view of the changing written description landscape, applicants for antibody patents should rethink antibody drafting and claiming to balance structure/function claiming.

In view of the changing written description landscape, applicants for antibody patents should rethink antibody drafting and claiming to balance structure/function claiming. In addition to functional claiming such as epitope and competitive binding, antibody claims can include structural features such as sequences including VH, VL or key CDR residues. Further, epitope characterization, binding affinity, target specificity, pharmacological properties, and data linking structure and function are helpful for expanding claim scope.

which binds an overlapping epitope and blocked binding of PCSK9 to LDLR. Notably, Amgen’s patent applications included epitope and competitive binding testing data such as X-ray crystallography, alanine scanning, deletion studies and binning experiments. Pending the appeal outcome, broader epitope and competitive binding claims supported by extensive test data can help expand the scope of protection for antibody therapeutics.

FREEDOM-TO-OPERATE

When a company is planning to launch a new antibody therapeutic, commercialization may be blocked by a competitor who holds a broader (dominant) patent. Patent infringement litigation can be costly and time consuming. As a preventative measure, many companies seek to secure their “freedom to operate” at an early stage to ensure that the commercial production, marketing and use of their new product or process does not infringe the patent rights of their competitors.

A freedom-to-operate (FTO) analysis is the first step to understanding the competitive patent landscape. The focus of the FTO search is to determine whether claims of issued patents or pending patent applications actually cover contemplated commercialization activity. If the FTO search identifies patents that limit a company’s freedom to operate, a few options are available to clear the ground for the commercialization of a new product or technology. For example, holders of a subordinate patent may obtain a license under each dominant patent. If a subordinate/improvement patent is valuable or advantageous, a cross-licensing deal may be sought with potential licensing partners.

Another option is to design around the invention. Prosecution history can be used as a roadmap to design around strategies. A company can steer research or make changes to the product or process to avoid infringing claims.

DEFENSES TO PATENT INFRINGEMENT

In the event that a company is sued for patent infringement, the company can file a declaratory judgment claim at the district court to seek invalidity and/or non-infringement as two principal defenses. An invalidity defense asserts that the granted patent is invalid because the claimed invention failed to satisfy the basic requirements for patentability, such as novelty, nonobviousness, written description and enablement requirements. On the other hand, a non-infringement defense asserts that the accused product or method does not fall within the scope of the invention claimed in the patent.

The defendant may use administrative processes and petition the USPTO to determine the validity of an asserted patent. According to the America Invents Act (AIA) *inter partes* review (IPR) procedure, a petition to the USPTO for IPR may be brought on the grounds that the challenged patent claims are invalid as anticipated or obvious based on patents or printed publications.⁹ Another AIA procedure is post-grant review (PGR). A petition to the USPTO to institute a PGR may be based on any grounds that are available to challenge a patent’s validity.¹⁰ In choosing between these two options, a petitioner should take into account both the legal considerations, such as the grounds of invalidity attack, the time limit for filing petitions, the threshold requirements for instituting petitions and the scope of estoppel, as well as business considerations. For example, if the goal is to

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obtain greater certainty before investing in product development, PRG may be attractive. If the goal is to remove the blocking patent, IPR may be a good option where prior art patents and printed publications are the most promising grounds of an invalidity attack.

CONCLUSION

The high cost associated with developing and commercializing therapeutic mAbs requires a sound IP strategy. Patent protection for a new antibody biologic is often sought early in the research and development process. The extensive regulatory review can lead to significant loss of patent term by the time the new biologic reaches market. Other follow-up protection methods should be considered to prolong protection beyond the original patents covering the biologic. Second or higher generation antibodies, including antibodies with novel indication, improved efficacy, reduced toxicity and increased half-life, should be protected. Clinical applications can be filed, including disease specific, route of administration, dosage regime, pharmacologic

formulations, combination therapy and timing and sequence of co-administration, and mechanism of action. New antibody formats, including chimerized and humanized antibodies, antigen binding fragments (Fab), single chain variable fragments (scFv), receptor-Fc fusion peptides and antibody mimetics, can also be protected by additional patent applications to extend patent term.¹¹ ■

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PATENTING INTERNET OF THINGS (IoT) AND INDUSTRIAL IoT INVENTIONS AFTER ALICE



BY ASEET PATEL, AZUKA C. DIKE AND JARED W. RADKIEWICZ

Sometimes referenced as “ubiquitous computing” or “pervasive computing,” the Internet of Things (IoT) encompasses innovations involving objects with sensors connected to a data network.¹ A company selling products or using processes incorporating IoT must strategize both offensively and defensively. This article focuses on strategies companies can use to build their IoT patent portfolios, in spite of the uncertainty in the current legal landscape, to protect against copycat competitors and maintain their competitive edge.

In particular, patenting IoT technologies has become more challenging after the U.S. Supreme Court’s decision in *Alice Corp. v. CLS Bank International*.² Some takeaway points for companies wishing to build their IoT patent portfolios in the wake of *Alice* include:

- Industrial IoT (IIoT) inventions were eligible for patenting well before *Alice* and will continue to be found patent-eligible when the invention is appropriately claimed.
- A new arrangement or combination of old sensors claiming a technological solution to an old, long-standing problem can be patent-eligible.

- Framing an IoT invention in a technological problem-solution construct can be persuasive for patent eligibility.

Patenting IoT inventions requires strategic planning because IoT inventions involve multiple layers of technology converging to form an IoT ecosystem — *e.g.*, edge nodes with sensors, network infrastructure, protocols in the connectivity layer, data servers, and security. And, the IoT landscape spans diverse verticals (*i.e.*, applications) and horizontals (*i.e.*, platforms), including sensor manufacturers, network infrastructure companies, and “Big Data” analytics companies.³

Industrial IoT (IIoT) solutions have reaped large dividends for the manufacturing sector — manufacturers that embraced smart factories in 2014 saw an average 28.5 percent increase in revenues that year.⁴ Meanwhile, human IoT products, *e.g.*, wearable fitness trackers, smart home devices, and autonomous cars, have transformed traditional consumer goods companies. Patent offices worldwide have observed an uptick in patent filings for IoT and IIoT technologies.⁵ Even more so than the smartphone revolution, the IoT revolution pervades a myriad of industries and companies, transforming their business models.⁶

THE ALICE TWO-PART TEST

A bedrock principle of patent law is that “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” See *Alice Corp. v. CLS Bank Int’l*, 134 S.Ct. 2347,

[INTERNET OF THINGS, FROM PAGE 21]

(2014) *citing* Myriad, 133 S.Ct., at 2116. The U.S. Supreme Court's 2014 decision in *Alice* laid out a two-part test for determining if an invention is patent-ineligible for being directed to an abstract idea. The first step in the *Alice* analysis is to determine if the claims are "directed to" an abstract idea. If claims are not directed to an abstract idea, they are patent-eligible. But not all patents with claims "directed to" abstract ideas are ineligible. The second test of the *Alice* analysis looks to what else is recited in the claims "to determine whether the additional elements transform the nature of the claim into a patent-eligible application." *Alice* at 2355 *citing* *Mayo* (internal quotes omitted). *Alice* limits the spectrum of IoT inventions that are patent-eligible.

INDUSTRIAL IoT — REVISITING DIAMOND V. DIEHR

Nearly 40 years before *Alice*, the U.S. Supreme Court in *Diamond v. Diehr* held that an industrial process for molding raw synthetic rubber into cured precision products was patent eligible.⁷ By constantly measuring the temperature inside the closed molding machine with a thermocouple sensor, the patented process opened the mold press at the optimal time using the well-known Arrhenius equation.⁸ While a mathematical formula, such as the Arrhenius equation, is an abstract idea ineligible for patenting, the *Diehr* invention was patent-eligible because it "implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which that patent laws are designed to protect."⁹ The Court reasoned that the claims in *Diehr*

were directed to an improvement of the existing technological process of curing rubber. The *Diehr* Court reiterated that processes involving transformation of an article into a different state or thing are patent-eligible under 35 U.S.C. § 101.

The problem to be solved was that, at the time the invention was made, there was no disclosed method of obtaining an accurate measure of the temperature inside the press without opening the press.¹⁰ This process of constantly measuring the temperature inside the closed mold using a thermocouple sensor, feeding this information to a computer for repeated recalculation of cure time, and signaling by the computer to open the mold press, at the appropriate time, was previously unknown in the art.¹¹ The patent claims recited these process steps with specificity.

Although the inventions in *Diehr* and *Parker v. Flook* — an earlier U.S. Supreme Court decision — involved similar types of inventions at their core, in that the process claims of both patents expressly recite a mathematical formula used to continuously calculate a value, the Court noted that the subject matter recited in the two claims was strikingly different. In *Flook*, the method caused a number (i.e., the "alarm limit") to be continuously updated based on an equation, but did not purport to explain how the variables for the equation were determined; nor did it purport "to contain any disclosure relating to the chemical processes at work, the monitoring of process variables, or the means of setting off the alarm or adjusting an alarm system."¹² By contrast, in *Diehr*, the inclusion of acts of continually measuring internal

temperature and continually recalculating the cure time in the claim, as well as the transformation of raw rubber into cured rubber, seems to have provided the “something more” to hold the claim patent-eligible.

Even though *Diamond v. Diehr* predates *Alice* by more than three decades, it provides useful guideposts in navigating the IoT ecosystem and serves as a primary example of a computer-based invention that is patent-eligible. The closer to *Diehr* that a patent applicant can recite the IoT invention and narrowly tailor claim features that provide a practical application for the invention, the higher likelihood of success in obtaining the patent and withstanding America Invents Act post-grant eligibility challenges. Ultimately, appropriately drafting claims and describing the invention in a patent application may increase your IoT invention’s chances of being found patent-eligible.

Even though *Diamond v. Diehr* predates *Alice* by more than three decades, it provides useful guideposts in navigating the IoT ecosystem and serves as a primary example of a computer-based invention that is patent-eligible.

CONNECTED AVIATION — IoT IN THE AVIATION INDUSTRY

In addition to the manufacturing industry, the IoT is revolutionizing the aviation industry. Companies like Gogo, Inc., and Boeing, which introduced the Connexion framework in the early 2000s, are driving the “Connected Aviation” movement.¹³ The aviation IoT is digitizing everything from

electronic flight bags in the cockpit to air traffic control to maintenance equipment.

One recent court decision offers insight into patent-eligible cockpit technology.¹⁴ The patent at issue in *Thales Visionix Inc. v. United States* is directed broadly to a helmet-mounted display system (HMDS) used by F-35 fighter pilots.¹⁵ The claims were drawn to a method and system for using two inertial sensors arranged in a specific way — one mounted on a helmet, the other mounted on an airplane — to determine the orientation of the helmet relative to a moving airplane.¹⁶ Taking into account that HMDSs are subject to drift, in which small measurement errors accumulate into larger errors when estimating an object’s position, the claimed invention uses a computer running mathematical equations to periodically calculate the relative orientation of the helmet. The patent does not claim an improvement to a computer or a new

sensor technology, but makes use of generic inertial sensors and computing platforms.

The Court of Appeals for the Federal Circuit found the claims to be “nearly indistinguishable” from those in *Diehr* for purposes of patent eligibility. The Court drew a direct analogy to the *Diehr* case in focusing on the overall configuration of parts that operate together to achieve a particular

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goal, whether it is curing rubber or tracking a helmet mounted display.¹⁷ In particular, the Court found that although the claims in *Visionix* utilize mathematical equations to determine the orientation of the helmet, “[these] equations...serve only to tabulate the position and orientation information” while being dictated by the placement of the inertial sensor and application of laws of physics.¹⁸ The *Visionix* claims “result in a system that reduces errors in an inertial system that tracks an objection on a moving platform.”¹⁹ Moreover, the Court noted that the claimed method “eliminates many complications” of prior art solutions, and that the claimed invention is “unconventional” and “may seem somewhat strange” to those within the field.²⁰

Samsung, Cisco, Intel, Alarm.com, and others have been embroiled in patent litigations over IoT.²¹ A review of courts’ reasoning in these patent suits offers some guidance for companies seeking to patent in the IoT space.

The *FitBit v. Jawbone* lawsuit involves FitBit’s patent on its wearable fitness wristband.²² FitBit’s patent described a computer server in the cloud maintaining a list of eligible wearable devices for a user and allows the user’s smartphone to automatically pair with those bands in the server’s list. It effortlessly enables the pairing with just a tap on the band. In the Fitbit lawsuit, the judge, sitting in the U.S. District Court for the Northern District of California, ruled on a motion on

In addition to IoT inventions, consumer facing IoT inventions are also abundant. So much so that companies like FitBit, Jawbone, Samsung, Cisco, Intel, Alarm.com, and others have been embroiled in patent litigations over IoT.

Visionix suggests that drafting a specification and claims directed to a non-conventional, specific arrangement of sensors, even if the sensors themselves are well known, may still provide grounds for patent eligibility. Therefore, even if the inventive concept or technological solution being claimed relies upon conventional sensors, a patenting strategy that follows the lessons from *Visionix* may help to address patent-eligibility concerns under *Alice*.

CONSUMER GOODS IoT

In addition to IoT inventions, consumer facing IoT inventions are also abundant. So much so that companies like FitBit, Jawbone,

the pleadings that FitBit’s patent appeared to be patent-eligible under *Alice*. The judge’s reasoning provides a useful takeaway for companies patenting human IoT inventions — specifically IoT wearables with a small form factor. The court reasoned that despite the claims likely being directed to an abstract idea, they recited significantly more than an abstract idea under step-two of the *Alice* test. Specifically, the court reasoned that, first, wearables, like the FitBit’s wristband, have a small form factor that cannot accommodate a traditional keyboard or buttons. Fitbit’s tapping method to complete user validation without a keyboard is an inventive concept; it improves device pairing for wearables — which

is a real-world problem. Second, injecting a server into a traditional interaction between just a wearable and client device provided an inventive concept to the traditional pairing steps. At any rate, these reasons were sufficient to persuade the court to not grant the motion on the pleadings and continue forward with the case. A takeaway for companies seeking to patent IoT inventions directed to consumer wearables is that improving the human interface for consumer IoT inventions, perhaps because of the apparent real-world application, seems to be persuasive in overcoming *Alice*. Second, the interaction of multiple nodes in an IoT ecosystem seems to be another common theme. In *FitBit*, the server played an integral function in the tapping interaction between the various devices. Overall, just like the court in *Visionix* found the problem-solution story in the patent to be persuasive, it seems that *FitBit*'s patent told a story about a real-world problem that it solved and likely helped the Court in finding the patent to be patent-eligible.

CONCLUSION

IoT and iIoT patents are able to overcome the *Alice* hurdle by relying on lessons learned from IoT litigations and court opinions. *Alice* does not necessarily preclude patentability of IoT inventions that include software and algorithms. First, try to tell a compelling story through the specification that outlines the problem addressed and solution achieved by the claimed invention. Successful drafters will include details about the total technological solution to the problem domain, including elements that are otherwise in the prior art. Second, the examples in *Diehr* and *Visionix*

follow the formula of software combined with sensors that interact with the physical world in some way. These two elements applied in a specific way to solve a particular problem may be sufficient to be achieve patent eligibility. Finally, with consumer-facing IoT inventions, consider if the small form factor of the product or the specific network infrastructure required for the invention may provide opportunities to showcase patent eligibility. Although there is no panacea for overcoming *Alice*, these lessons tailored for IoT/iIoT may give inventors a leg up in obtaining a patent. ■

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INTER PARTES REVIEWS — WHO CAN GET THE BIG JOB DONE

By Charles W. Shifley

Inter partes review (IPR) statistics are fascinating. As of June 30, 2017, and in the 4 years and 10 months since they became available, 6,577 IPR petitions have been filed with the U.S. Patent and Trademark Office (USPTO). In fiscal year 2017 alone, 1,434 petitions were filed.

An interesting statistic close to home at this law firm, Banner & Witcoff, is that its lawyers, paralegals and staff **filed more IPR petitions than any law firm filed in the first half of 2017**. We filed 45 IPR petitions for one client in those six months, as well as appearing in about double that number of proceedings when other petitions and appearances on behalf of patent owners as well as patent challengers are counted.

Who does that? Who gets that big job done? Of our more than 100 patent, trademark, and copyright lawyers across the country, the following stand out for their IPR efforts: Fred Meeker, who appeared in all 45 petitions, Brad Wright, the 45-plus more, and Scott Kelly, all 45 again. There's more about each of these three lawyers here, but Fred, Brad, and Scott, all three, would be quick to say that preparing 45 IPR petitions in six months is a team effort of many, many people, and not a thing for which they take credit only to themselves. Assuming we wrote our allotted 14,000 words per petition, plus more for mandatory notices, and helped our experts create thorough and solid reports of about equal and greater length to our petitions, the statistic is that we had more than about 1.3 million words to plan, organize, write, and edit, dense in patent law and technology, needing to be readily accessible to Patent Trial and Appeal (PTAB) judges, well more an effort than three lawyers might manage in years!

We're pleased to enjoy the compliment from the PTAB in an early institution decision on the first several of our first-half-2017 petitions, that our work was recognizably detailed and properly supported. Our IPR "operations" for the tasks we accomplished on the way to our results included teams of lawyers per petition, teams of lawyer reviewers, teams of paralegal editors, and our "management" team overall, including but not limited to Fred, Brad, and Scott. All pitched in, all gave it excellence, and all followed all the guidance we have in writing for the structured accomplishment of our IPR tasks.

Still, back to Fred, Brad, and Scott. Here's more on these Banner & Witcoff lawyers.



Fred Meeker is to the left. Fred is in a sweet spot in his intellectual property law career, with 25 years of experience after law degrees with distinction in Washington, D.C. Fred also brings to his IPR efforts two degrees in electronic and computer engineering, and large doses of real engineering experience. Before his legal career, Fred designed hardware and software. He was the lead engineer in developing network backbone components for the NSFNET (a forerunner to and now part of the Internet), a secure digital telephone, satellite based processors, a processor for the under ice display on the Seawolf submarine, and several

commercial software applications, including applications for communication security, secured transactions, and digital rights management.

Brad Wright is to the right. Brad is also above 20 years in IP law experience, after degrees in engineering and law, one in electrical engineering from MIT. Brad adds to his legal skills the deep-seated experience of being a Federal Circuit Court of Appeals clerk to Judge Bryson. Brad also has electrical and software engineering experience, developing algorithms for signal intelligence, specialized hardware, and databases including an object-oriented database.



Scott is back to the left. Scott is among our former patent examiners from the USPTO. First trained in patent law there, he examined patents relating to word processing, spreadsheets, markup languages, input validation, display rendering, and assistive technologies. He also examined business method patents, including several directed to the process of drafting a patent! Scott brings degrees with honors in computer science, physics, mathematics, and of course law to his IPR efforts. His last venture before joining the firm was founding a company to develop an intelligent patent search engine using document similarity analysis.

And earlier, he was an early employee at a startup company developing gigapixel resolution video cameras for drones. While with us, Scott has represented clients in technologies including user interfaces, gesture-based inputs, mobile devices, cloud computing, algorithms, client-server architectures, network routing, and video games.

Where and how do we get teams of accomplishment, and people like Fred, Brad, and Scott? As a more than 40-year member of this firm, I'm proud to say it's always (well, at least for 40 years) been a matter of who we are. Sometimes we get to be proud of our statistics, for getting big jobs done. We start 45 IPRs in six months in an effort of more than 1.3 million words dense on patent law and technology, do it well, and lead statistics in doing it. But not sometimes and instead always, we're proud of our people, especially our teams, for all they bring to our firm, to each other, and all we accomplish together in teamwork for the clients we value so much.

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Banner & Witcoff

is dedicated to excellence in the specialized practice of intellectual property law, including patent, trademark, copyright, trade secret, computer, franchise and unfair competition law. The firm actively engages in the procurement, enforcement and litigation of intellectual property rights throughout the world, including all federal and state agencies, and the distribution of such rights through licensing and franchising.



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