PROTECTING INNOVATION

What Every Business Lawyer and Entrepreneur Needs to Know About Protecting the Intellectual Property at the Core of their Business

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By Susan Gorman, Ph.D., Esq.

Most technology-based businesses are concerned about protecting the Intellectual Property at the core of the business. But for new entrepreneurs seeking patent protection for their inventions, figuring out what needs to be done and how to do it can be daunting.

Three of the most misunderstood aspects of patent law involve the concepts of inventorship, ownership and employment. Before you let yourself or your client become consumed by day-to-day operational issues and push IP strategy to the back burner, be sure you've done everything you can to protect the innovation at the heart of your business.

Part I: Are you sure you invented that?

One of the biggest misconceptions impacting innovation is presuming you are the inventor when you may not be.

Oftentimes new entrepreneurs assume that if they have been involved in inventing something or have been named as an author on a scientific publication, they are an inventor and own at least part of the invention. But authorship, inventorship and ownership are separate and distinct concepts in patent law. Just because someone is an author does not mean that person is also an inventor. Frequently authors have optimized some of the experiments presented or have essentially carried out experiments devised by a primary investigator. However, this does not meet the standard for inventorship.

In order to qualify as an inventor, the courts have stated, "The threshold question in determining inventorship is who conceived the invention. Unless a person contributes to the conception of the invention, he is not an inventor."[1] One definition of conception is the "formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice."[2] This is quite different from whether someone is named as an author on a scientific publication.

Inventors do not need to invent alone or without consulting anyone else. The courts have ruled that the inventor may consider and adopt ideas and materials derived from many sources to arrive at conception. These can include a suggestion - or a material - from an employee or from a hired

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consultant, even if that suggestion or material turns out to be the key to the problem being addressed by the invention.

The critical aspect is that the inventor maintains "intellectual domination" over the work; from its initial stages, to selecting and rejecting intermediates, to either the successful testing of the invention or the filing of a patent application.[3]

Am I an inventor or a worker?

It is possible, however, to have more than one inventor for a single invention, but each member of the team must make a substantial contribution to the conception of the invention. For example, if person A says, "I have an idea for a three-legged stool and here are the plans," and person B cuts the wood and puts it together, only person A is an inventor. Person B is regarded as "a pair of hands" and has not contributed to conception of the invention.

Similarly, if person A says, "I have an idea for a three-legged stool," and person C says, "It would be more symmetrical if you placed each leg at a 60° angle from the other two legs," and then person A alters the plans as person C suggested before giving them to person B to cut the wood and construct it, person A is still the only inventor.

> [C]ORRECTLY DETERMINING WHO IS AN INVENTOR IS CRITICAL BECAUSE A PATENT CAN BE INVALIDATED FOR INCORRECT INVENTORSHIP... ONLY INVENTORS CONTROL THE OWNERSHIP OF THE INVENTION, ALTHOUGH OWNERSHIP CAN BE IMPACTED BY THE ACTIONS OF CO-INVENTORS OR BY EMPLOYMENT AGREEMENTS.

On the other hand, consider that once again person A says, "I have an idea for a three-legged stool and here are the plans," and gives them to person B. After looking at the plans, person B says, "You know, if we add another leg it will be far more stable." Persons A and B discuss how stability and comfort are the goals and in the course of the discussion decide that a back support would make the device more comfortable. Here, person B has made a substantial contribution to the conception of a chair. If the patent application contains claims to both a stool and a chair, person A is the inventor of the stool and persons A and B are joint inventors of the chair.

One does not need to reduce the invention to practice (making and testing the invention to see if it works) in order to be an inventor, but it is also not sufficient to have only an idea of a result to be accomplished; the means of accomplishing it is also required.[4] Turning again to our three-legged stool example, if person C says "It would be great to have a three-legged stool that would be stable on uneven ground" and person A develops plans for a three-legged stool with independently adjustable legs, only person A is the inventor.

Of course, these are very simplistic examples. In real life inventorship is generally far more difficult to determine. For example, in the biotech/pharma industry determining the correct inventorship can be particularly complex, especially when a team is working closely on a new project and when new genes, chemical compounds or drugs are involved. That is because when isolating or constructing a new gene, conception cannot be accomplished only by defining the gene by its principal biological property; the detailed structure as well as a method for obtaining it must be envisioned.[5] Consequently, it can be a challenge to determine who contributed to conception and who was merely following instructions or standard procedures. Similarly, the conception of a chemical requires both the idea of the structure of the chemical and possession of an operative method of making it.[6] So oftentimes determining inventorship of a new drug can involve figuring out who conceived of each operative part of the new compound.

Yet correctly determining who is an inventor is critical because a patent can be invalidated for incorrect inventorship. Furthermore, only inventors control the ownership of the invention, although ownership can be impacted by the actions of co-inventors or by employment agreements.

Part II: Employer-Employee Relationships

While it seems apparent that an inventor would be the owner of an invention that s/he had invented, sometimes this can be a tricky question. Companies must protect the investment that they make in hiring employees to develop new technologies and solutions for problems in the marketplace. As a result, when employees develop new innovations, the answer to the question of who owns the resulting patent often rests in the employment agreement.

Typically, inventors are presumed to be owners of a patent unless they are employees. If they are employees, then an employment agreement may shift ownership to the employer. There are a couple of ways in which this can happen.

Employment Agreements

Depending on the language in the employment agreement, the employee inventor may be required to assign all inventions made in the course of their employment to the employer. A typical agreement requires the employee to:

(1) Assign all patent rights in consideration of his or her employment
(2) Promptly disclose all inventive ideas
(3) Assist the employer in preparing all of the necessary paperwork for filing the patent application

(4) Maintain adequate records.

Assignment

Patent rights are assigned via an assignment document, which is a legal document that essentially sells the patent application, or patent, and transfers a party's entire ownership interest to another party. Frequently, companies will also "pay" their employees at least some nominal amount (frequently $1.00 or $10.00) when an assignment document is signed. Ownership is then permanently and irrevocably transferred to the named party. Assignments can result in transfer of ownership to a company or to a single individual.

IN CALIFORNIA, IF AN INVENTION WAS MADE USING EMPLOYER TIME OR RESOURCES, RELATES TO THE EMPLOYER'S BUSINESS OR ACTUAL/ DEMONSTRABLY ANTICIPATED RESEARCH AND DEVELOPMENT, OR RESULTED FROM WORK PERFORMED BY THE EMPLOYEE FOR THE EMPLOYER, THEN THE INVENTION IS LIKELY OWNED BY THE EMPLOYER.[8]

Even without executing an assignment document, ownership may still vest with the employer. Under the Federal law which governs U.S. patent assignments, when an employee expressly grants an employer all rights in future inventions, then no further act or document is required and the rights in that invention immediately vest in the employer at the time that the invention is conceived and comes into being. [7]

But the exact language in the employment agreement is critical. An employment agreement with the phrase "to assign" may not provide immediate company ownership while the phrase "hereby assigns" likely will.

There are other considerations that must also be examined before determining whether an employer or an employee has ownership of an invention based on an employment agreement and whether or not an assignment document is required.

For example, whether the employee was "hired to invent," whether the subject matter was related to the employee's job, where the invention was worked on, who owned the components or reagents used in developing the invention, etc.

In California, if an invention was made using employer time or resources, relates to the employer's business or actual/demonstrably anticipated research and development, or resulted from work performed by the employee for the employer, then the invention is likely owned by the employer.[8]

As an example, consider that person A is working at a university/company and being paid exclusively by a grant funded by the National Science Foundation. Person A's research relates to signal transduction via a cell-surface receptor and person A is identifying the genes/proteins involved in the signal transduction pathway. But person A is also a passionate video-gamer and has an incredible idea for a new game that is unlike anything on the market. Even better, it could work as an application on mobile platforms. Person A works at home on the weekends on a personal computer to develop the game and files a patent application. In this scenario, person A could well have ownership rights even if the employment contract requires disclosure and assignment of all inventions because no university/company resources (lab space, computer power, consumables, etc.) were used in developing the game app and the game app has no direct correlation with person A's research.

But what if person A conceives of some novel chemical compound that binds to an intermediate in the signal transduction pathway and interrupts signal transduction, and then tests this compound in the laboratory? Here, the university/company will likely succeed in obtaining ownership rights because the work was conducted on university/company premises with university/company reagents and resources and was a direct result of person A's research. Consequently, for entrepreneurs perfecting their invention while working for a company or university it is critical to consider where ownership of the new invention lies before beginning a new business.

While it seems apparent that an inventor would be the owner of an invention, scenarios like these demonstrate that the answer is not always clear. Understanding what to look for in an employment agreement to determine ownership can increase the potential for a new business' success, as well as reduce overall legal costs.

Part 3: How joint inventors, joint owners and business collaborations impact the bottom line

The law clearly provides owners of invention with full right, title, interest and control of the invention. But that clarity quickly blurs when multiple inventors and collaborators start working together to commercialize innovation. In such cases, inventors are well-advised to think early about their long-term objectives so they can protect their interests and maximize their ability to profit in an ongoing way.

As a rule, joint inventors <u>together</u> own the entire right, title and interest of the intellectual property. That means they share ownership equally regardless of who contributed what. In the absence of any agreement to the contrary, each joint owner has the right to practice the entire invention without the permission of the other inventors and has no duty to share with the other inventors any portion of the profits made by exploiting the invention.[9]

Consider a case in which Persons A, B, and C own a patent consisting of 10 claims involving a three-legged stool and a chair. Persons A and B both contributed to the concept of the stool set forth in claims 1-9, as well as the concept of the chair described in claim 10. Person C contributed only to the concept of the chair described in claim 10. Even though the contributions of the inventors are different, Person C owns just as much of claims 1-9 as do persons A and B.

Impact on Business Dealings

Absent any other agreement, if Persons A, B and C decide to form a company, "Acme," to sell chairs, they retain joint ownership. However, if one of the partners has a falling out and leaves to form her own company – let's call it "Novo" – there is little the other two partners can do to stop her.

Person C, the owner of "Novo" can compete directly with "Acme" without any obligation to inform, obtain permission from, or share profits with Persons A and B. And, unfortunately, there is nothing that persons A and B can do to prevent C from making and selling the invention because as a joint owner, C is entitled to practice and profit from the invention.

To avoid this type of problem, when joint owners are forming a new company, they can do one of two things to ensure that they will profit from the patent application or patent:

- Contract for rights
- Execute an assignment.

Contracting Rights

Contracts set forth exactly how the rights will be apportioned. For example, profit sharing among the owners regardless of who exploits the patent, allocating separate, exclusive rights to the patent in different geographical regions, or giving each owner exclusive rights to particular claims. Generally speaking and upon the agreement of all parties, the contract can be revised to alter apportionment of rights, unlike an assignment document.

Assigning Rights

Alternatively, each owner can execute an assignment document that irrevocably transfers all of his or her rights to the company, in which case the company becomes the patent owner. Here, each joint owner must execute the assignment or ownership will remain divided, now between the company and the non-signing inventors/owners.

Consequently, when joint inventors/owners form a company they are well advised to require that each assign his/her patent rights to the company at its creation to ensure the greatest potential for commercial success. Strong employment agreements are then put in place for the new company's employees in order to further protect the company's intellectual property.

Partnerships, Collaborations and Joint Ventures

But what happens when two companies or institutions have a joint collaboration agreement and employees of both companies are named as inventors on a resulting patent application?

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Assuming that those employees have employment agreements that require assignment of all inventions to the company/institution that they work for, joint ownership ensues where patent rights are shared by the collaborating companies/institutions.

Unless some agreement to the contrary has been reached, each owner has an undivided equal share and owes no obligation to the other owners when exploiting the invention. It is easy to see that if the employees of two companies are named as joint inventors, joint ownership may not meet the business needs of each of the companies, or worse, can actually be adverse to each of the company's business objectives. Consequently, it is critical to have appropriate collaboration agreements in place.

This is especially true when the joint collaboration uses very different resources from each of the participating companies/institutions. To illustrate, consider the following example: Company A is research oriented and has developed a proprietary drug compound that is useful for treatment of gastrointestinal inflammation. Company A would like to develop and market a tablet form that uses an FDA approved coating which protects the drug from breakdown in the stomach and then allows timed release in the intestine. While Company A does not have in-house expertise in optimizing the formulation of timed-release coatings, Company B, which is focused on manufacturing, does.

Companies A and B are in the process of negotiating a collaboration agreement that specifies that Company B will optimize formulation and then manufacture the drug, sharing in the profit from its sale. However the scientists at both companies are anxious to get started and begin collaborating on the optimization experiments before the agreement is finalized.

Unfortunately, negotiations break down. Company A completes the few remaining experiments by itself and files a patent application with claims properly naming only Company A inventors. The drug is sold with the time-released coating and is a blockbuster because of its time-release profile. Despite the fact that Company A relied on Company B's expertise and investment in formulation optimization, because the patent names only Company A's employees as inventors and because no joint collaboration agreement was finalized, US law recognizes only Company A's claim to ownership of the patent. This means that Company A can license or sell their IP rights to anyone they wish, including Company B's significant competitor.

While U.S. law defines ownership in terms of inventorship when no other contractual agreement is in place, U.S. law also recognizes that parties can contract for joint ownership based on many other considerations. It is perfectly acceptable to allocate patent ownership and/or patent rights based on criteria other than inventorship, but it is important to realize that in the absence of such contracts or agreements, ownership will be attributed based on inventorship.

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Protecting Innovation

Intellectual property is the single most valuable asset of any business. It is a source of revenue, a key to accessing new markets, and a way to improve upon existing product lines. To protect the innovation at the core of your business, make sure you conduct a comprehensive assessment of all your intellectual property early and often. By analyzing your IP from both a legal and business perspective, companies can transform their existing intellectual property into a powerful competitive tool and better position themselves to take advantage of ongoing innovation.

Dr. Susan Gorman, Ph.D., Esq., is principal of Gorman IP Law, a law firm focused on helping companies leverage intellectual property assets to maintain a competitive advantage, enhance market share, plan for growth and better manage resources and expenses. Through a proprietary process, Gorman IP Law helps businesses build a formal IP strategic plan that defines your business goals, establishes benchmarks and allows you to better project costs. Dr. Gorman can be reached at susan.gorman@gormaniplaw.com.

[1] *In re Hardee*, 223 USPQ 1122, 1123 (Comm'r Pat. 1984).
[2] *Hybritech Inc. v. Monoclonal Antibodies Inc.*, 802 F. 2d 1367, 1376, 231 USPQ 81, 87 (Fed. Cir. 1986)
[3] *Morse v.Porter*, 155 USPQ 280, 283 (Bd. Pat. Inter. 1965).
[4] *In re DeBaun*, 687 F.2d 459, 463, 214 USPQ 933, 936 (CCPA 1982)
[5] *Amgen v. ChugaiPharmaceutical Co.,* 927 F.2d 1200, 1206, 18 USPQ2d 1016, 1021 (Fed. Cir. 1991)
[6] *Oka v. Youssefyeh*, 849 F.2d 581, 7 USPQ2d 1169 (Fed. Cir. 1988)
[7] *DDB Technologies, L.L.C. v. MLB Advanced Media, L.P.*, 517 F.3d 1284, 1290 (Fed. Cir. 2008).
[8] *Cadence Design Sys., Inc. v. Bhandari*, No. 07-00823, 2007 WL 3343085, at *5 n.4 (N.D. Cal. Nov. 8, 2007)
[9] 35 U.S.C § 262