Chapter 1
INTRODUCTION TO THE PATENT SYSTEM

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§ 1.01 THE PATENT RIGHT

A patent is a right granted by the government that allows the patent owner to exclude others from practicing the invention during its term. This right is grounded in the U.S. Constitution, which has authorized Congress to create protection for inventive works. Acting pursuant to this power, Congress has enacted legislation, set forth at Title 35 of the U.S. Code, which provides the foundation for an inventor’s ability to obtain patent protection for new and useful ideas.

To obtain a patent, one must submit an application to the U.S. Patent & Trademark Office\(^1\) (the “U.S. PTO”), the federal agency responsible for patent examination. The U.S. PTO’s review considers whether the application includes all information required by the Patent Act. Such information includes a detailed disclosure of the invention including how the invention can be made and used by others in the field.\(^2\) This disclosure must demonstrate the invention’s utility.\(^3\) In addition, the applicant must include at least one claim that provides notice of the

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\(^{1}\) The U.S. Patent & Trademark Offices issues three types of patents: 1) utility patents; 2) plant patents; and 3) design patents. Of these, utility patents are by far the most prevalent and are the primary focus of patent law courses and this book. See generally Chapter 5 (describing the different types of patents).


\(^{3}\) 35 U.S.C. § 101; see infra Chapter 22.
elements of the asserted invention. The claimed invention must be novel and fall within the purview of the Patent Act's statutory subject matter — that is, the invention must be among the types of advances that are authorized for protection under the patent system. Further, the claimed invention must meet the nonobviousness requirement, such that the application does not claim what would be merely obvious to one of ordinary skill in the art.

If the requirements of patent law are met and the U.S. PTO issues a patent based on the application, the right becomes enforceable against infringers. A patentee may then choose to assert the right, for example by filing an infringement action in a U.S. District Court. If successful, the owner may obtain monetary relief and, under certain conditions, an injunction against further infringement. Subject to certain exceptions, under current law a patent has an effective life of twenty (20) years from the application’s filing date.

§ 1.02 HISTORY AND ORIGINS OF THE PATENT RIGHT

[A] Early European Patent Systems

Some early patent systems existed long ago, well before U.S. patent law was enacted. The earliest patent statute was passed in 1474 in the City of Venice. This statute provided a right to “every person who shall build any new and ingenious device in this City, not previously made in our Commonwealth,” upon notice that the invention “has been reduced to perfection so that it can be used and operated.” Such inventions appeared to have been subject to an examination procedure to determine compliance with statutory requirements. If the right was infringed, the inventor was entitled to a penalty of one hundred ducats and an order that the infringing device be destroyed.

During the late fifteenth and sixteenth centuries, a number of other European countries developed the practice of issuing patents. For example, an early French patent system provided the rights holder a “privilege to operate according to his invention,” and an additional right that prohibited others from copying. Also, the French instituted an examination procedure that called for scientific evaluation of a proposed invention, although in practice it appeared that a number of patents were granted without taking advantage of this resource. As another example, during the sixteenth and seventeenth centuries, the Netherlands

5 35 U.S.C. § 102; see infra Chapter 12.
6 35 U.S.C. § 101; see infra Chapter 23.
7 35 U.S.C. § 103; see infra Chapter 21.
11 Walterscheid, supra note 9, at 709.
12 Id. at 711.
13 Prager, supra note 10, at 724.
14 Id. at 725.
instituted a patent custom that, at certain times in its history, required a written specification or model as proof of the invention’s existence.\textsuperscript{15} These European systems were not universally adopted and “at no time before the twentieth century did all major European nations even have patent laws.”\textsuperscript{16} Nonetheless, each of these systems include elements that have been incorporated into current U.S. law and thus provide some insight into the origins of these procedures. For example, France’s examination procedure, the Netherlands’ requirement for a written specification and the City of Venice’s authorization for the recovery of monetary and injunctive relief have all become features of U.S. law.


Great Britain’s experience sheds critical understanding on considerations that later surfaced during the inception of the U.S. patent system. As background, the term “patent” has historically encompassed more than the rights granted to inventors as we use that term today. As to its derivation, “[p]atent, the adjective, means ‘open,’ and patent, the noun, is the customary abbreviation of ‘open letter.’”\textsuperscript{17} In Elizabethan England, “letters patent” — a translation of the Latin term \textit{litterae patentes} — referred to all types of directives that were openly and publicly made, in contrast to “letters close” which were kept private.\textsuperscript{18} Letters patent included a variety of rights and privileges issued as a matter of royal prerogative,\textsuperscript{19} such as grants of office, pardons, rights, titles or monopolies.\textsuperscript{20}

Between 1561 and 1600, Elizabeth I granted at least 51 patents of monopoly.\textsuperscript{21} Although some appeared to have been granted to protect novel inventions, a number were granted to bring knowledge and skills developed elsewhere to England.\textsuperscript{22} The crown granted the latter type to foster the importation of industries existent outside England with the goal of encouraging new industries and manufacturing within the realm. In return for these monopoly grants, the recipient was expected “not only to introduce the new art, trade or industry within

\textsuperscript{15} Walterscheid, supra note 9, at 714. Although in 1869 the Netherlands repealed this practice under the view that “a good law of patents is an impossibility,” the country reinstated a patent system some years later in 1910. \textit{Staff of S. Subcomm. on Patents, Trademarks, and Copyrights, 85th Cong., An Economic Review of the Patent System 4–5} (Comm. Print 1958) [hereinafter “Economic Review”] (prepared by Fritz Machlup).


\textsuperscript{17} Economic Review, supra note 15, at 1.

\textsuperscript{18} Walterscheid, supra note 9, at 700–01 (“letters patent, that is, open letters, \textit{litterae patentes}; so called, because they are not sealed up, but exposed to open view, with the great seal pendant at the bottom; and are usually directed or addressed by the king to all his subjects at large”, quoting \textit{William Blackstone, 2 Commentaries on the Laws of England} 316–317 (1768)).

\textsuperscript{19} The royal prerogative in this context refers to the crown’s practice of exercising broad discretion in the grant and modification of rights with respect to commerce. \textit{See generally Theodore F.T. Plucknett, Tanwell-Langmead’s English Constitutional History,} 318 (11th ed. 1960).

\textsuperscript{20} Walterscheid, supra note 9, at 700–01; \textit{see also Kaufner, supra note 16, at 1}.


England but also to practice or ‘work’ it within the country." In addition, monopoly patents were granted for industries that had already been undertaken within the country but not been practiced for some time.

In addition, Elizabeth I granted a number of monopoly patents to her courtiers for trades and industries that were already practiced domestically. These patents, which became known as odious monopolies, included such well-established businesses as white soap, ovens and furnaces, salt, mining certain metals and ores, playing cards, and ale. As a consequence, rights holders were able to charge “ruinous” prices for these commodities. Because of the effect of odious monopolies on the nation’s citizens, Elizabeth I’s practices led to considerable friction with Parliament.

In 1601, Parliament raised its strongest challenge to Elizabeth I’s odious monopolies, by introducing legislation which had the potential to curtail the Queen’s power of the royal prerogative. In response, Elizabeth I asked that the legislation be withdrawn in exchange for her concession that her patents could be submitted to a Tryal according to law for the good of the People. Parliament accepted this compromise, thereby subjecting the Queen’s patents to scrutiny by the common law courts.

One of the most famous court challenges was the Case of Monopolies (Darcy v. Allen), which examined a challenge to a patent for playing cards. In result, the court found in favor of the accused infringer. According to one report of the case, the patent was found to violate Parliament’s laws enacted “for the advancement of the freedom of trade and traffic.” This description appeared to have been an effort to limit the royal prerogative against the grant of odious monopolies in favor of control by Parliament. Nonetheless, as one scholar observes, the court did not issue a written opinion and, lacking a definitive basis for the ruling, the Case of Monopolies “did not end the controversy over royal monopolies.”

Indeed, after the death of Elizabeth I, her successor James I continued to issue odious monopolies to members of his court. In 1623, Parliament stepped in to stop the practice by enacting the Statute of Monopolies, which declared “all monopolies and . . . letters patent heretofore made or granted . . . contrary to the laws of this realm, and so are and shall be utterly void and of none effect.” Significantly, the Statute specifically allowed a grant of a patent “to the true and first inventor” for “the sole working or making of any manner of new manufactures.

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23 Walterscheid, supra note 21, at 857.
24 Id. at 858.
25 Id. at 854 n.14.
26 PLUCKNETT, supra note 19, at 318.
27 Walterscheid, supra note 21, at 866.
29 Id. at 1263.
32 Walterscheid, supra note 21, 76 J. Pat. & Trademark Off. Soc’y at 871.
33 Statute of Monopolies, 1623, 21 Jac. 1, c. 3, sec. 1, (Eng.).
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within this realm” for a maximum term of fourteen years."
Additionally, the Statute required that such patents “be not contrary to the law nor mischievous to
the state by raising prices of commodities at home, or hurt of trade, or generally
inconvenient.” In this manner, the Statute of Monopolies drew a distinction
between prohibited odious monopolies and those that provided public benefit of
encouraging invention and new industries within England.

§ 1.03 U.S. CONSTITUTIONAL BASIS: ADOPTION OF THE
COPYRIGHT AND PATENT CLAUSE


Between 1776 and 1789, when the U.S. Constitution was adopted, a number of
the U.S. states issued patents that were enforceable within their borders. One
historian estimates that likely no more than forty (40) such patents were issued
throughout this time. This practice soon ceased as the system for federal patent
protection emerged. Specifically, the Patent and Copyright Clause, which was
unanimously adopted at the Constitutional Convention of 1787, authorized
Congress to create of a copyright and patent system as part of the legislative grant
of powers, with the express purpose:

. . . [t]o promote the Progress of Science and useful Arts, by securing
for limited Times to Authors and Inventors the exclusive Right to their
respective Writings and Discoveries.

James Madison, writing in support of the clause in The Federalist Papers, noted
that “the right to useful inventions seems . . . to belong to the inventors,” and that
the “States cannot separately make effectual provision” for such a right.

While the Constitution was under consideration for ratification by the states
Thomas Jefferson detailed his thoughts about patent protection for this country in
a number of writings. Although not a Framer of the Constitution, Jefferson’s views
have become influential to some degree in shaping patent jurisprudence. The U.S.
Supreme Court has summarized his opinions as follows:

Jefferson, like other Americans, had an instinctive aversion to monopolies. It was a monopoly on tea that sparked the Revolution and Jefferson
certainly did not favor an equivalent form of monopoly under the new
government. His abhorrence of monopoly extended initially to patents as
well. From France, he wrote to Madison (July 1788) urging a Bill of Rights
provision restricting monopoly, and as against the argument that limited
monopoly might serve to incite “ingenuity,” he argued forcefully that the

34 Id. at sec. 6.
35 Id.
78 J. PAT. & TRADEMARK OFF. SOC’Y 665, 668 (1996) (noting that “it is difficult to know precisely how many
state patents were actually granted, but it is unlikely that the total exceeded forty”).
Clause, 84 J. PAT. & TRADEMARK OFF. SOC’Y 909, 922 (2002).
38 U.S. CONST. art I, § 8.
39 THE FEDERALIST NO. 43 (James Madison).
“benefit even of limited monopolies is too doubtful to be opposed to that of their general suppression.”

Despite these statements, by 1807, Jefferson expressed his support for a U.S. patent system in a letter to Oliver Evans, stating “Certainly an inventor ought to be allowed a right to the benefit of his invention for some certain time. . . . Nobody wishes more than I do that ingenuity should receive a liberal encouragement.” In all, Jefferson’s writings have been seen as framing an issue which is the subject of ongoing concern up through to the present day — that is, the extent to which “the underlying policy of the patent system that ‘the things which are worth to the public the embarrassment of an exclusive patent,’ as Jefferson put it, must outweigh the restrictive effect of the limited patent monopoly.”

In 1792, Alexander Hamilton issued a report to Congress that included a suggestion that patents issue for inventions that were imported into the U.S., as formerly permitted under British law. Under this suggestion, patent rights could be granted to “the introducer as well as to the inventor.” Hamilton’s suggestion was not adopted. Rather, the minimum standard for patentability that has been developed over the history of U.S. patent law requires that an invention be novel and “evidence more ingenuity and skill than that possessed by an ordinary mechanic acquainted with the business.” Mere importation of a technology that is already existent outside the U.S. is insufficient.

[B] Congressional Adoption of the Patent System

The U.S. Constitution’s Copyright and Patent Clause did not expressly create the U.S. patent system, but rather empowered the legislature to do so. Acting under this grant, Congress enacted the first Patent Act in 1790, soon after U.S. government operations began. Since that time, patent law has been exclusively federal in origin.

The system established under the 1790 Patent Act was quite rudimentary. To obtain a patent under the first Act, an inventor was required to petition a three-person panel that consisted of the Secretary of State, the Secretary for the Department of War, and the Attorney General of the United States. The Act contained explicit disclosure requirements, including that the petition must


42 Graham, 383 U.S. at 10-11.

43 See P.J. Federico, The Patent Act of 1793, 18 J. Pat. Off. Soc’y (SPECIAL ISSUE) 77, 79 (1936) (“The encouragement of new inventions and discoveries at home is among the most useful and exception act which could govern the country. This privilege should be extended to the introducer as well as to the inventor”) (quoting Hamilton’s report).

44 Id.


47 Patent Act of 1790, ch. 7, § 1, 1 Stat. 109–112 (April 10, 1790). The three-person panel was named as the “Commissioners for the Promotion of Useful Arts.” Graham, 383 U.S. at 7. As the then-Secretary of State, Thomas Jefferson was a member of this group.
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"describe the said invention or discovery, clearly, truly and fully."\(^{48}\) The applicant was required to file a written specification and submit models to both "distinguish the invention or discovery from other things before known and used," and describe the invention sufficiently to enable others skilled in the art "to make, construct, or use the same."\(^{49}\) Any two members of the panel could grant the petition if the invention was deemed "sufficiently useful and important."\(^{50}\) Where these conditions were met, the President would "cause the seal of the United States to be thereto affixed."\(^{51}\)

In 1793, the Patent Act was amended again, eliminating the requirement that a patent be assessed to determine whether it was "sufficiently useful and important."\(^{52}\) According to one historian, those charged with examining patents had found the examination process under the 1790 Act quite burdensome and the 1793 amendment "eliminated the examination of the application and made the grant of a patent purely a clerical matter."\(^{53}\) Although the Secretary of State created a Patent Office in 1802, the agency lacked statutory authority to examine applications on their merits.\(^{54}\) Within a few decades, Congress became concerned about the quality and volume of patents granted and the resulting patent litigation that had been filed. Because patents were issued without any meaningful assessment of validity, the courts bore the entire burden of determining patentability.\(^{55}\)

In 1836, a report to the Senate observed that forty years without any examination process had resulted in “[a] considerable portion of some of the patents granted are worthless and void,” and that “a great number of law suits arise, which are daily increasing in an alarming degree, onerous to the courts, ruinous to the parties, and injurious to society.”\(^{56}\)

That same year, Congress amended the Patent Act to authorize the creation of the Patent Office as the agency expressly authorized to examine applications for compliance with specified criteria such as adequate disclosure, novelty and utility.\(^{57}\) The 1836 Act authorized the Patent Office to reject an application if the subject matter had been previously invented in this country, had been previously patented or described in a patent publication in this or any other country, or had been previously in public use or on sale with the applicant’s consent. Additionally, the revised Patent Act authorized the creation of a board to hear administrative appeals of Patent Office rejections. Further, the Patent Office was authorized to


\(^{49}\) Id., § 2.

\(^{50}\) Id., § 1.

\(^{51}\) Id.

\(^{52}\) Patent Act of 1793, ch. 11, § 1, 1 Stat. 318–323 (February 21, 1793).


\(^{54}\) See generally P.J. Frederico, Dr. William Thornton and the Patent Office to 1836, 18 J. PAT. Off. Soc’y 83 (1936) (SPECIAL ISSUE).

\(^{55}\) Oren Bracha, The Commodification Of Patents 1600–1836: How Patents Became Rights And Why We Should Care, 38 Loy. L.A. L. Rev. 177, 229 (2005) (“the 1793 system shifted the real gravity center to ex-post review in the courts. While the issuing authority was deprived of any meaningful role, all substantive decisions regarding patents were now to be made by the courts whenever a conflict was laid at their doors.”).

\(^{56}\) This report was authored by Senator Ruggles and quoted in P.J. Frederico, supra note 53.

decide interference actions to determine the rightful owner of a patent where more than one inventor claimed the same invention.\footnote{58}

The 1836 amendments had a lasting significance. By formalizing and supporting an administrative examination system, the 1836 Act laid the foundation for an application process based on specified statutory criteria. Certainly by 1836, the U.S. patent system bore little resemblance to the patent system established in Elizabethan times, when monopoly patents had been granted as a matter of royal favor. The Patent Office, which began with a half dozen patent examiners,\footnote{59} has grown to over 4,500 examiners employed by the U.S. PTO today.\footnote{60} Since 1836, Congress has continued to exercise its statutory authority over the Patent Act by amending provisions numerous times. Over the recent past, Congress has continued to consider additional proposals for legislative reform.

\section*{\textbf{§ 1.04 FOUNDATIONS OF MODERN U.S. PATENT LAW}}

What is the nature of a patent right under U.S. law? At its inception, the patent system was adopted by the Framers of the Constitution without resolution of its deeper theoretical underpinnings. Indeed, a number of these questions are still the subject of political and scholarly debate. A few of these issues are discussed below.

\begin{itemize}
  \item [A] The Statutory Nature of Patent Rights
  \end{itemize}

One early effort to define the nature of the patent right was considered by the U.S. Supreme Court in the 1834 decision \textit{Wheaton v. Peters}.\footnote{61} The issue presented in \textit{Wheaton} concerned whether an author possessed a perpetual common law copyright that was enforceable in equity. To determine the dispute, the Court considered whether such authors and inventors had rights that were pre-existent under the common law or instead had been created pursuant to federal statutory law as authorized by the Constitutional grant. Focusing on the term “securing”\footnote{62} in the Copyright and Patent Clause, \textit{Wheaton} found the rights purely statutory in creation, explaining:

\begin{quote}
. . . [n]o one can deny that when the legislature are about to vest an exclusive right in an author or an inventor, they have the power to prescribe the conditions on which such right shall be enjoyed; and that no one can avail himself of such right who does not substantially comply with the requisitions of the law.\footnote{63}
\end{quote}

Although \textit{Wheaton} considered the issue in deciding an issue of copyright law, the case has been read to firmly establish the federal statutory nature of the patent.

\footnote{58} Id. § 8.
\footnote{59} P.J. Frederico, \textit{Organization and Function of the Patent Office}, 18 J. PAT. Off. Soc’y 209 (1936) (noting that noting that the examination system started with “a half dozen or so” on July 4, 1836).
\footnote{61} See 33 U.S. 591 (1834).
\footnote{62} The Copyright and Patent Clause reads that Congress has the power “To promote the Progress of Science and useful Arts, by \textit{securing} for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” U.S. CONST. Art. I, Sec. 8 (emphasis added).
\footnote{63} \textit{Wheaton}, 33 U.S. at 663–64.
right. Under *Wheaton*, both state and common law are foreclosed as sources of law in favor of Congressional authority to determining the conditions and consequences of obtaining a patent.

## [B] Utilitarian Underpinnings of the Patent System

During the 19th century, some European scholars had discussed patent rights as grounded on the theory of *natural rights* for the protection of inventions. For example, in 1791 the French Constitutional assembly adopted a patent statute that adopted a natural rights theory as its theoretical foundation, stating that “it would be a violation of the rights of man in their very essence if an industrial invention were not regarded as the property of its creator."

Some early references to a natural law justification for U.S. patent law also exist. Taking a contrary position, in 1813, Thomas Jefferson wrote:

> Stable ownership is the gift of social law, and is given late in the progress of society. It would be curious then, if an idea, the fugitive fermentation of an individual brain, could, of natural right, be claimed in exclusive and stable property.

Jefferson’s statement was relied upon by the U.S. Supreme Court’s 1966 decision *Graham v. John Deere Co.*, which defined patent rights in utilitarian terms, as law intended as “a reward, an inducement, to bring forth new knowledge.”

The *Graham* Court underscored that Jefferson had rejected a natural rights basis for the patent system in favor of the “social and economic rationale of the patent
Thus, regardless of the amount labor invested in an invention, according to the Court “[o]nly inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly.”

[C] Patent Rights as an Appropriation Mechanism

Why is legal protection needed to “secure[e] for limited Times to. . . Inventors the exclusive Right to their respective . . . Discoveries”? To some degree, the answer lies in the problem raised by the intangible nature of inventions. As a practical matter, rights to tangible goods, such as real or personal property, have attributes that permit disposition of ownership and exclusion based on principles that are well-established in the law. Such law seems less suited to regulating ideas and information in the absence of the creation of a intellectual property right that is designed to do so.

Generally, tangible goods are rivalrous — that is, where possession of a good by one prevents possession by another. For example, under established legal rules, one with the right to possess real property can fence out trespassers or otherwise obtain a court order of exclusion. Similarly, disputes about possession of an item of tangible personal property — such as a valuable painting — can be resolved by a court decision that orders transfer of the painting to the rightful possessor.

Intangibles do not easily fit within this construct because they are non-rivalrous — that is, one person’s possession of the idea does not diminish another’s ability to share and possess that same idea. Simply stated, one cannot “fence out” another from using an idea after the information has been disclosed. Jefferson eloquently recognized this in a letter dated 1807:

. . . the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of every one, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me.

Information can easily be given away at low or no cost. For example, one who develops and discloses a substance that can prevent the common cold can expect that others who learn of the formula will wish to make and profit from making a competing copy. In the absence of patent protection, disclosing the formula, even

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71 Id. at 8–9.
72 Id. at 9.
73 U.S. CONST. art I, § 8.
74 Graham, 383 U.S. at 9 n.2, quoting Letter to Oliver Evans (May 1807), V WRITINGS OF THOMAS JEFFERSON, at 75–76 (Washington ed.).
once, might destroy the information’s value and deprive the inventor of the cost of its research and development absent some form of legal protection.\textsuperscript{76}

Another dimension to the nonrivalrous nature of information has been recognized in \textit{Arrow’s Information Paradox}.\textsuperscript{77} According to this theory, those interested in purchasing information cannot ascertain its value without full disclosure, but once full disclosure has been made the purchaser has learned the information without making any payment. For example, one who wishes to purchase a formula to a drug to prevent the common cold will want to examine the information to determine the appropriate price. However, once the interested purchaser learns the information, she no longer has an incentive to pay for what has already been freely revealed.

Patents are thought to solve some of these problems by acting as an \textit{appropriation mechanism}. In operation, the patent system creates a legally enforceable right to protect ideas similarly to the manner in which a fence surrounds real property.\textsuperscript{78} The patent right allows inventors and inventing firms to exclude others from practicing the invention disclosed in the patent by providing the patent owner with the ability to assert the right against infringers.\textsuperscript{79} The right to enforce preserves the value of the information, because although one learns the information from reading the patent, one cannot practice the patent without infringing the right. This appropriability also assists in resolving Arrow’s Information Paradox to some degree. Specifically, the patent right permits owners to share a fully disclosed invention with a potential purchaser, such that both parties can attempt to fully assess the value of the right while mitigating the concern that disclosure will lead to the devaluation of the idea.

In addition, some patents claim inventions for which there are few or no economic substitutes. For the owners of such patents, the patent right translates into the ability to charge more for products that incorporate these inventions. As one court has explained, “[p]atentees value the right to exclude in part because the ability to foreclose competitors from making, using, and selling the invention may allow them an opportunity to obtain above-market profits during the patent’s term.”\textsuperscript{80} Thus, part of the patent law’s incentive includes the financial return anticipated if a patented product is successful. An underlying assumption of the patent system is that “[t]he patent owner expends resources in expectation of receiving this reward.”\textsuperscript{81}

[D] Incentives and Patent Law

What are the specific incentives contemplated by the patent system? One critical purpose of patent law is to provide an \textit{incentive to invent}. As the U.S. Supreme Court has observed, “[p]atents are not given as favors,” but granted only if the applicant’s compliance with statutory requirements demonstrates that the inventor

\textsuperscript{76} Id.
\textsuperscript{77} This theory was explained in \textit{Arrow}, supra note 75, at 615.
\textsuperscript{78} See \textit{Kaufe}, supra note 16, at 19.
\textsuperscript{79} See \textit{generally} Kenneth W. Dam, \textit{The Economic Underpinnings of Patent Law}, 23 J. LEGAL STUD. 247 (1994) (recognizing that “if a firm could not recover the costs of invention because the resulting information were available to all, then we could expect a much lower and indeed suboptimal level of innovation.”).
\textsuperscript{80} Biotechnology Indus. Org. v. District of Columbia, 496 F.3d 1362, 1372 (D.C. Cir. 2007).
\textsuperscript{81} King Instruments Corp. v. Perego, 65 F.3d 941, 950 (Fed.Cir.1995).
has developed “a genuine invention” that amounts to an advance in a technological art. The U.S. patent right is intended to provide an incentive to inventors and to those who support invention, with the ultimate goal of providing a public benefit. As explained by the Supreme Court, “The patent laws promote this progress by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development.” In turn, patent law anticipates that the resulting inventions “will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens.”

A further purpose of the patent system is to provide an incentive to disclose inventions to those who might otherwise maintain the information as trade secret. The patentee’s disclosure is the quid pro quo for the government grant of exclusivity. The purpose of the disclosure is to enrich the art by adding to the total available information in the field, and also to provide a roadmap for others to practice the invention once the patent term expires and the invention becomes part of the public domain. Consequently, no patent will issue if the invention disclosed in the application is already known to the public or obvious to those of skill in the art, as there is an absence of the quid pro quo for the patent right.

Another purpose to the patent system is to provide an incentive to design around to others in the same field. Generally, “designing around” refers to efforts to create an implementation that falls outside the scope of a claim to avoid infringing another’s patent. For example, one attempting to avoid infringing a patent claim for a table requiring “at least four support members” may create a table supported by only one support post. This result is favorably viewed because the total amount of new inventions has increased — now, two table implementations exist rather than only the four-legged version. Designing around is said to bring “a steady flow of innovations to the marketplace” and therefore benefits the public.

One further purpose served by the patent system is the incentive to commercialize the invention. The right can be used to “stimulate the investment of risk capital in the commercialization of useful patentable inventions so that the public gets some benefit from them, which may not occur in the absence of some patent protection.” As the Supreme Court has stated, inventive activity fostered

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84 Id.
85 See Brenner v. Manson, 383 U.S. 519, 534 n. 21 (1966) (“As a reward for inventions and to encourage their disclosure, the United States offers a seventeen-year monopoly to an inventor who refrains from keeping his invention a trade secret.”) (quotation and citation omitted).
86 Kewanee Oil Co., 416 U.S. at 481. (“When a patent is granted and the information contained in it is circulated to the general public and those especially skilled in the trade, such additions to the general store of knowledge are of such importance to the public wealth that the Federal Government is willing to pay the high price of 17 years of exclusive use for its disclosure, which disclosure, it is assumed, will stimulate ideas and the eventual development of further significant advances in the art.”).
87 See generally Eldred v. Ashcroft, 537 U.S. 186, 216 (2003); 35 U.S.C. §§ 102–03 (providing the statutory basis for application rejections based on a failure to meet the novelty and nonobviousness requirements).
88 State Indus., Inc. v. A.O. Smith Corp., 751 F.2d 1226, 1236 (Fed. Cir. 1985).
§ 1.05  **HOW DOES THE PATENT “RIGHT TO EXCLUDE” OPERATE?**

A patentee’s violation of the right to exclude is called *infringement*. One infringes an issued patent when one engages in the unauthorized making, using, offering to sell, selling, or importing into the United States any patented invention within the patent’s term. Thus, in addition to its disclosure, a patent includes one or more **claims** which define the patented invention. A patent’s claims are perhaps the most critical portion, as the claims define the scope of the right that the patent owner possesses. That is, when another person makes, uses, offers to sell, sell, or import that which is within the scope of a patent’s claim without authorization, one infringes that claim.

A *broad* claim will be infringed by conduct that concerns more implementations than a *narrow* claim. For example, a patent disclosing a table that includes a *broad* claim as “an apparatus with a horizontal surface and at least one supporting member” will be infringed by both a four-legged table and a table relying on a single support post. On the other hand, a patent which includes a *narrower* claim as an “apparatus comprising a horizontal surface and four supporting legs” is infringed by another who makes, uses, offers to sell, sells, or imports a table with four legs without the authorization of the patent owner. However, one who makes a table with a *single* support post does *not* literally infringe the claim because that implementation does not have the “four supporting legs” as recited.

A few observations are warranted. Note that the infringement inquiry is performed by comparing the accused device, process, or method to the patent claim. The infringer’s state of mind is *not* part of this inquiry. Rather, patent infringement can be found where there is no intent to infringe, and even where the infringer is entirely unaware of the patent’s existence. Additionally, there is no requirement that the infringer copy the invention. Thus, infringement can be found where the accused device, process, or method has been independently developed by another.

§ 1.06  **WHAT DOES ONE DO WITH A PATENT?**

Although the patent system as a whole is intended for public benefit, a patent inures as a private right to an individual patent owner. Private ownership has been said to implement the principle that “[t]he economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in ‘Science and useful Arts.’”

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90  *Kewanee Oil Co.*, 416 U.S. at 480.
91  *See* 35 U.S.C. § 271(a).
92  *See* Robert P. Merges and Richard R. Nelson, *On the Complex Economics of Claim Scope*, 90 *Columbia L. Rev.* 839 (1990) (“[t]he economic significance of a patent depends on its scope: the broader the scope, the larger the number of competing products and processes that will infringe the patent.”).
Patent owners use these privately held rights in a variety of ways. For example, some organizations obtain patents that cover key products in order to assert the patent right offensively against any rivals who attempt to make and sell competing products that incorporate that invention. In doing so, the organization can attempt to protect the research and development expenses that were used to develop the invention and to obtain a profit if the product is successful. For example, one who develops a novel preventative for the common cold may patent its formulation. If a rival attempts to make and sell an identically-formulated drug, the patentee can assert the claim in court against the rival to seek monetary and injunctive relief.

Because U.S. patent law does not require patent owners to practice their inventions, other strategic uses of patents are possible. For example, one may file or otherwise acquire patent rights throughout an entire technology field. Using our previous example, a patentee may attempt to patent all effective formulations for preventing the common cold. During the life of these patents, the patent holder can prevent potential competitors from entering the market for common cold preventative entirely. Unless a competitor can design around the patents by creating an effective compound that has not been already claimed, the patent holder can prevent the introduction of all rival products.

Other uses of patents include defensive uses — that is, a company may choose not to assert its patent rights unless accused of infringement. For example, assume that a patentee A makes four-legged tables and holds a number of related patents in that field. Further assume that a rival table maker B owns a patent with a broad claim to a table, and accuses A’s products of infringing B’s patents. At that juncture, A may examine B’s products to determine whether any infringe A’s patents. If A so finds, A may attempt to use A’s patents as leverage to negotiate a cross-license with B. If those negotiations are successful, A can avoid a patent infringement lawsuit brought by B.

Cross-licensing raises other opportunities. For example, some industries are composed of a limited number of companies who engage in open-ended cross-licenses among them. This allows all those under such agreements freedom to operate — that is, each company protected by such agreements can make and sell any manner of technological variations within that field without concern that another within the industry will sue for patent infringement.

Additionally, patentees may raise revenue by licensing their patents to others who manufacture and sell products. One may do so if one is unconcerned about creating competition for use of the invention. For example, an inventor who does not make or sell products may obtain licensing revenue from those who practice the patent. Companies that have patented their inventions, but have elected not to commercialize all of them, may obtain licensing fees from their unused patents.

Some individuals and companies purchase patents with the goal of using the patent to obtain licensing revenue. This activity has earned such patentees the derogatory label patent trolls. This term was coined to refer to “. . . somebody who tries to make a lot of money from a patent that they are not practicing, have no intention of practicing and in most cases never practiced.”

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about patent reform and policy have centered on a debate about this practice, with some claiming that those who do not invent or commercialize patents are harming subsequent innovators through these practices.96

§ 1.07 CONCLUSION

The patent right is granted pursuant to Congressional authority that derives from power enumerated in the Constitution. The U.S. patent right can trace some of its roots in former European patent systems.

The U.S. Supreme Court has viewed the U.S. patent right as both statutory and utilitarian in its focus. Patents are intended to provide incentives to invent, encourage disclosure to enrich knowledge in various fields, support commercialization of inventions, and advance the creation of new implementations for those that design around existing patent claims.

As a general matter, patent law is a complex field which offers significant protections for inventors. As a general matter, the appropriability of the patent right, coupled with Congressional authority to assign and license these rights,97 serve as incentives to “build and create by bringing to the tangible and palpable reality around us new works.”98 Quoting legal philosopher Jeremy Bentham, the Federal Circuit has stated with respect to the grant of patent rights, “[i]t is supposed that men will not labor diligently or invest freely unless they know they can depend on rules which assure them that they will indeed be permitted to enjoy a substantial share of the product as the price of their labor or their risk of savings.”99

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