snippets®

2019 Vol. 17, Issue 2

A review of developments in Intellectual Property Law

USPTO Issues CBD Trademark Guidelines in Light of the 2018 Farm Bill: Key Takeaways

By George "Trey" Lyons, III, Eric R. Moran, Brett W. Scott and Nicole E. Grimm

On May 2, 2019, the USPTO released its new guidelines on how it will examine federal trademark applications for CBD products in light of the 2018 Farm Bill.[1] While these new guidelines are encouraging for canna-businesses that produce or cultivate hemp and/or manufacture, market, and sell CBD products, considering the carve outs and caveats included therein, it may end up begging more questions than it answers. Below are a few key takeaways:

The New Guidelines Are Based on Source and THC Concentration

From the outset, the new guidelines reiterate the USPTO's continuing prohibition of federal trademark protection for *all parts* of the currently-Schedule I substance, "'Marihuana' (commonly referred to as 'marijuana'),"[2] which are defined as:

> [A]ll parts of the plant Cannabis sativa L., whether growing or not; the seeds thereof; the resin extracted from any part of such plant; and every compound, manufacture, salt, derivative, mixture, or preparation of such plant, its seeds or resin [(subject to certain exceptions)]. 21 U.S.C. §802(16).

In light of the 2018 Farm Bill, however, "hemp" has been removed from this classification. Furthermore, under the new guidelines, "cannabis plants and derivatives such as CBD that contain no more than 0.3% THC on a dry-weight basis are no longer controlled substances under the CSA," *but "only* if the goods are derived from 'hemp.'" The USPTO also indicated that it will treat services involving hemp similarly to how it treats goods. For applications involving hemp cultivation or production, the examining attorney will inquire into the Applicant's authorization to produce hemp.[3]

Finally, Applicants (and/or their attorneys) will have to certify and/or specify in goods and services identifications that the goods or services sought to be protected comport with these requirements.

The New Guidelines Are Retroactive

The new guidelines also set the date the 2018 Farm Bill was signed into effect, December 20,

(continued on page 2)

McDonnell Boehnen Hulbert & Berghoff LLP
Intellectual Property Law

(continued from page 1)

2018, for determining whether previously-filed federal trademark applications can benefit from the 2018 Farm Bill. For applications filed on or after December 20, 2018, assuming a description of goods and services that comports with the new guidelines, everything should be compliant; but those filed before December 20, 2018 have a tougher path.

Specifically, for those use-based applications filed *before* enactment of the 2018 Farm Bill "that identify goods encompassing CBD or other cannabis products, registration will be refused due to the unlawful use or lack of bona fide intent to use in lawful commerce under the CSA." The new guidelines, however, allow Applicants of such applications to amend the application to provide a proper, legal basis for registration. In particular, Applicants may amend (1) the filing date to December 20, 2018 and, for applications based on use in commerce, (2) the filing basis to intent-to-use (as the USPTO will consider any such previously submitted use as illegal prior to the 2018 Farm Bill).

The USPTO will also require Applicants to amend goods identifications to "specify that the CBD or cannabis products contain less than 0.3% THC" and are derived from hemp. We expect the USPTO to update its Trademark ID Manual with acceptable identifications for CBD goods and services shortly.

Unfortunately for Applicants of amended applications, the guidelines also require the USPTO to conduct a new search based on the amendments, including the new filing date. This can raise a number of points for pending applications. For example, can Applicants delay amendment of their filing date to try to maintain an earlier filing date against later filed applications (and for how long)? And for pre-Farm Bill applications directed to legal goods or services suspended due to earlier-filed pre-Farm Bill applications directed to formerly "illegal" goods or services, how quickly will the USPTO act to unsuspend the suspended application in light of the new, effective December 20, 2018 filing date for the earlier-filed application (which will then be suspended instead)?

While this uncertainty may be concerning for those seeking to expeditiously and effectively comply with the new guidelines, the USPTO's decision to include such explicit instructions for benefiting from the Farm Bill hopefully indicates the USPTO's willingness to help Applicants navigate this process moving forward. But, the hurdles Applicants face under the new guidelines do not stop here.

The New Guidelines Do Not Affect FDA Prohibitions for Consumable CBD Products

The new guidelines also cautioned that consumable CBD products (for humans and pets) must also be legal under the Federal Food Drug and Cosmetic Act (FDCA) in order for marks covering such products to be registrable. The 2018 Farm Bill "explicitly preserved FDA's authority to regulate products containing cannabis or cannabis-derived compounds under the FDCA." Specifically, because "CBD is an active ingredient in FDA-approved drugs and is a substance undergoing clinical investigations" and "[t]he use in foods or dietary supplements of a drug or substance undergoing clinical investigations without approval of the U.S. Food and Drug Administration (FDA) violates the FDCA," Applicants will have to ensure compliance with the FDCA *prior to* applying for federal trademark protection under the new guidelines.

Thus, while the tides may still be shifting, Applicants should carefully consider both the timing and content of any federal trademark application aimed at any CBD products that potentially need FDA approval.

In particular, the new guidelines clarified that "registration of marks for foods, beverages, dietary supplements, or pet treats containing CBD will still be refused as unlawful under the FDCA, even if derived from hemp, as such goods may not be introduced lawfully into interstate commerce."

It is, therefore, difficult to imagine *any* consumable CBD product gaining federal trademark protection without gaining FDA approval. Currently, Epidiolex is the only FDA-approved drug containing an active ingredient (CBD) derived from a cannabis plant.

On the other hand, cosmetic products containing hemp-derived CBD may be eligible for federal trademark protection. Cosmetics are defined under 21 U.S.C. § 321(i) as:

> (1) articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance, and (2) articles intended for use as a component of any such articles; except that such term shall not include soap.

Generally, cosmetic products are not subject to FDA premarket approval.[4] As the FDA has explained, although "[c]ertain cosmetic ingredients are prohibited or restricted by regulation…currently that is not the case for any cannabis or cannabis-derived ingredients."[5]

Additionally, the FDA evaluated three generally recognized as safe (GRAS) notices for three hemp-seed derived food ingredients, hulled hemp seed, hemp seed protein powder, and hemp seed oil, and determined these hemp-seed ingredients are safe and can be legally marketed in human foods.[6] Therefore, human food containing these hemp-seed ingredients may also be eligible for federal trademark protection.

But all is not lost for the large part of the industry that is focused on consumable CBD products for health and wellness as the FDA continues to acknowledge and address these challenging crossroads of the 2018 Farm Bill and CBD-based drugs and consumables. So far, the FDA has taken several concrete new steps to address these issues, including:

> Scheduling a public hearing on May 31, 2019 for CBD stakeholders to "share their experiences and challenges with these products, including information and views related to product safety," as well as provide a "broader opportunity for written public comment."[7]

Forming "a high-level internal agency

(continued on page 3)

(continued from page 2)

> working group to explore potential pathways for dietary supplements and/or conventional foods containing CBD to be lawfully marketed; including a consideration of what statutory or regulatory changes might be needed and what the impact of such marketing would be on the public health."[8]
>
> Updating the FDA's website with "answers to frequently asked questions on this topic to help members of the public understand how the FDA's requirements apply to these [CBD] products."[9]
>
> Issuing "multiple warning letters to companies marketing CBD products with egregious and unfounded claims that are aimed at vulnerable populations [including dangerous marketing efforts that CBD cures or otherwise slows the progression of diseases including cancer, Alzheimer's, and fibromyalgia, among others]."[10]

Thus, while the tides may still be shifting, Applicants should carefully consider both the *timing* and *content* of any federal trademark application aimed at any CBD products that potentially need FDA approval.

The New Guidelines Do Not Affect Current Prohibition for Federal Canna-Trademarks Under the Lanham Act and CSA

Finally (and frustratingly, albeit not surprisingly), the USPTO also confirmed that it is not revising its stance on federal trademark registration of cannabis-related products and services. By way of background, the USPTO has refused to register trademarks on cannabis goods or services, particularly those in the context of the cannabis product itself (e.g., a particular strain of leafy cannabis), due to the lack of any lawful uses of the applied-for marks in commerce. The Lanham Act expressly prohibits registration of illegal products and services, such as those still falling under the Controlled Substances Act (CSA). And the new guidelines unequivocally reiterate this prohibition.

That said the new guidelines provide some additional guidance on how the USPTO will treat federal trademark applications in the canna-industry. For Applicants with pending applications for marks covering products or services that are now legal under the CSA, examination should proceed under the new requirements. For those with marks covering products or services that may still be illegal under the CSA, but that may be legal under some state laws, federal protection is still elusive and Applicants may need to seek protection under individual state trademark laws. And, as the USPTO's examination has been historically inconsistent concerning cannabis products,[11] it is not a stretch of the imagination to think that the USPTO may continue to swing back toward more canna-friendly policies in the future.[12]

Endnotes

1 Cannabidiol (CBD) is one of approximately 113 identified cannabinoids in cannabis plants. Tetrahydrocannabinol (THC) is another, albeit largely unaffected by the USPTO's new guidelines.

2 Unless otherwise indicated, all quotations come from the *Examination Guide 1-19: Examination of Marks for Cannabis and Cannabis-Related Goods and Services after Enactment of the 2018 Farm Bill,* USPTO (May 2, 2019), *available at* https://www.uspto.gov/sites/default/files/documents/Exam%20Guide%201-19.pdf (referred to herein as "the new guidelines").

3 An Applicant is authorized to produce hemp if the hemp is "produced under license or authorization by a state, territory, or tribal government in accordance with a plan approved by the U.S. Department of Agriculture (USDA) for the commercial production of hemp."

4 *See FDA Regulation of Cannabis and Cannabis-Derived Products: Questions and Answers,* FDA, at Q.13, https://www.fda.gov/news-events/public-health-focus/fda-regulation-cannabis-and-cannabis-derived-products-questions-and-answers#cosmetics (last visited May 14, 2019).

5 *Id.*

6 *Id.* at Q.12; *see also FDA Responds to Three GRAS Notices for Hemp Seed-Derived Ingredients for Use in Human Food,* FDA (Dec. 20, 2018), https://www.fda.gov/food/cfsan-constituent-updates/fda-responds-three-gras-notices-hemp-seed-derived-ingredients-use-human-food.

7 *Statement from FDA Commissioner Scott Gottlieb, M.D., on New Steps to Advance Agency's Continued Evaluation of Potential Regulatory Pathways for Cannabis-Containing and Cannabis-Derived Products,* FDA (April 2, 2019), https://www.fda.gov/news-events/press-announcements/statement-fda-commissioner-scott-gottlieb-md-new-steps-advance-agencys-continued-evaluation.

8 *Id.*

9 *Id.*

10 *Id.*

11 Beginning in 2010, the USPTO invited Applicants to apply for federal trademark registrations on cannabis goods and services by creating a new entry in its Acceptable Identification of Goods and Services Manual for: Class 5: "Processed plant matter for medicinal purposes, namely medical marijuana." *See* Justin Scheck, *Patent Office Raises High Hopes, Then Snuffs Them Out,* Wall Street Journal (July 19, 2010), http://www.wsj.com/articles/SB10001424052748704682604575368783687129488. Within a matter of months, and countless applications later, a spokesperson for the USPTO, Peter Pappas, noted that the newly articulated class "raise[d] examination issues . . . was a mistake and [that the USPTO] ha[d] removed it." *Id.*

12 For context, federal trademarks and service marks have been granted (and continue to be granted) in the context of ancillary products and services (*e.g.,* cannabis apparel companies, and informational services/cannabis networking organizations). Regardless, Applicants should always be prepared to controvert USPTO rejections and readily show how the cannabis-related mark does not violate the CSA–no matter how strained the nexus between the goods or services offered by the Applicant to the currently illegal product may be.

George "Trey" Lyons, III, an MBHB associate, helps clients protect their intellectual property by providing advice and crafting solutions related to the validity, enforcement, and infringement of patent, copyright, and trademark rights. **lyons@mbhb.com**

Eric R. Moran, an MBHB partner and Chair of the firm's Trademark, Unfair Competition, Advertising Law & Copyright Practice Group, has experience in all areas of intellectual property law, with particular emphases on litigating and counseling clients on patent, trademark, and domain name issues. **moran@mbhb.com**

Brett W. Scott, an MBHB associate, concentrates his practice on intellectual property matters, including patent preparation and prosecution in the electrical and software areas. **scott@mbhb.com**

Nicole E. Grimm, an MBHB partner, concentrates her practice on intellectual property matters, including patent procurement and enforcement in the biotechnology and pharmaceuticals areas. **grimm@mbhb.com**

Idiosyncrasies of Prosecuting U.S. Design Patents

By Jori R. Fuller and Jordan J. Pringle

Under U.S. law, design patents cover the ornamental design of an object having practical utility. Accordingly, in a design patent application, the subject matter claimed is the design embodied in or applied to an article of manufacture, and not the article itself.[1] Since a design is manifested in appearance, the subject matter of a design patent application may relate to the configuration or shape of an article, to the surface ornamentation applied to an article, or to the combination of configuration and surface ornamentation.[2] In contrast to a utility patent, which protects the way an article is used and works, a design patent protects the way an article looks.[3]

In addition to design patents and utility patents providing separate legal protection, there are unique considerations when drafting and prosecuting U.S. design patents compared to drafting and prosecuting U.S. utility patents. This article focuses on those peculiarities of drafting and prosecuting U.S. design patents, including a list of potential pitfalls and idiosyncrasies to keep in mind when securing design patent protection for an ornamental design.

1. Design Patents Only Protect the Ornamental Feature of the Design

A design patent only protects the ornamental features of a product. Applicants should be aware of the relatively narrow scope of protection of a design patent when compared to a utility patent. If a design patent is the only protection for a product, a competitor could potentially make a similar product that performs the same functions but has a different ornamental design, thereby avoiding infringement. Thus, if a product is unique in the way it works as well as its ornamental design, then applicants should consider filing both a utility patent application and a design patent application to maximize protection.

2. Filing a Utility Application Claiming Priority to a Design Application

What is often overlooked in separating design applications from utility applications relating to the same product, as discussed above, is the ability to file a utility application claiming priority to a design application. The biggest challenge in pursuing a utility application claiming priority to an earlier-filed design application is satisfying the written description requirement of 35 U.S.C. § 112. This section of the patent law requires that the drawings in the earlier-filed design application adequately describe the claimed subject matter of the utility application. In some cases, this written description requirement may be prohibitive, particularly with respect to more complex and/or non-mechanical subject matter. Thus, relying on a design application for priority in a utility application can be problematic in certain scenarios.

3. Filing a Design Application Claiming Priority to a Utility Application

The flip side to the scenario outlined in Section 2 above is the ability to file a design application claiming priority to a utility application.[4] One benefit of filing a design application claiming priority to a utility application is that the life of a design patent is not limited by the filing or priority date of the earlier-filed utility application. Instead, the life of a design patent is determined by the issue date of the design patent.[5] Thus, the term of an issued design patent claiming priority to a utility application shifts further into the future as compared to a scenario where the design and utility applications are concurrently filed. In addition, since design patent term is based on the issue date, patent term adjustment is not necessary (or available).

However, although the filing of a design patent application claiming priority to a utility application is available at any time during the pendency of the utility application, the strict drawing requirements of design applications provide a substantial limit to this practice. In particular, the Manual of Patent Examining Procedure (MPEP) states "[a]s the drawing constitutes the whole disclosure of the design, it is of utmost importance that it be so well executed both as to clarity of showing and completeness, that nothing regarding the design sought to be patented is left to conjecture."[6] As such, the ability to file a design application claiming priority to a utility application is effectively limited by the detail of the drawings that were originally filed in the utility application.[7] Thus, if an applicant has the intention to file a design application claiming priority to a utility application, the drawings that are filed in the utility application should include the detail required in design applications.

4. Six Month Priority Deadline

In order to obtain the benefit of an earlier foreign filing date, the U.S. design application must be filed within six months of the earliest date on which any foreign application for the same design was filed.[8] Similarly, any foreign design patent claiming the priority of an earlier filed U.S. design application must be filed within six months of the earliest date on which the U.S design application was filed. In addition, in the case where a U.S. design application claims benefit under 35 U.S.C. § 120 to an intermediate nonprovisional utility patent application that directly claims priority to a foreign application, the intermediate nonprovisional utility application must have been filed within six months of the filing date of the foreign priority application in order for the design patent application to obtain the benefit of the earlier foreign filing date.[9] Thus, it is

(continued on page 5)

(continued from page 4)

important to be aware that, unlike the twelve month priority period of utility applications, design applications have a more abbreviated timeline in which a decision must be made with respect to foreign filings.

5. The PCT is Not Available for Design Patents

The MPEP states that design patent applications are not included in the Patent Cooperation Treaty (PCT), and the procedures followed for PCT applications are not to be followed for design patents.[10] This essentially means that there is no such thing as a PCT design patent application. Rather, an international design application (IDA) designating various countries may be filed for design protection under the Hague System, which is administered by WIPO. An IDA can designate up to 70 countries,[11] each of which would consider the design under its own laws. Some countries, such as Japan and South Korea will substantively examine the IDA, while others, such as the European Union (EU), do not perform a substantive examination. Notably, at present, Australia, Brazil, China, India, and Mexico are not yet participating in the Hague System. In most cases, Applicants will file directly in their countries of interest when making foreign filings claiming priority to a U.S. design application.

6. Design Patent and Trademark Overlap

A design patent and a trademark may be obtained to cover the same subject matter.[12] However, the underlying purpose and essence of patent rights are separate and distinct from those pertaining to trademarks, and no right accruing from one is dependent or conditioned by the right concomitant to the other.[13] That said, pursuing one may well impact your pursuit and prosecution strategies for the other. For example, while it is improper to use a trademark alone or coupled with the word "type" (e.g., Band-Aid type Bandage) in the title of a design patent application, the use of trademarks in a design patent application specification is permitted under limited circumstances.[14] But, when a trademark is used in the drawings of a design patent application, the specification must include a statement preceding the claim identifying the trademark material forming part of the claimed design and the name of the owner of the registered trademark. In addition, if the trademarked name of a product is included in the drawings, it may be beneficial to have the name in dotted lines to indicate that the name does not form a part of the invention.

7. Design Patent and Copyright Overlap

There is also an area of overlap between copyright and design patent statutes where the author/inventor can secure both a copyright and a design patent.[15] Thus, an ornamental design can be both the subject matter of a design patent and copyrighted as a work of art. The author/inventor may not be required to elect between securing a copyright or a design patent.[16] If an applicant is seeking to protect a copyrighted work in a design patent, the applicant should include a copyright notice in the design patent application. The following waiver should be included at the beginning (preferably as the first paragraph) of the specification of the design patent application: "A portion of the disclosure of this patent document contains material to which a claim for copyright is made. The copyright owner has no objection to the facsimile reproduction by anyone of the patent document or the patent disclosure, as it appears in the Patent and Trademark Office patent file or records, but reserves all other copyright rights whatsoever."[17] Any departure from this language may result in a refusal to permit the desired inclusion.

Conclusion

In summary, design patents should be considered to provide an alternative or additional means of protection for an invention. When preparing and prosecuting an application for an ornamental design, the guidelines outlined above illustrating the differences between design applications and utility applications, as well as the overlap with trademark and copyright law, should be considered.

Endnotes

1 *Ex parte Cady,* 1916 Dec. Comm'r Pat. 62.
2 Manual of Patent Examining Procedure (MPEP) § 1502.
3 *Compare* 35 U.S.C. § 101, *with* 35 U.S.C. § 171.
4 While design patents can claim priority to nonprovisional utility applications, design applications may not claim the benefit of a provisional application under 35 U.S.C. § 119(e).
5 Design patents command a term of fourteen years from issuance for those issuing based on applications filed on or before May 13, 2015, and fifteen years for those issuing based on applications filed after May 13, 2015. *See* MPEP § 2701.
6 *See* MPEP § 1502.03.
7 *See In re Owens,* 710 F.3d 1362, 1368-69 (Fed. Cir. 2013) (The Federal Circuit denied a priority claim in a design patent application where the prior filed utility application drawing did not include broken lines. The addition of these broken lines in the design patent application was deemed new matter, rendering the priority claim ineffective).
8 *See* MPEP § 1504.10.
9 *See* 35 U.S.C. § 172.
10 *See* MPEP § 1501.
11 *See* Hague Agreement Concerning the International Registration of Industrial Designs: Status on March 4, 2019, WIPO, https://www.wipo.int/export/sites/www/treaties/en/documents/pdf/hague.pdf.
12 *See* MPEP § 1512.
13 *See In re Mogen David Wine Corp.,* 328 F.2d 925 (C.C.P.A. 1964), *aff'd,* 372 F.2d 539 (C.C.P.A. 1967).
14 *See* MPEP § 608.01(v).
15 *See* MPEP § 1512.
16 *See In re Yardley,* 493 F.2d 1389 (C.C.P.A. 1974).
17 *See* MPEP § 1512.

Jori R. Fuller, an MBHB partner, has prosecution experience that includes all phases of U.S. and foreign patent and trademark prosecution, client counseling, and due diligence, focused on innovations in the mechanical, computing, and electrical arts.
fuller@mbhb.com

Jordan J. Pringle, an MBHB partner, has a practice that covers many areas of intellectual property law, including patent and trademark litigation, counseling, and prosecution.
pringle@mbhb.com

Basic Due Diligence Review in Patent Licensing Transactions

By Emily Miao, Ph.D. and Margot M. Wilson

For startups, intellectual property is a major source of value as well as a major tool for attracting investments. A patent license is an intellectual property asset that can be used to launch a startup. For instance, a startup could seek to license technology from a university or other institution that was developed by a founder of the startup.

Alternatively, the startup may become aware of certain technology developed by others and believe that it can commercialize the technology. Given the cost and effort involved in developing and commercializing new products and processes, a potential licensee should conduct a patent due diligence review to allow informed business-decision making.

For licensing transactions, due diligence can assist potential licensees in identifying any issues that may affect the value of a product or process, or that may hinder development or commercialization of a product or process. This article discusses several basic principles of patent due diligence in a licensing transaction from both the licensor's and licensee's perspective, including the identification and handling of licensing issues.

I. Due Diligence Review from the Perspective of the Licensor/Licensee

Generally, a party should conduct patent due diligence either before or early in the licensing negotiations, and certainly before a deal is concluded. To encourage fair and open due diligence evaluations, the negotiating parties should consider signing confidentiality agreements that allow for the controlled exchange of confidential proprietary information.

While due diligence is essentially a two-way process between the licensor and licensee, the potential licensor has the burden of gathering and providing information and documents to the potential licensee for evaluation. The principle of "let the buyer beware" still applies, even in licensing transactions, and thus the burden of evaluating the licensor's information and assessing the value of the patent license generally resides on the potential licensee. As a general rule, licenses to patents with broad claims that can be used to block competitors are considered more valuable than patents having claims directed to minor improvements used by the patentee or licensee.

> The differences between the approaches of the Illinois State and Federal courts suggests that an employer should consider the choice of forum carefully before it brings suit to enforce a restrictive covenant against a former employee.

a. The Amount of Due Diligence Needed Depends on the Licensee's Goals

Before conducting any due diligence, the potential licensee should define the product and/or process they wish to commercialize as well as identify the timing of the product/process launch and determine the territories for manufacturing and sales. Clarifying the licensee's goals underlying the licensing deal is important for determining how much due diligence is really necessary for the transaction.

For instance, if the goal of the licensee is to incorporate the licensor's technology into the licensee's existing manufacturing process, then the due diligence analysis should be narrowly focused on critical patents that cover the newly acquired process. Conversely, validity/enforceability of non-critical patents remaining in the patent portfolio should not be a critical concern.

Alternatively, if the licensee's goal is to license the full patent portfolio and to create a primary business based on the portfolio, then validity/enforceability analysis of most, if not all, patents in the portfolio should be of greater importance. In either instance, invalidity or unenforceability of any critical patent can be a deal stopper without even reaching other due diligence issues such as third party rights. Furthermore, a license may not be necessary if the claims do not cover the commercial product/process or any necessary component or step thereof.

b. Licensing Objectives Also Play a Role in Due Diligence

A potential licensee has three main objectives in due diligence review: (i) reducing risk in licensing an asset that may be a liability in the future; (ii) identifying any weaknesses in the patent portfolio; and (iii) obtaining value by licensing the patents at the lowest possible cost. Depending on the circumstances, the potential licensee may seek warranties and indemnifications from the potential licensor relating to non-infringement, validity, ownership, and possibly non-competition.

Conversely, a potential licensor should (a) avoid making any representations or warranties that may result in future liability; (b) avoid any liability due to licensee's actions; and (c) obtain the highest possible price for the licensing transaction. Before commencing with due diligence review, the licensor should

(continued on page 7)

(continued from page 6)

maintain updated patent files[1] as well as lists of (1) all relevant patents and patent applications, including status and annuity payment history; and (2) assignments, confidentiality agreements, joint development agreements, government contracts, material transfer agreements, etc. Generally, any agreement that relates to the patents and patent applications, including security interests and other liens that encumber a patent owner's rights should be included in these lists.

II. Steps in a Patent Due Diligence Review

The extent of patent due diligence required depends on the size, value, and nature of the transaction, e.g., patent licensing versus patent acquisition. For licensing transactions, patent due diligence review should be detailed enough to not only verify the ability to exploit the licensed patents, such as by ascertaining ownership and third party rights, but to also ascertain the value of the patents by determining whether the claims cover the product/process, whether the remaining patent term and territory is sufficient for the licensee's needs, and whether the claims are valid and enforceable. If either party obtains insufficient information during the due diligence review, the parties may consider adjusting the value of the transaction to reflect the uncertainties and shift the potential risk through appropriate representations and warranties. A due diligence review should rely on the use of a due diligence check list as an aid for uncovering any patent-related issues for further investigation.

a. Ownership Rights

As a first step, the due diligence reviewer should confirm that the licensor/patentee owns all of the patents or patent applications subject to the licensing transaction or has the ability to transfer rights to these documents. The reviewer will need to determine how the licensor obtained ownership or license rights to the patents. For instance, did the licensor's employees develop the patented technology, did independent contractors develop it, or did the licensor obtain it by outright acquisition? Failure to confirm true ownership can have serious consequences in any future litigation involving the patents.[2]

The licensor should have proof of ownership, preferably in the form of an assignment by all of the inventors with subsequent recordation in the patent office of the territory. In the United States, recordation of the assignment within three months from the date of execution or before a subsequent purchase protects the patent owner against subsequent good faith purchasers of the patent.[3] The reviewer should perform an independent assignment search at the Patent Office and carefully review the assignments, particularly in cases with joint inventorship, to ensure that all of the inventors actually assigned their rights to the alleged patent owner. In the absence of any agreement to the contrary, a joint inventor can make, use or sell the claimed invention without the consent of and without accounting to other joint inventors.[4] A licensee should request that the licensor/patentee record all assignments prior to the conclusion of the deal.

If the licensor is the true owner, the reviewer should next determine whether the licensor/owner has the ability to grant licensed rights. This determination generally involves reviewing documents such as material transfer agreements, other licenses, assignments, security interests or other liens, to determine what rights the licensor transferred to third parties.

If the licensor is not the owner but a licensee of a third party patent, the reviewer will need to determine whether the licensor has the ability to grant sublicenses. Generally, the reviewer should examine all underlying documents related to the patent rights that the licensor received from the third party, e.g., licenses, agreements, contracts, and options. In reviewing such documents, the reviewer should watch for restrictions to fields of use and geographic territories in the underlying agreement as well as the licensor's obligations to the third party patent owner.

Technology developed with government funds may be subject to government "march-in" rights under 35 U.S.C. § 203, allowing the funding agency, e.g., the National Institutes of Health, to require the patentee or licensee to grant a license under reasonable terms to reasonable applicants.[5] Thus, the reviewer should check for the existence of any march-in rights and adjust the value of the licensing transaction accordingly.

b. Scope and Sufficiency of Protection

As a second step in a proper due diligence strategy, the reviewer should determine the value of the patented technology. This requires determining the scope and sufficiency of the patent claims. The scope-determination process involves reviewing the language of the claims, the patent specification, and the prosecution history.[6] If the patent claims do not cover the product and/or process the licensee seeks to commercialize under the licenses, either literally or under the doctrine of equivalents, the patent owner cannot exclude others from making, using, or selling the product and/or process.

Determining whether a patent claim covers the subject technology or an accused product or method entails a two-step analysis. First, the claim must be properly construed to determine its scope and meaning. Secondly, the properly construed claims must be compared to the product/process subject to the

(continued on page 8)

(continued from page 7)

transaction.[7] Literal infringement occurs if the product or process includes the same elements of the patent claims. If a different but similar component has replaced one or more components of the subject technology, a court may find infringement under the doctrine of equivalents if the substitution performs substantially the same way to obtain substantially the same result.[8] The Supreme Court, however, has ruled that when a patentee narrows the scope of a claim during prosecution for reasons related to patentability, the patentee can be estopped from arguing infringement under the doctrine of equivalents as to the amended portion of the claim.[9]

If a patent does not cover the subject technology literally or under the doctrine of equivalents, its value in the licensing transaction may be dubious. However, if there are related pending patent applications, the applicants may be able to add additional new claims directed to the subject technology if the disclosure in the patent application supports such a claim. But, it may be difficult to predict the outcome of the patent examination proceedings and there is no guarantee that the new claims may retain their original scope.

Another important consideration is that patents have limited lifetimes and territorial scope. For sufficiency of the patent claims, the reviewer will need to consider the term remaining for each patent subject to the licensing transaction as well as consider the existence of patents in the relevant territories. For U.S. utility patents, the patent term is twenty years from the earliest effective filing date of the application. Most foreign patents expire twenty years from the first filed patent application. To preserve the full patent term, a patent office may require payment of periodic maintenance fees. The reviewer should thus examine the maintenance-fee payment history for all patents, including abandoned patents in the event it is possible for a licensee to revive them. The reviewer should also check the face of the patent as well as prosecution files for the existence of any terminal disclaimers or patent term extensions that will shorten or lengthen the patent term, respectively.[10]

Finally, the reviewer should also check for any functionality issues by confirming that the licensed technology works as intended. Patents and patent applications should be reviewed to determine if the specification is full of actual examples or prophetic examples.[11] In other words, did the inventors actually synthesize the claimed composition using the claimed method? What about best mode limitations under 35 U.S.C. § 112(a)?[12] Assuming that best mode was disclosed when an application was filed, what was previously disclosed several years ago in a patent application at the time of filing may not be the best way to practice the technology today. If, in fact, the technology today is better or different than the one that was originally disclosed and claimed, the reviewer should investigate whether the improvements were kept as trade secrets or covered under existing patent applications. It may still be possible to file patent applications to cover these improvements if no applications exist.

c. *Freedom-to-Operate Determination*

Once a potential licensee determines the scope of a patent's claims, it is necessary to inquire into potential dominating third-party patents. Patents provide the right to exclude others from making, using, or selling the patented technology, but do not include a right to use the technology. Thus, a third-party patent that covers the same technology that is subject to the transaction could prevent the licensor/licensee from exploiting the technology. Generally, a reviewer should conduct a careful patent-clearance search to identify such patents. If any dominating third-party patents are uncovered, the reviewer should also conduct a careful review to verify that the licensor has or will have the necessary third-party patent licenses to exploit the patents and patent applications of the underlying transaction, and determine whether such third-party-patent licensed rights are transferable to others.

In addition, the potential licensee should make a separate inquiry as to who owns patent rights to any necessary supporting technologies that are required to support the main technology. As not all supporting technology may necessarily be protected by patents, it would be important to investigate the origins of supporting technology to make sure that licensor's employees did not inadvertently misappropriate trade secrets of former employers or others.[13]

Finally, if the patented technology was subject to past and/or present legal proceedings, the potential licensee should seek information from the licensor and/or a court docket system and ascertain any defenses raised by third parties, particularly concerning the scope of patent protection, enforceability of the patent, and validity of the patent claims. The reviewer should also examine any settlement agreements relating to such proceedings, as well as all communications alleging infringement of any third-party patent rights.

d. *Validity Assessment*

The validity of a patent is related to the scope of protection but there

(continued on page 9)

(continued from page 8)

are additional considerations for the licensee. Generally, a potential licensee may determine the validity of a patent by conducting a prior art search and reviewing the results relative to the claims of the patent at issue. Prior art searches and reviews, however, can be costly and the potential licensee will need to decide whether the licensing transaction is important enough to incur such costs. In the situation where patent enforcement is likely to occur against third party defendants, it is worthwhile for the licensee to have the search performed, especially considering that defendants in an infringement action will certainly conduct such a search on their own as part of a patent invalidation strategy.

The potential licensee should also review both U.S. and foreign patent prosecution histories to verify the absence of a potential inequitable conduct claim resulting from failure to disclose prior art references to the respective patent office. The U.S. patent rules place a duty of candor on all persons involved in the prosecution of an application, requiring disclosure to the Examiner of any prior art references that may be material to the patentability of the claims.[14] Knowingly failing to disclose such prior art would render a patent unenforceable, and this situation cannot be later cured. If prior art references are discovered after the patent issues, a patentee/licensor should consider requesting reexamination of the patent. Depending on the outcome of the reexamination, some patentable subject matter may still exist and the resulting claims, though potentially narrower in scope, can be stronger than the original claims because the resulting claims survived a second examination.

The validity and enforceability of a patent also requires that the proper inventorship be recorded.[15] For example, the exclusion of a true inventor or the inclusion of a non-inventor could invalidate a patent. The reviewer should identify any inventorship issues by requesting that the patentee provide sufficient documentation, e.g., an invention disclosure which demonstrates that the inventors conceived and reduced the subject technology to practice, and such documentation preferably also includes the names and signatures of all of the inventors. If the wrong inventorship entity was identified, the licensee should request that the patentee take the necessary steps to correct the inventorship in the Patent Office as soon as possible.

Finally, the reviewing attorney should consider legal opinions relating to patentability, infringement, validity and enforceability of patents and pending applications subject to the licensing transactions. In particular, the reviewing attorney should review any prior art documents discussed in the opinions, as well as any waivers of infringing activity.

III. Conclusion

Patent due diligence is important for informed business decision making, particularly for startups that are developing commercial products/processes based on licensed technology. The existence of representations and warranties in the license agreement should not substitute for competent due diligence review by patent counsel, especially when the warranties are insufficient or third-party rights may exist. As part of this process, it is important for startups to keep patent counsel informed of business objectives so that s/he can identify issues that are material to these objectives and work to resolve these issues in order to meet these objectives.

Endnotes

1 The USPTO includes public databases for patents, published patent applications and patent prosecution files. For further information, please see *Public Patent Application Information Retrieval,* USPTO, https://portal.uspto.gov/pair/PublicPair (last visited May 22, 2019).

2 *See, e.g., Alps S., LLC v. Ohio Willow Wood Co.,* 787 F.3d 1379, 1386 (Fed. Cir. 2015) (reversing the district court's denial of the motion to dismiss for lack of standing where the plaintiff could not establish ownership of the patent); *see also* Emily Miao and Bryan G. Helwig, *Avoiding Common IP Pitfalls: What Every Startup Needs to Know,* SNIPPETS (Summer 2018), https://www.mbhb.com/intelligence/snippets/avoiding-common-ip-pitfalls-what-every-startup-needs-to-know.

3 *See* 35 U.S.C. § 261.

4 *See* 35 U.S.C. § 262.

5 The U.S. Government's march-in right is one of the most contentious provisions of the Bayh-Dole Act codified at 35 U.S.C. § 102. Under Bayh-Dole, Federal agencies that funded patented research are empowered to march-in and grant patent license rights to others under reasonable terms. *See, e.g.,* Setareh Samii, *The Importance of the Bayh-Dole Act,* THE Catalyst (July 12, 2016), https://catalyst.phrma.org/the-importance-of-bayh-dole-act; Philip Simon, *The Bayh-Dole Act Has Been Successful in Stimulating a Market for Federally Funded Inventions, Now It's Time to Bring Those Inventions to the Public,* JIPEL (Apr. 18, 2018), https://blog.jipel.law.nyu.edu/2018/04/the-bayh-dole-act-has-been-successful-in-stimulating-a-market-for-federally-funded-inventions-now-its-time-to-bring-those-inventions-to-the-public/.

6 *See Markman v. Westview Instruments, Inc.,* 52 F.3d 967 (Fed. Cir. 1995), *aff'd,* 517 U.S. 370 (1996).

7 *See, e.g., Duncan Parking Techs., Inc. v. IPS Grp., Inc.,* 914 F.3d 1347, 1360-63 (Fed. Cir. 2019) (finding no infringement where the accused product did not cover every element of the asserted claim).

8 *See id.* at 1362.

9 *See Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.,* 904 F.3d 965, 975 (Fed. Cir. 2018), cert. denied, 139 S. Ct. 1265 (2019) (noting prosecution-history estoppel "limits the application of the doctrine of equivalents").

10 Terminal disclaimers are limiting statements made by the patent applicant during prosecution which "disclaim or dedicate to the public the entire term, or any terminal part of the term, of a patent to be granted." 37 C.F.R. § 1.321(b). For a detailed discussion, please see Dennis Crouch, *Harvard's US OncoMouse Patents are All Expired (For the Time Being),* PATENTLYO (Sept. 18, 2012), https://patentlyo.com/patent/disclaimer. Patent term extensions refer to time added on to the original expiration date of the patent, typically based on delays in regulatory review. 35 U.S.C. § 156. For a detailed discussion, please see Dennis Crouch, *Check your Patent Term Adjustment for Applicant Delays due to Late IDS Filings,* PATENTLYO (Jan. 23, 2019), https://patentlyo.com/patent/2019/01/adjustment-applicant-filings.html.

11 A prophetic example, as defined by the Patent Office, is "an embodiment of the invention based on predicted results rather than work actually conducted or results actually achieved." *See e.g.,* Janet Freilich, *Prophetic Patents* (June 25, 2018), *available at* http://www.law.nyu.edu/sites/default/files/upload_documents/Janet%20Freilich_1.pdf. Although prophetic examples can be helpful, they may be the basis for invalidating a patent for lack of enablement and, in some cases, even grounds for inequitable conduct. *See, e.g., Novo Nordisk Pharm., Inc. v. Bio-Tech. Gen. Corp.,* 424 F.3d 1347, 1362 (Fed. Cir. 2005).

12 Best mode refers to the requirement to disclose the best version or method contemplated by the inventor to carry out the invention. Although best mode is required under 35 U.S.C. § 112(a), it is no longer available as a defense for invalidating a patent. For detailed discussion, please see Jason Rantanen, *Best Mode: Only Mostly Dead,* PATENTLYO (May 27, 2013), https://patentlyo.com/patent/2013/05/best-mode-only-mostly-dead.html.

13 *See, e.g., Molon Motor & Coil Corp. v. Nidec Motor Corp.,* No. 16 C 03545, 2017 WL 1954531, at *7 (N.D. Ill. May 11, 2017) (denying a defendant's motion to dismiss a trade secret misappropriation claim); Joshua R. Rich, *Trade Secrets in 2018: The Law is Still Trying to Catch Up,* SNIPPETS (Spring 2018); Joshua R. Rich, *Protecting Trade Secrets with Restrictive Covenants: The Question of Consideration in Illinois,* SNIPPETS (Winter 2019).

14 *See* 37 C.F.R. § 1.56.

15 *See In re VerHoef,* 888 F.3d 1362, 1365 (Fed. Cir. 2018), *as amended* (May 7, 2018) (holding a patent invalid for failing to name an individual as a joint inventor).

Emily Miao, Ph.D., an MBHB partner and Chair of the firm's Startups & Entrepreneurs Practice Group, has over 20 years of experience in all aspects of intellectual property practice, including patent, trademark and copyright procurement and portfolio management; client counseling on validity, infringement, freedom-to-operate (FTO), due diligence reviews, and patent strategy matters; and licensing/secrecy agreements. **miao@mbhb.com**

Margot M. Wilson, an MBHB associate, concentrates her practice on intellectual property matters including patent prosecution, litigation, and providing patentability and infringement analyses in the mechanical and materials area. **wilson@mbhb.com**

Open Source Software Licensing

By Aaron V. Gin, Ph.D. and Joshua J. Lustig

For over 30 years, open source software (OSS) has formed the backbone of the technology industry. Today, it is nearly impossible to find a computing device that does not utilize an open source component. For example, the Linux kernel powers well over a billion devices. As the adoption of OSS accelerates, it is increasingly important to understand the history, legal issues, and future challenges of the open source world.

What is OSS?

OSS is computer software that is released under a specialized license that grants users permission to view, change, and redistribute the software. The actual source code of such software is "open" to the public.

The philosophy behind OSS can be traced back to the Free Software Movement of Richard Stallman.[1] A researcher at the MIT Artificial Intelligence Laboratory in the early 1980s, Stallman pioneered the leading open source license of the time: the GNU general public license (GPL).[2] Stallman challenged traditional proprietary licenses through GPL by establishing software that could be developed communally and collaboratively, while guaranteeing the rights of end-users to modify and redistribute the source code.

Shortly after GPL, the Open Source Initiative (OSI) was formed to spread the open source philosophy. OSI developed the "Open Source Definition,"[3] which includes the following core principles:

1. Free Redistribution: The license shall not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from several different sources.

2. Source Code: The program must include source code, and must allow distribution in source code as well as compiled form.

3. Derived Works: The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software.

4. Integrity of The Author's Source Code: The license may restrict source-code from being distributed in modified form only if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program at build time.

5. No Discrimination Against Persons or Groups: The license must not discriminate against any person or group of persons.

6. No Discrimination Against Fields of Endeavor: The license must not restrict anyone from making use of the program in a specific field of endeavor.

7. Distribution of License: The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

8. License Must Not Be Specific to a Product: The rights attached to the program must not depend on the program's being part of a particular software distribution.

9. License Must Not Restrict Other Software: The license must not place restrictions on other software that is distributed along with the licensed software.

10. License Must Be Technology-Neutral: No provision of the license may be predicated on any individual technology or style of interface.

Today, a wide variety of OSS licenses exist. OSI plays an important role in "verifying" new open source licenses to ensure that each license upholds the core tenants of the OSI definition. While most open source licenses follow OSI's broad principles of granting users the permission to view, change, and redistribute the software, the way in which each license achieves these principles varies. Open source licenses can be grouped into permissive licenses and copyleft licenses.

Permissive licenses can be considered as "public domain" licenses. These licenses typically grant users the right to do what they please with source code, from repackaging the source code into another open source project to incorporating the source code into proprietary products. The only caveat of a permissive license is that correct attribution must be provided. When an author of an open source project releases their source software under a permissive license the author is given no guarantee for how the source code will be used and/or distributed in the future. Examples of widely-used permissive licenses include the MIT license,[4] the Apache license,[5] and Berkeley Software Distribution (BSD)[6] licenses.

Copyleft licenses allow users to view, change, or redistribute source code, but require that any derivative work from the source code uphold the copyleft license. More specifically, when an author of an open source project releases their software under a copyleft license, the author is given a guarantee that any derivative work of their software will also have a copyleft license. This aspect essentially turns copyleft licenses into a "viral license" in which all derivative works of an original open source project are "infected" and authors and users must adhere to the original license. Examples of widely-used copyleft licenses include the GNU General Public License (GPL).

"Weakly-protective" licenses exist as a compromise between the permissive and copyleft licenses. Weakly protective licenses generally prevent the licensed source code from becoming proprietary on its own, yet allow such source code to be incorporated as part of a larger proprietary program. Examples of widely-used weakly protective licenses include GNU Lesser General Public License (LGPL).[7]

Case Law Involving OSS

In one of the first major cases involving an OSS license, *Jacobsen v. Katzer*, the United States Court of Appeals for the Federal Circuit (CAFC) ruled that an open source "Artistic License" to copyrighted program code for controlling model trains was enforceable and the underlying copyright was infringed.[8] Furthermore, the CAFC held generally in *Jacobsen* that copyright holders who engage in open source licensing have the right to control the modification and distribution of the copyrighted material.[9]

More recently, in *Artifex Software, Inc. v. Hancom, Inc.,* the Northern District of California cited *Jacobsen* as a basis to establish that royalty-free licensing under open source conditions does not preclude a claim for damages with a decision that stated a "jury can use the value of the commercial license as a basis for any damages determination."[10] Additionally, in *Artifex,* the district court ruled

(continued on page 11)

(continued from page 10)

that GPL-licensed code can be treated like a legal contract, and developers can sue if the obligations of these licenses are not followed.[11]

Such decisions have supported the enforceability of OSS licenses and suggest that potential copyright infringers ignore the terms of such licenses at their peril.

OSS and Patents

In the United States, OSS can be protected under both copyright and patent law. Whereas copyright protects the underlying expression of source code (i.e., the originality and creativity underlying the way the source code is written), patents can protect the source code's functionality and the utility and/or design in which it influences the outside world. Because OSS licenses grant user rights under copyright, open source licenses do not inherently bar an original author (or a secondary author using the source code provided by the original author) from obtaining protection on patentable aspects of the source code.

However, in light of the decisions described above, why would one want to obtain a patent on OSS or derivative software that carries a corresponding OSS license? As an example, an original author may desire to assert patent rights against infringers who are not using OSS subject to the OSS license, but different, independently created, software that is nonetheless infringing the author's patent right. Accordingly, a patent holder could potentially assert patent rights against an infringer who uses independently-developed software that utilizes a patented concept, regardless of whether the source code is subject to an open source license.

Additionally, the original author may desire to market or provide a non-open source licensed version of a software product, such as many dual-license software products.[12] For example, such software products may be released under a proprietary license and an open source license. The open source version can be provided for free, with the aforementioned caveat that any subsequent product using the software must include the open source license. The proprietary version may be sold to businesses looking to incorporate the software into their own proprietary products.

In an effort to protect contributors from such legal discrepancies between copyrights and patents, many open source licenses have explicit clauses that address would-be patentees. For example, the GNU GPL[13] explicitly states:

> You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

With only a few court cases decided relating to OSS licenses, this will be an interesting area of law to follow moving forward.

In such cases, under the purported terms of the license, an inventor who distributes source code under the GNU GPL cannot assert her own patent rights against subsequent users of the GNU GPL source code.

In a further effort to deter would-be patentees, some open source licenses include clauses that terminate a licensee's rights to use the OSS if the licensee asserts a patent infringement claim relating to the use of the OSS. Such provisions are often referred to as "patent retaliation clauses." As an example, Section 8 of the Apache 2.0 license states:[14]

> If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

Due to the complexity of modern software projects, patent holders may be completely unaware of OSS embedded into their systems. Accordingly, such patent retaliation clauses can become a substantial risk for patentees intending to assert their software patent. For example, suppose that an enterprise constructs a product that is a derivative of software covered by an open source license with a patent retaliation clause. Then, suppose that the enterprise obtains a patent on the features they added to the derivative work. If the enterprise sues a third-party for patent infringement, the license to distribute the enterprise's own software (a derivative work of the original software covered by the open source license with a patent retaliation clause) could be revoked under the terms of the OSS license because the enterprise asserted their patent on their derivative work. Under such a hypothetical scenario, the enterprise who merely attempted to assert their patent right may lose the right to distribute their own product.

The Future of OSS

OSS has created enormous value throughout the software industry. One open source project's success has become the bedrock of another project's innovation. However, for the OSS model to continue, viable business models must exist to reward creators and maintainers of OSS.

Currently, the software industry is experiencing a shift towards a software as a service (SaaS) paradigm. Above all, the shift has ushered in the era of cloud providers: large organizations who offer computational resources to run the software in production environments. With this paradigm, owning hardware, not software, becomes the engine of wealth creation. So, rather than paying a maintainer of an open source project, the price of using OSS is now more closely tied to the price of paying a cloud provider to execute the OSS. For this reason, many cloud providers are now "open source friendly" (and even belong to a non-aggression Open Invention Network[15]) because they directly benefit from the use of OSS in their cloud environments without having to bear any of the engineering costs of maintaining or upgrading the OSS. However, the open source authors do not directly benefit and typically rely on revenue from "enterprise tier" infrastructure solutions to fund operations and the continued development of OSS.

(continued on page 12)

(continued from page 11)

Many organizations are creating specialized open source licenses to address these issues. MongoDB, a database software company that "open sources" most of their products, has shifted to a Server Side Public License (SSPL)[16] to exclude cloud providers. Specifically, the SSPL requires that those who provide an SSPL product in a hosted platform must also make available their infrastructure code for the hosted platform available under an open source license. This infrastructure code would include things such as provisioning systems or anything that might be required for another company to create a clone of the hosting service. Similarly, Redis Labs, another database software company, has shifted to the Redis Source Available License (RSAL), which precludes Redis software from being used as a database, a caching engine, a stream processing engine, a search engine, an indexing engine, or a machine learning/deep learning/artificial intelligence serving engine.[17]

As the dominance of cloud providers continues, we can expect to see more new open source licenses that focus on fair compensation for the creators and maintainers of OSS.

Conclusion

OSS has evolved to fit the various and disparate needs of the technology industry. OSS licenses have provided a way for its authors and innovators to control how the OSS will be used in the future. With only a few court cases decided relating to OSS licenses, this will be an interesting area of law to follow moving forward.

Additionally, the rise of cloud providers has drastically changed open source models for many technology companies. With the next waves of technological change coming along soon, such as autonomous vehicles, Blockchain, and IoT, newer, more complex open source licenses may be drafted, and argued in the courts, to protect the interests of software innovators and the OSS community.

Endnotes

1 Brian W. Carver, *Share and Share Alike: Understanding and Enforcing Open Source and Free Software Licenses,* 20 Berkeley Tech. L.J. 443, 443 (2005).
2 *Id.* at 447; *see also What is GNU?,* GNU Operating System, https://www.gnu.org/home.en.html (last updated May 7, 2019).
3 *See* Carver, *supra* note 1, at 449; *see also The Open Source Definition,* Open Source Initiative, https://opensource.org/osd (last updated Mar. 22, 2007).
4 *The MIT License,* Open Source Initiative, https://opensource.org/licenses/MIT (last visited May 23, 2019).
5 *Apache License, Version 2.0,* Apache, https://www.apache.org/licenses/LICENSE-2.0 (last visited May 23, 2019) (hereinafter "Apache License").
6 *The 3-Clause BSD License,* Open Source Initiative, https://opensource.org/licenses/BSD-3-Clause (last visited May 23, 2019).
7 *GNU Lesser General Public License,* GNU Operating System, https://www.gnu.org/licenses/lgpl-3.0.en.html (last updated Nov. 18, 2016).
8 *Jacobsen v. Katzer,* 535 F.3d 1373, 1381 (Fed. Cir. 2008).
9 *Id.*
10 *Artifex Software, Inc. v. Hancom, Inc.,* No. 16-CV-06982-JSC, 2017 WL 4005508, at *3 (N.D. Cal. Sept. 12, 2017).
11 *Id.* at *6.
12 *Multi-licensing,* Wikipedia, https://en.wikipedia.org/wiki/Multi-licensing (last updated Feb. 8, 2019).
13 *GNU General Public License,* GNU Operating System, https://www.gnu.org/licenses/gpl-3.0.en.html (last updated Nov. 18, 2016).
14 *See* Apache License, *supra* note 5.
15 *Members,* Open Invention Network, https://www.openinventionnetwork.com/about-us/members/ (last visited May 23, 2019).
16 *Server Side Public License,* MongoDB (Oct. 16, 2018), https://www.mongodb.com/licensing/server-side-public-license.
17 *Redis Source Available License Agreement,* REDIS LABS, at 1 (Mar. 20, 2019), *available at* https://redislabs.com/wp-content/uploads/2019/03/Redis-Source-Available-License-PDF-2.pdf.

Aaron V. Gin, Ph.D., an MBHB partner, has broad experience in preparing and prosecuting U.S. and foreign applications for patents and trademarks. **gin@mbhb.com**

Joshua J. Lustig, an MBHB patent agent, provides technological advice in support of validity, infringement, and patentability analysis in the electrical, computer and software areas. **lustig@mbhb.com**

MBHB Partners Named to *Best Lawyers in America*® 2019 Edition

McDonnell Boehnen Hulbert & Berghoff LLP is pleased to announce firm partners Paul H. Berghoff, Daniel A. Boehnen, Grantland G. Drutchas, Michael S. Greenfield, Ph.D., Bradley J. Hulbert, Kevin E. Noonan, Ph.D., Matthew J. Sampson, and Donald L. Zuhn, Jr., Ph.D. were selected by their peers for inclusion in the *Best Lawyers in America*® 2019 edition. *Best Lawyers* is a highly respected peer-review publication that is widely regarded by both clients and legal professionals as a significant honor.

The MBHB partners are listed in the following *Best Lawyers*-designated specialty areas:

Litigation—Intellectual Property
Paul H. Berghoff
Daniel A. Boehnen
Grantland G. Drutchas
Bradley J. Hulbert

Litigation—Patent
Paul H. Berghoff
Daniel A. Boehnen
Matthew J. Sampson

Patent Law
Paul H. Berghoff
Daniel A. Boehnen
Grantland G. Drutchas
Michael S. Greenfield, Ph.D.
Bradley J. Hulbert
Kevin E. Noonan, Ph.D.
Donald L. Zuhn, Jr., Ph.D.

Biotechnology Law and Life Sciences Practice
Kevin E. Noonan, Ph.D.
Donald L. Zuhn, Jr., Ph.D.

Trademark Law
Daniel A. Boehnen

A Comparison of U.S. and Japanese Patent Subject Matter Eligibility

By Michael D. Anderson, James L. Korenchan and Yukio Oishi

Patent practitioners who focus their practice in the high-tech sector have most likely encountered Japanese patent law in one form or another. More often than not, companies at the forefront of technological advancement make, use, and sell products in Japan, or have competitors who do the same. This alone can make Japan an attractive place for obtaining patent protection in high-tech fields. Additionally, Japan is often viewed as having a very pro-patent (and thus, pro-patentee) court system, especially over the last ten or more years. In April of 2015, the Japan Patent Office (JPO) implemented a new opposition system to invalidate patents as part of the Japanese Patent Act of 2014.[1] This new system has greatly reduced the number of patents found invalid. For instance, between 2008 and 2017 the number of Requests for Trial for Invalidation in Japan fell by 40%.[2] Moreover, between 2008 and 2017 the percentage of patents found to be invalid fell from 59% to 21%.[3]

Despite a growing interest in pursuing Japanese patent protection, many U.S. practitioners have a limited understanding of Japanese patent law and limited interactions with Japanese firms. While having an extensive knowledge of Japanese patent law is not always necessary for U.S. practitioners to provide sound legal counsel, an appreciation of the differences between U.S. and Japanese patent prosecution can improve the quality of representation that practitioners provide. Of the various patent prosecution issues faced in the high-tech space, subject matter eligibility is a common hurdle. Thus, the focus of this article is the differences in subject matter eligibility analysis in the U.S. and Japan as it pertains to high-tech patent applications, particularly for computer-implemented inventions involving software or business methods.

By now, U.S. practitioners are all-too-familiar with the two-part *Alice Corp.* test for determining the patent eligibility of claims under 35 U.S.C. § 101. In part one of this test, one must first determine whether the claimed subject matter as a whole is directed to a judicial exception. Further, under *Alice Corp.* and its progeny, the judicial exception that high-tech claims typically face is whether the claims recite an "abstract idea." If the claim is found to be directed to something other than a judicial exception, then the claim is patent-eligible. But if the claim is found to be directed to a judicial exception, then part two of the test is applied. In part two of the test, one must determine whether any element or combination of elements in the claim is sufficient to ensure that the claim recites "significantly more" than the judicial exception.

While having an extensive knowledge of Japanese patent law is not always necessary for U.S. practitioners to provide sound legal counsel, an appreciation of the differences between U.S. and Japanese patent prosecution can improve the quality of representation that practitioners provide.

To call the recent history of patent eligibility in the U.S. tumultuous might be an understatement. The USPTO and the courts have wrestled for years over how to guide examination of claims under § 101. Court cases -- particularly, those from the Federal Circuit -- have provided differently-nuanced interpretations as to what constitutes an abstract idea and what elevates a claim to the realm of "significantly more." The USPTO typically then follows suit by periodically updating its subject matter eligibility guidance. However, in practice, the manner in which examiners apply the case law of the courts and the guidance issued by the USPTO can be a mixed bag, often to the chagrin of practitioners.

Under the most recent subject matter eligibility guidance issued by the USPTO on January 7, 2019, the USPTO attempted to clarify part two of the *Alice Corp.* test.[4] According to the guidance, "a claim is not 'directed to' a judicial exception if the judicial exception is integrated into a practical application of that exception." Thus, the guidance provides clarification to the previous test on step two of the *Alice Corp.* test as to what constitutes "significantly more" than the judicial exception.

The new guidance is based in part on the Federal Circuit decisions in *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*[5] and *Arrhythmia Research Tech., Inc. v. Corazonix Corp.*[6] In *BASCOM,* the court concluded "that claims could be eligible if ordered combination of limitations 'transform the abstract idea . . . into a particular, practical application of that abstract idea.'"[7] Additionally, in *Arrhythmia,* the claims were found patent eligible because "inventions that were implemented by the mathematically-directed performance of computers were viewed in the context of the practical application to which the computer-generated data were put."[8]

In practice, the new guidance is a powerful tool for patent practitioners. For example, before the guidance, many software-based patent applications were faced with arguing there was "significantly more" than algorithms and computer hardware in the claims. However, the new guidance obviates the previously opaque requirements. Now, rather than advocate for "significantly more," practitioners can argue that their claim is a practical application of something that could be a judicial exception. One manner to do this can be to argue that additional elements in the claims improve the functioning of a computer or provide an improvement to other technological areas. Notably, the new guidance also does not involve a consideration as to whether such additional elements are merely conventional. Thus, a claim with conventional elements can still be patent eligible as long as it integrates a judicial exception into a practical application.

While the new USPTO guidance attempts to bring some clarity and consistency to patent eligibility, the interplay between the courts and the patent office remains uncertain. Thankfully for patentees seeking protection in Japan, the bar for patent eligibility appears to be lower and more clearly defined. In contrast to the U.S., the hurdle for patent eligibility in Japan is

lower. For example, in Japan, an examiner must determine whether a claimed invention as a whole involves the "creation of a technical idea utilizing the laws of nature."[9] But similar to the U.S., examples of inventions typically deemed patent ineligible under this Japanese standard include those that are directed to economic laws, rules for playing a game, mental activities, mathematical formulas, or the mere presentation of information (e.g., image data taken with a digital camera).[10]

When claims are deemed "software-related," the determination takes a slightly different form and involves a two-part inquiry.[11] First, the examiner evaluates the claimed invention from a non-software focused standpoint. In other words, the patent eligibility of a software-related invention evaluated using this standpoint should not rest on the fact that the invention involves software. Thus, the examiner first determines whether the invention stands on its own, and is patent eligible notwithstanding the software aspect. But if the examiner is unable to make this first determination, the examiner then evaluates the invention with a heavier emphasis on the software aspects of the claim.

From a non-software focused standpoint, a software-related invention is likely to be found to be patent-eligible when it involves (i) "concretely performing control of an apparatus (e.g., an engine, a washing machine, a disk drive), or processing with respect to the control" or (ii) concretely performing information processing based on the technical properties of an object (e.g., physical, chemical, or electrical properties).[12] Interestingly, even claims that involve "software for causing a computer to execute a procedure of a method," or "a computer or system for executing such a procedure" are often found to be patent eligible in Japan without further inquiry.[13]

From a software-focused standpoint, a software-related invention is likely to be found to be patent-eligible when "information processing by the software is concretely realized by using hardware resources."[14] In other words, the cooperation of software and hardware resources can elevate a claim to a level of patent eligibility. Examples of hardware resources include various "physical device[s] or physical element[s]" that are "used in processing, operation, or implementation of a function," such as a computer, CPU, memory, input device, output device, or a physical device connected to a computer.[15]

The Japanese software-focused standard for patent eligibility is particularly notable for several reasons. For one, it is in stark contrast with U.S. standards, in which merely implementing a process using software and hardware is almost always insufficient for patent eligibility. Additionally, the lower hurdle before the JPO is undoubtedly a contributing factor to the higher level of allowed software-related claims and business method claims in Japan compared to that in the U.S.

For software-related claims, the Japanese standard as a whole, and particularly the software-focused standard, allows for a certain type of patent protection in Japan that is not currently available in the U.S.: program claims. A "program claim" is distinct from a computer readable medium (CRM) claim and was introduced into Japan Patent Law in 2002 to address the issue that a CRM claim does not cover a situation where a software program is provided to a user, not by a CRM such as a CD-ROM, but rather by the user downloading the software program over a network.[16] In the JPO examination handbook, the JPO provides the following example forms that program claims can take, which U.S. practitioners will certainly note as being quite different from the scope of what is patent eligible in the U.S.[17]

> *Example 1: A program for causing a computer to execute a step A, a step B, a step C, …*
>
> *Example 2: A program for causing a computer to function as means A, means B, means C, …*
>
> *Example 3: A program for causing a computer to implement a function A, a function B, a function C, ...*

Because program claims do not require an apparatus that stores the software code, program claims provide patent protection in an area that CRM claims do not, and are thus useful for at least that reason.

There are other types of claims that fall under the JPO's definition of a "program" and are often found to be patentable using the software-focused standard. One example is a "trained model," such as "[a] trained model for causing a computer to function to output quantified values of reputations of accommodations based on text data on reputations of accommodations," where the model comprises multiple neural networks.[18] Another example is a "data structure," such as "[a] data structure of dialogue scenarios utilized in a voice interactive system." These types of claims can be more difficult to obtain in the U.S.[19]

As for business method claims, between 2012 and 2017 in the U.S., the allowance rate for business method claims was 32.4% in 2013, dropped to 6.2% by 2016, and rose to 12.7% in 2017.[20] Over the same period of time in Japan, however, the allowance rate for such claims was consistently near 70%.[21] The high allowance rate in Japan can be attributed to the low hurdle for software. In particular, while business methods are not patent eligible on their own, software for implementing such methods are patent eligible as long as they meet the aforementioned requirements. For example, claim 1 of Japanese Patent No. 5492261 is directed to "a system for determining executability of a loan transaction" and is recited as follows:

> *1. A system for determining executability of a loan transaction comprising:*
>
> *means for receiving a loan application telegraphic message including an identifier of a loan application client, a loan execution date and a loan application amount from a terminal device;*
>
> *means for storing, for the loan application client, a loan limit amount, a total amount of loan balance and a future loan execution amount that has been scheduled to be loaned during a period of time up to the loan execution date; and*
>
> *means for determining that a loan transaction for the loan application telegraphic message is executable if a first total amount of the loan application amount, the total amount of loan balance and the future loan execution amount is less than or equal to the loan limit amount.*

The key feature of this claim is not the presence of "a terminal device" (which is arguably the only concrete recitation of hardware in the claim) or another technical aspect, but rather a business process. However, based on the JPO Examination Handbook, it would be clear to a person skilled in the art that, considering

the claim as a whole, the underlying business process is "implemented by concrete means or procedures on which the software and hardware resources that a 'computer' usually comprises, such as a CPU, memory, storage means, input and output means, etc. cooperate."[22] Here, a "means for determining" implies a CPU, a "means for storing" implies memory, and a "means for receiving" implies an input or output means. The business process is concretely realized by using hardware resources and is thus patentable.

A clear understanding of Japanese patent law in the areas of software and business methods can help practitioners avoid missteps and better represent companies who have or seek to have patent protection in Japan. For example, even when U.S. patentees pursue software-related claims in Japan, they often attempt to do so with CRM-style claims and do not consider whether they should file program claims. In fact, due to how unfavorably U.S. patent law is on business methods, and how risky U.S. patent law can be on software claims, U.S. patentees often forego pursuing patent protection in these areas altogether. Thus, U.S. practitioners and patent applicants alike should be aware of all the particular advantages of Japanese patent law in these areas and reach out to a Japanese associate if any other advice is needed. After all, it could be worthwhile for both parties.

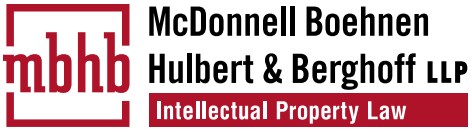
Endnotes

1 *Outline of the Partial Revision of the Patent Act, etc.,* Japan Patent Office (May 19, 2014), *available at* https://www.jpo.go.jp/e/system/laws/rule/hokaisei/document/tokkyohoutou_kaiei_2605 14/outline.pdf.
2 *JPO Status Report 2019,* Japan Patent Office, at 36 (March 2019), *available at* https://www.jpo.go.jp/e/resources/report/statusreport/2019/document/index/all.pdf.
3 *Overview of Trial for Invalidation and Opposition Systems in Japan,* JPO Trial and Appeal Department at 6 (March 2017), http://www.ptabbar.org/wp-content/uploads/2018/03/Pre-Conference-Session-Comparing-the-PT-AB-to-Other-Forums-Around-the-World-FINAL.pdf.
4 2019 Revised Patent Subject Matter Eligibility Guidance, *Federal Register,* 84 Fed. Reg 50 (Jan. 7, 2019).
5 827 F.3d 1341, 1352 (Fed. Cir. 2016).
6 958 F.2d 1053, 1056-57 (Fed. Cir. 1992).
7 *BASCOM Glob. Internet Servs.,* 827 F.3d at 1352.
8 *Arrhythmia Research Tech,* 958 F.2d at 1057.
9 *Examination Handbook for Patent and Utility Model in Japan,* Japan Patent Office, Annex B, Chapter 1, Computer Software-Related Inventions, Section 2.1 and 2.1.1, *available at* https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/handbook_shinsa/document/index/app_b1_e.pdf.
10 *Id.*
11 *Id.* at Section 2.1.1.
12 *Id.* at Section 2.1.1.1.
13 *Id.*
14 *Id.* at Section 2.1.1.2.
15 *Id.*
16 News Release, JPO (April 2002) https://www.jpo.go.jp/system/laws/rule/hokaisei/tokkyo/houkaisei_h140417/houkaisei_gaiyou.html.
17 *Examination Handbook for Patent and Utility Model in Japan,* Japan Patent Office, Annex B, Chapter 1, Computer Software-Related Inventions, Section 1.2.1.1.
18 *Id.* at Section 3, Case 2-14; *see also* Section 1.2.1.1.
19 *Id.* at Section 3, Case 2-13.
20 *Business Methods Allowance Rate,* USPTO, https://www.uspto.gov/patents-getting-started/patent-basics/types-patent-applications/utility-patent/business-methods-27 (last visited May 23, 2019).
21 *See* Nobuyuki Taniguchi, *Recent Developments on Software-related Patents in Japan,* Nakamura & Partners (Aug. 18, 2017), http://www.nakapat.gr.jp/en/legal_updates_eng/recent-developments-on-software-related-patents-in-japan/; Yukio Oishi, *Protecting Fintech Business by Obtaining Patent Protection in Japan,* Japan Patent and Trademark Update, Tmi Associates (November 2017), *available at* https://www.tmi.gr.jp/wp-content/uploads/2017/11/jptu_issue_8.pdf.
22 *See, e.g.,* Examination Handbook for Patent and Utility Model in Japan, Japan Patent Office, Annex B, Chapter 1, Computer Software-Related Inventions, Section 2.1.1.2, Example 4.

Michael D. Anderson, an MBHB partner, provides technological advice in support of validity, infringement, litigation, and patentability analysis in the area of electrical engineering. **anderson@mbhb.com**

James L. Korenchan, an MBHB associate, has over seven years of experience drafting and prosecuting patent applications in numerous technical fields, with a specialty in the areas of electrical engineering and computer hardware and software. **korenchan@mbhb.com**

Yukio Oishi is a partner with the Japanese law firm of TMI Associates. His practice focuses on patent prosecution and patent disputes, including patent litigation and patent licensing negotiations. He is a guest contributor for



300 South Wacker Drive
Chicago, Illinois 60606-6709

312 913 0001 phone
312 913 0002 fax
www.mbhb.com
snippets@mbhb.com

McDonnell Boehnen Hulbert & Berghoff LLP recognizes the ever-increasing importance of intellectual property. Our mission is to enhance the value of our clients' businesses by creating and defending their intellectual property assets. We have built our reputation by guiding our clients through the complex web of legal and technical issues that profoundly affect these assets. We are keenly aware of the trust placed in us by our clients—Fortune 100 corporations, universities, individuals, and start-up companies—and we always remain focused on their ultimate business goals.

With offices in Illinois, California and North Carolina, MBHB provides comprehensive legal services to obtain and enforce our clients' intellectual property rights, from navigating the U.S. Patent and Trademark Office procedures to litigating complex infringement actions. We don't merely procure rights and litigate cases; we craft winning strategies that achieve our clients' business objectives.

Our entrepreneurial spirit, combined with the wealth of our legal experience and technological expertise, gives McDonnell Boehnen Hulbert & Berghoff LLP the power to achieve success for our clients.

Partners

Lawrence H. Aaronson
Michael D. Anderson
Jeffrey P. Armstrong
Alison J. Baldwin
Paul H. Berghoff
Daniel A. Boehnen
Michael S. Borella, Ph.D.
Christina L. Brown
Christopher M. Cavan
Nathaniel P. Chongsiriwatana, Ph.D.
David L. Ciesielski
Michael D. Clifford
John E. Conour, Ph.D.
Grantland G. Drutchas
Sarah E. Fendrick, Ph.D.
David M. Frischkorn
Paula S. Fritsch, Ph.D.
Jori R. Fuller
Patrick G. Gattari
Aaron V. Gin, Ph.D.
Michael S. Greenfield, Ph.D.
Nicole E. Grimm
James C. Gumina
David S. Harper, Ph.D.
Joseph A. Herndon
Lisa M. W. Hillman, Ph.D.
A. Blair Hughes
Bradley J. Hulbert
Chad A. Kamler
Jason S. Kray
James L. Lovsin
Richard A. Machonkin
Michelle L. McMullen, Ph.D.
Emily Miao, Ph.D.
Eric R. Moran
Kevin E. Noonan, Ph.D.
Gavin J. O'Keefe
Andrea K. Orth
Sherri L. Oslick, Ph.D.
Ann C. Palma
Daniel C. Pozdol
Jordan J. Pringle
Nicole E. Reifman
Joshua R. Rich
Kurt W. Rohde
Matthew J. Sampson
Steven J. Sarussi
James V. Suggs
Kirsten L. Thomson
Marcus J. Thymian
Paul S. Tully, Ph.D.
Benjamin M. Urban
Dmitriy A. Vinarov, Ph.D.
Thomas E. Wettermann
Joey C. Yao
Donald L. Zuhn, Jr., Ph.D.

Of Counsel

Thomas A. Fairhall
S. Richard Carden
Jeremy E. Noe

Associates

Margaret R. Fleetwood, Ph.D.
Daniel F. Gelwicks
Alexander D. Georges
David R. Grosby
Bryan G. Helwig, Ph.D.
Gregory M. Huffman
James L. Korenchan
Jelena Janjic Libby, Ph.D.
George "Trey" Lyons, III
Sherif N. Mahmoud
Adnan "Eddie" M. Obissi
Brett W. Scott
Amir Shenouda, Ph.D.
Margot M. Wilson
Colin Wright

Patent Agents

Joseph T. Adamczyk
Amma B. Addai, Ph.D.
Isadora F. Bielsky, Ph.D.
Joshua D. Bosman, Ph.D.
Jordan A. DeGayner, Ph.D.
Scott M. Dyar, Ph.D.
David A. Grabelsky, Ph.D.
Michael Krasniansky
Mateusz J. Kulesza
Joshua J. Lustig
Benjamin A. Rellinger, Ph.D.
Andrew H. Velzen

Technical Advisors

Jason T. Arnold