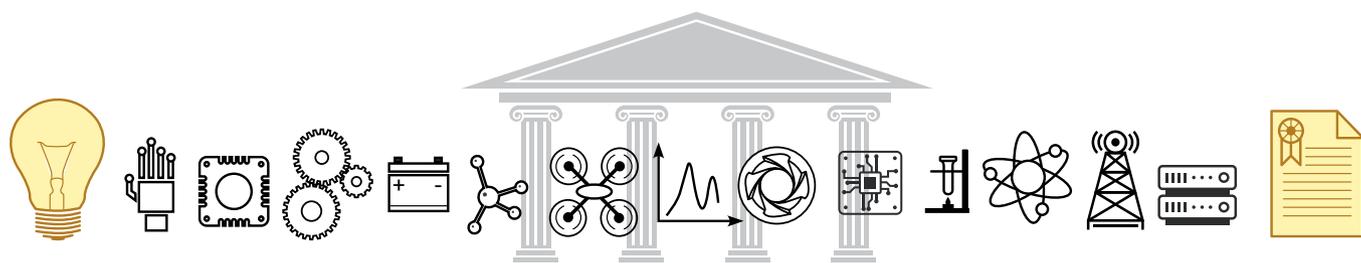


Looking at Patent Law: Why Is the Word “Right” Mentioned Only Once in the Constitution of the United States?

by E. Jennings Taylor and Maria Inman



The subject of this column is the relationship between patents, inventions, and inventors. We begin the discussion by noting that the “right” of an inventor to protect their invention via a patent was enshrined in the U.S. Constitution. In fact, the word “right” is mentioned only one time in the U.S. Constitution, in the context of granting intellectual property rights. In contrast, the Founders did not include other natural or human rights in the Constitution (although these were ultimately dealt with by the first ten amendments to the Constitution, i.e., the Bill of Rights, and subsequent amendments). In Article I, Section 8, Clause 8,¹ the Constitution states that “The Congress shall have Power ...”

“To promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”

At the time of the drafting of the Constitution, the terms “science” and “useful arts” referred to literature and inventions, respectively. Consequently, this clause is the basis for the U.S. copyright and patent system and laws.

Patent systems were established at least as early as the 15th century, with The Venetian Patent Statute of 1474.² The Venetian Patent Statute and subsequent patent systems, most notably across the European continent, were generally characterized by two main attributes. Patents (also known as “letters patent”) were:

1. Granted to promote and encourage local artisans and protect them from foreign competition,
2. Bestowed by the sovereign or monarch.

While the original purpose of the U.S. patent system is similar to those of other countries that preceded it, i.e., the protection of inventor rights, the United States took a different approach in how a patent was granted to an inventor. A committee of the Continental Congress was formed to provide advice regarding the rationale for including incentives and protection for authors and inventors in the Constitution. On April 28, 1783, this committee reported that:³

“[N]othing is more properly a man’s own, than the fruit of his study, and that the protection and security of literary property would greatly tend to encourage genius, to promote useful discoveries and to the general extension of arts and commerce.”

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The law-related article in this issue by E. Jennings Taylor and Maria Inman, “Looking at Patent Law: Why Is the Word ‘Right’ Mentioned Only Once in the Constitution of the United States?” is the second in a series (perhaps irregular) of articles on patent law. The first article appeared in the spring 2017 *Interface* issue, p. 41. We are fortunate to have among our mostly technically minded members a few with the right background to give an insight in a nonmainstream *Interface* topic of law. With readership feedback the authors may try to entertain groups of questions in the next articles.

Since law is serious business with serious implications, sometimes hinging on a few precise words, the readers should for their legal needs always consult their legal counsel.

—Petr Vanýsek, *Interface* Co-editor

Analogous to John Locke's view of life, liberty and property as a "natural right,"⁴ people also have a "natural right" to their own creativity or intellectual "property." In other words, this right does not need to be "bestowed upon them by a sovereign or monarch." This sentiment found its way into the Constitution that was ratified on May 29, 1790. In 1831, Supreme Court Justice Henry Baldwin succinctly contrasted the U.S. and British patent systems:⁵

"In England a patent is granted as a favor, on such terms as the King thinks proper to impose; ... here (America) a patent is a matter of right, on complying with the conditions prescribed by law."

Interestingly, while the Founders did not grant "natural rights" for slaves and women, the U.S. patent system was free and democratic.⁶ There were numerous examples of slaves being granted patents, even though their slave-owners attempted to claim inventorship on the patents for themselves. Similarly, there were numerous examples of women being granted patents, even though their fathers or husbands attempted to claim inventorship on the patents for themselves. As noted in current patent law:⁷

"An application for patent shall be made, or authorized to be made, by the inventor."

This focus on individual rights of inventors is unique to the U.S. patent system and has important implications on inventors and inventions.

An invention is a two-step process, specifically involving "conception"⁸ and "reduction to practice."⁹ In addition, reduction to practice is one of two types, "actual reduction to practice" or "constructive reduction to practice." *Actual* reduction to practice involves building or testing the invention and demonstrating the workability of the invention. Patent case law generally indicates that the amount of testing or demonstrating required is specific to the nature of the invention. *Constructive* reduction to practice is fulfilled simply by filing a patent application at the U.S. Patent & Trademark Office. In this latter case, experimental work is not required.

The determination of inventorship on a patent application is a matter of law. The inventor or inventors of an invention are the individual or individuals involved in the *conception* of the invention. An individual solely involved in the *actual* reduction to practice of the invention, no matter how skilled, is not an inventor. This is in contrast to the authorship of technical publications. Professional protocol generally includes individuals who made significant contributions to the experimental aspects of a research activity as co-authors. However, being a co-author on a technical publication does not necessarily mean an individual is a co-inventor on a patented invention. In addition, whereas many technical publications include only significant co-author contributions, being a co-inventor does not necessarily correlate with the quantity or importance of the co-inventor's contribution.

Appropriate determination of inventors is critical for the validity of U.S. patent applications. Inclusion of a co-inventor who did not participate in the conception of the invention is known as a *misjoinder* and invalidates an otherwise valid patent. Similarly, exclusion of a co-inventor who participated in the conception is known as a *nonjoinder* and invalidates an otherwise valid patent. If a *misjoinder* or *nonjoinder* occurred without "deceptive intent," inventorship can be corrected during the patent application stage¹⁰ and after the issuance of the patent.¹¹

Conception and consequently inventorship is defined via case law. A summary of these findings regarding the definition of conception includes:⁸

"[C]omplete performance of the mental part of the inventive act."

"[F]ormation in the mind of the inventor of a definite and permanent idea of the complete and operative invention."

"[I]nvention is made sufficiently clear to enable one skilled in the art to reduce it to practice without the exercise of extensive experimentation or the exercise of inventive skill."

This last point is particularly important in that participation in the actual reduction to practice activity does not necessarily *exclude* an individual as a co-inventor. Specifically, during actual reduction to practice the individual may encounter challenges which require *inventive skill* leading to refinement of the initial conceived invention. In this case, that individual would be a co-inventor.

Additionally, case law has established factors that point away from inventorship, including:

1. Following instructions or direction of inventors or simply providing analysis or testing as discussed above.
2. Explaining how the invention works.¹²
3. Contribution of general knowledge.¹³
4. Suggesting a desired result without explaining how to accomplish said result.¹⁴
5. Supplying a generally known component or starting material.¹⁵

Furthermore, in order for an invention to contain more than one inventor, there must be a "collaborative" connection. However, the collaboration may be direct or indirect. Joint inventorship¹⁶ does not require that the collaborators: 1) work together at the same location or during the same time; 2) make the same type or amount of contribution; or 3) contribute to every claim of the patent application.

Recall from a previous article that inventions are defined by the claims in an analogous manner as the boundaries of real property are defined by the deed.¹⁷ Furthermore, during the examination of a patent application, claims are often cancelled due to prior art rejections based on either novelty and/or obviousness. Consequently, since inventorship is linked to the one or more claims, if the claims linked to a specific inventor are cancelled during prosecution of the patent application then that inventor must be removed in order to avoid a misjoinder.

Inventions of scientists, engineers and researchers are generally assigned to their employers via an "Intellectual Property Rights Assignment Agreement." Many employers (companies, universities and federal laboratories) have policies that include providing for sharing of the revenues generated from the issued patents, if any. In the case of joint inventors employed by the same entity, the assignment is provided to the same employer. In the case of inventors employed by different employers, then those two employers both jointly and equally own the invention even if one inventor contributed to one claim and the other inventor contributed to multiple claims. In other words, the ownership is not prorated on the basis of invented claims. In addition, ownership is not based on which entity paid for the prosecution costs and maintenance fees for the patent application and issued patent, respectively. This same scenario holds for "independent" joint inventors who individually own their patent applications.

Finally, as noted in the preamble to Clause 8, "To promote the progress ... of the useful arts [inventions]," the U.S. patent system clearly recognized the economic development aspects of encouraging inventions by providing a "limited" monopoly for the invention, currently twenty years from the filing date of utility patent applications. For this limited monopoly, the inventor is required to

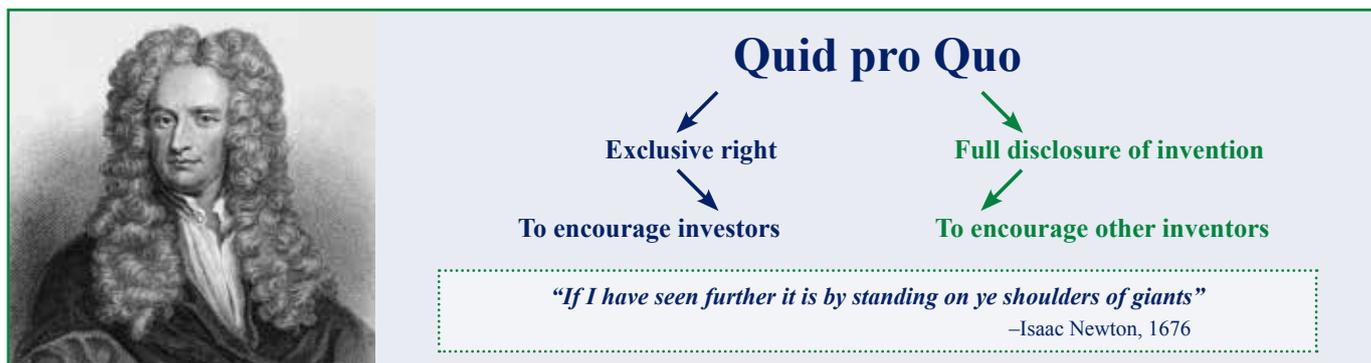


FIG. 1. Progress is not an isolated event.

fully disclose the invention in the patent application. As shown in Fig. 1, the *quid pro quo* requirement of the patent system provided incentive for inventors in the form of an exclusive right for a limited period of time for full disclosure of the invention, which allowed the public to read the patent and create new inventions or devise improvements to the original patented invention. This “progress” metaphor while generally attributed to Sir Isaac Newton was likely adapted from Bernard of Chartres:¹⁸

“[We are] dwarfs perched on the shoulders of giants ... we see more and further than our predecessors, not because we have keener vision or greater height, but because we are lifted up and borne aloft on their gigantic stature.”

Today we would similarly say the purpose of the patent clause of the U.S. Constitution is to promote “economic development” through “technological innovation.”¹⁹

In summary, the determination of inventorship on patent applications is a matter of law and is distinct from co-authors on a technical publication. The importance of inventorship for patents is traced to the U.S. Constitution and seems to be motivated as an “economic incentive” well as a “natural right.” The determination of joint inventorship in particular has been described as:²⁰

“[O]ne of the murkiest concepts in the muddy metaphysics of patent law.”

Due to the importance of correctly determining inventorship and joint inventors, we suggest that an open and frank discussion with all potential inventors be carried out in a single meeting in the presence of patent counsel. ■

© The Electrochemical Society. DOI: 10.1149/2.F01172if.

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