
Patent and Trade Secret Complementariness: An Unsuspected Synergy

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I. INTRODUCTION

As a matter of intellectual property management policy and strategy, it is important to exploit the overlap between intellectual property categories, especially between patents and trade secrets in order to achieve dual or multiple protection. Patents and trade secrets are not incompatible but dovetail: the former can protect patentable inventions, and the latter, the volumes of important, if not essential, collateral know-how associated with such inventions. This results in synergistic integration of patents and trade secrets and secures almost invulnerable exclusivity. Without the underlying collateral know-how, patent specifications are rarely sufficient for commercial use of patented technology.

Trade secrets often play a very valuable, if not indispensable, role in intellectual property management policies and strategies. Due to existing deep-seated misconceptions about trade secrets and the patent/trade secret interface, it is important to review trade secret law and practice in some detail. Before I do so, I should make it unequivocally clear that my position is not that one should embrace trade secrets instead of patents, nor is it my intention to denigrate patents in any way. What I have practiced in my career, and what I endorse as the best policy and practice, is to obtain patents as the centerpiece in an intellectual property portfolio and maintain trade secrets as underpinnings for patents to protect unpatentable collateral know-how and show-how.

This article will cover operational aspects of intellectual property practice in preference to legalistic issues and will, therefore, be more like a handbook than a treatise. Additionally, it will embody my manifesto on patent and trade secret complementariness. The various chapters will discuss, *inter alia*, the definitions and other attributes and characteristics of trade secrets, the importance of trade secrets and collateral

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know-how, the ability to exploit the overlap between patents and trade secrets, and cases that demonstrate this relationship. Finally, it will propose an initial patent/trade secret evaluation guide as well as a best operational practice.

II. THREE COMMON THREADS IN TRADE SECRET DEFINITIONS

The American Uniform Trade Secrets Act (UTSA), now in force in forty-five states, defines a trade secret as follows:

A trade secret means information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.¹

The Restatement of Torts states the most widely used definition of a trade secret in the United States.² It reads:

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers.³

In applying this definition of 1939 vintage to determine whether trade secrets existed, courts have relied on the following criteria:

(1) the extent to which the information is known outside of [the] business; (2) the extent to which it is known by employees and others involved in [the] business; (3) the extent of measures taken . . . to guard the secrecy of the information; (4) the value of the information to [the business and to] competitors; . . . and (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.⁴

The Restatement (Third) of Unfair Competition sets forth the most recent, and clearly the broadest and best, definition of a trade secret: "A trade secret is any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others."⁵ It is to be hoped that this definition will in time replace the earlier definitions recited above.

In 1996, the United States enacted a federal criminal trade secret statute, the Economic Espionage Act (EEA), which states:

The term "trade secret" means all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans,

1. UNIF. TRADE SECRETS ACT § 1(4), 14 U.L.A. 372 (Supp. 1989).

2. RESTATEMENT (FIRST) OF TORTS (1939).

3. *Id.* § 757 cmt. b.

4. *Id.*

5. RESTATEMENT (THIRD) OF UNFAIR COMPETITION, § 39 (1995).

compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if—

(A) the owner thereof has taken reasonable measures to keep such information secret; and

(B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, the public.⁶

The common thread in the above definitions is that information must meet three requirements for an enforceable trade secret to exist. The proprietary information must be: (1) secret in the sense that those in the trade do not generally know it; (2) valuable vis-à-vis the competition that does not possess it; and (3) the subject of reasonable efforts to safeguard and maintain its secrecy.

Before leaving the subject of definitions, a word about nomenclature and terminology associated with the usage of the terms “know-how” and “trade secret” is appropriate. While the key requirement of a trade secret is secrecy, definitions of know-how are completely silent on the topic. One dictionary definition of know-how is “the knowledge and skill required to do something correctly.”⁷ Similarly, an encyclopedia definition describes know-how as “information that enables one to accomplish a particular task or to operate a particular device or process.”⁸ Another definition includes “knowledge and experience of a technical, commercial, administrative, financial or other nature, which is practically applicable in the operation of an enterprise or the practice of a profession.”⁹

Thus, know-how as such is not an enforceable intellectual property right. It acquires trade secret status only if it is secret, has economic value, and there are measures in place to secure its secrecy. Know-how is actually intellectual property, which later becomes an intellectual property right upon qualifying as a trade secret. This is exactly like the relationship between an invention and a patent.

The following table demonstrates the relationships between intellectual property (IP) and an intellectual property right (IPR):

6. 18 U.S.C. § 1839(3) (2006).

7. AMERICAN HERITAGE DICTIONARY 705 (2d College ed. 1982).

8. J. THOMAS MCCARTHY ET AL., MCCARTHY'S DESK ENCYCLOPEDIA OF INTELLECTUAL PROPERTY 330 (3d ed. 2004).

9. International Association for the Protection of Intellectual Property (AIPPI), Mexican Congress Resolution (1973).

Intellectual Property

Invention
 Know-how
 Brand-name
 Work of Authorship

Intellectual Property Right

Patent, Trade Secret
 Trade Secret
 Trademark
 Copyright

Inventions and know-how as IP turn into patents and trade secrets as IPRs upon compliance with stringent legal preconditions.

Since we do not speak of “inventions and patents” and “invention and patent licenses,” it is correspondingly inappropriate to refer to “know-how and trade secrets” and “know-how and trade secret licenses.” “Proprietary know-how” is a possible synonym for a “trade secret,” but it is not ideal as it may not include inventions when protected under the trade secret regime.

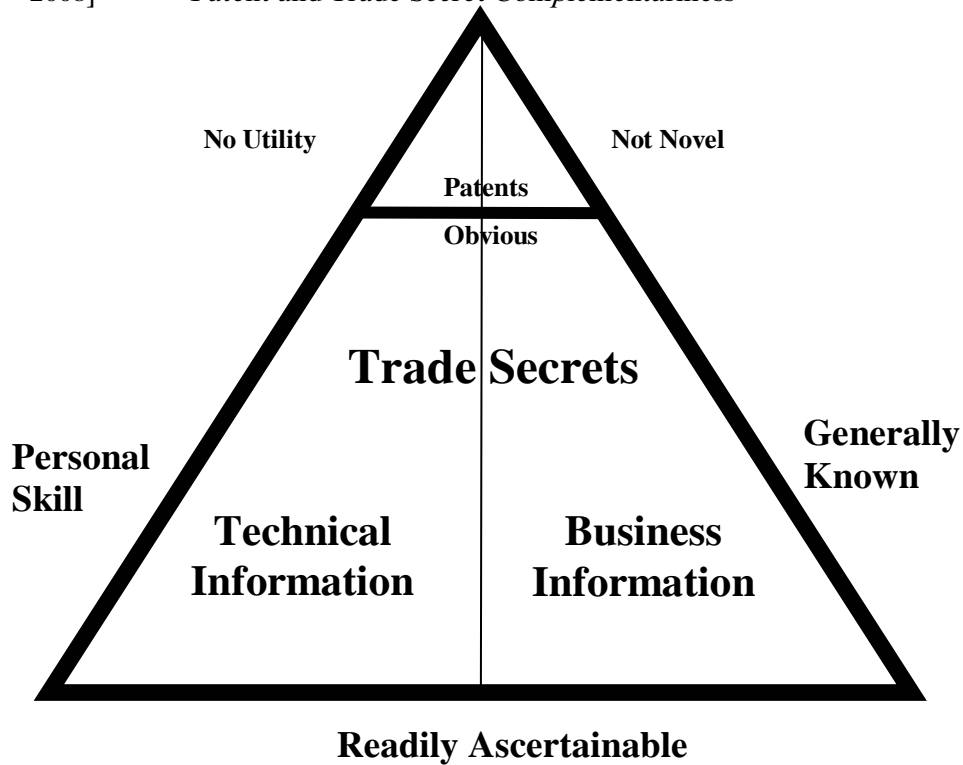
III. WHAT IS AND WHAT IS NOT A TRADE SECRET

From the above definitions, it is possible to glean what is and what is not a trade secret. On an elementary level, a trade secret is information and knowledge. More specifically, it is any proprietary technical or business information often embodied in inventions, know-how, and show-how.

The three basic requirements mentioned above are critical limitations on trade secrets and frequent pitfalls in trade secret enforcement and litigation. This is especially true of the need to maintain secrecy. As a further significant restriction on the scope of trade secret protection, any information that is readily ascertainable, as well as any personal skill of an employee, is not protectable as a trade secret.

The following picture illustrates the confines of trade secrets as well as their relationship to patents¹⁰:

10. See JAMES POOLEY, TRADE SECRETS § 1.01 (2008) (chart is adapted).



Trade secrets are not solely applicable as protection devices to early-stage inventions, subpatentable innovations, or manufacturing processes, as is commonly believed. It is indisputable that patentable inventions of any kind can also constitute trade secrets in light of *Kewanee Oil Co. v. Bicron Corp.*,¹¹ a landmark decision of the United States Supreme Court, which recognized trade secrets as perfectly viable alternatives to patents.¹² Holding that federal patent law does not preempt state trade secret law, the Court stated:

Certainly the patent policy of encouraging invention is not disturbed by the existence of another form of incentive to invention. In this respect the two systems are not and never would be in conflict.¹³

....

Trade secret law and patent law have coexisted in this country for over one hundred years. Each has its particular role to play, and the operation of one does not take away from the need for the other.¹⁴

....

We conclude that the extension of trade secret protection to clearly patentable

11. 416 U.S. 470 (1974).

12. *Id.* at 491.

13. *Id.* at 484.

14. *Id.* at 493.

inventions does not conflict with the patent policy of disclosure.¹⁵

This last quotation is the decisive point because it followed a three-way categorization of trade secrets—clearly unpatentable, of doubtful patentability, and clearly patentable—and it recognized that “the federal interest in disclosure is at its peak” with respect to the third category.¹⁶

Interestingly, in his concurring opinion in *Kewanee Oil*, Justice Marshall was “persuaded” that “Congress, in enacting the patent laws, intended merely to offer inventors a limited monopoly in exchange for disclosure of their invention [rather than] to exert pressure on inventors to enter into this exchange by withdrawing any alternative possibility of legal protection for their inventions.”¹⁷ Subsequent Supreme Court decisions, *Aronson v. Quick Point Pencil Co.*¹⁸ and *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*¹⁹ have, if anything, further strengthened the basis for trade secret reliance.²⁰

Contrary to conventional wisdom, inventors may rely on trade secret protection in conjunction with, and complementary to, patents to protect the tremendous volume of collateral or associated know-how that exists for any patentable invention. An applicant, however, is not required to disclose such know-how in a patent specification, as will be discussed in greater detail below.

IV. TRADE SECRETS ARE NOT SECRETS

It is a serious misconception that it is reprehensible to keep inventions secret, as this supposedly flies in the face of the patent system. The essence of the patent system is disclosure of inventions for the benefit of the public. However, in light of *Dunlop Holdings, Ltd. v. Ram Golf Corp.*,²¹ it is clear that the public does receive benefits from trade secrets because there is no suppression in an economic sense.²² More specifically, the court stated:

There are three reasons why it is appropriate to conclude that a public use of an invention forecloses a finding of suppression or concealment even though the use does not disclose the discovery. First, even such a use gives the public the benefit of the invention. If the new idea is permitted to have its impact in the market place, and thus to “promote the progress of science and useful arts,” it surely has not been suppressed in an economic sense. Second, even though there may be no explicit disclosure of the inventive concept, when the

15. *Id.* at 491.

16. *Id.* at 489.

17. *Id.* at 494 (Marshall, J., concurring).

18. 440 U.S. 257 (1979).

19. 489 U.S. 141 (1989).

20. *See Aronson*, 440 U.S. at 265-66 (holding that federal patent law does not preempt state trade secret law with respect to a contract dictating different royalty rates depending on a patent grant); *Bonito*, 489 U.S. at 165-66 (reiterating that federal patent law does not preempt state trade secret law while holding that state law may not grant rights reserved to the federal patent system).

21. 524 F.2d 33 (7th Cir. 1975).

22. *See id.* at 36.

article itself is freely accessible to the public at large, it is fair to presume that its secret will be uncovered by potential competitors long before the time when a patent would have expired if the inventor had made a timely application and disclosure to the patent office. Third, the inventor is under no duty to apply for a patent; he is free to contribute his idea to the public, either voluntarily by an express disclosure, or involuntarily by a noninforming public use. In either case, although he may forfeit his entitlement to monopoly protection, it would be unjust to hold that such an election should impair his right to continue diligent efforts to market the product of his own invention.²³

Even if an inventor were to keep his discovery completely to himself, which neither the patent nor trade secret laws forbid, there is a high probability that another inventor may soon independently develop that same invention. If the inventor introduces the invention into public use while it is still a trade secret, the inventor alerts the competition to the existence of the inventor's solution to the problem. This situation may encourage others to make an extra effort to find independently the solution thus known to be possible.

As a practical matter, entities other than the holder of the trade secret often have access to the trade secret. This may include employees, suppliers, governmental agencies, and licensees. Also, independent creation is indeed possible if not likely. Furthermore, most trade secrets may dissipate within a few years, given the high incidence of employee mobility combined with possible threats of reverse engineering or analysis of products. Hence, one may consider trade secrets as "wasting assets," whose average life is only about three to five years. Therefore, trade secrets are secret only in a limited legal sense and the term "trade secret" is a constricted term of art.

V. TRADE SECRETS HAVE SPECIAL ATTRIBUTES

From the above definitions of trade secrets, one can perceive the following salient characteristics of trade secrets, as well as striking differences between trade secrets and other intellectual property rights. First of all, there is no subject matter or term limitation, no registration requirement, and no tangibility requirement for trade secrets. Furthermore, there is no strict novelty requirement, and trade secret protection obtains as long as the subject matter is not generally known or available.

The most important criterion, however, is secrecy—a *sine qua non*—without exceptions. Hence, the trade secret owner must take reasonable affirmative measures to safeguard and maintain trade secrecy. Among such measures are: (1) memorializing a trade secret policy in writing; (2) informing employees of the trade secret policy; (3) having employees sign employment agreements with confidentiality obligations; (4) restricting access to trade secrets (on a need-to-know basis);

23. *Id.* at 37 (internal citations omitted).

(5) restricting public accessibility (escorting visitors); (6) locking gates and cabinets to sites that house trade secrets; (7) labeling trade secret documents as proprietary and confidential; (8) screening speeches and publications of employees; (9) using secrecy contracts in dealing with third parties; and (10) conducting exit interviews with departing employees.²⁴ While sufficient economic value or competitive advantage is also an indispensable requirement, the proper touchstone is not actual use but value to owner. This means that negative research and development (R&D) results—for example, finding which chemical compounds under investigation do not have the sought-after therapeutic utility—can also provide a competitive advantage according to the law of the United States.

Misappropriation of trade secrets is actionable if there is acquisition by improper means, or there is use or disclosure of a trade secret that one acquired improperly or in violation of a duty to maintain confidentiality. “Improper means” include theft, bribery, misrepresentation, breach, or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means. “Proper means,” which do not support a claim for misappropriation, include independent discovery, reverse engineering, or discovery from observing what has entered the public domain. Remedies for misappropriation of trade secrets include actual and punitive damages, profits, reasonable royalties, and preliminary and permanent injunctions.²⁵

VI. TRADE SECRETS HAVE A LONG HISTORY

Trade secret law is the oldest form of intellectual property protection, and even in Roman times, the law afforded relief against a person who induced another’s employee or slave to divulge secrets relating to the master’s commercial affairs.²⁶ Trade secrecy was practiced extensively in the European guilds in the Middle Ages and beyond.²⁷ Modern trade secret law evolved in England in the early nineteenth century in response to the growing accumulation of technology and know-how and the increasing mobility of employees.²⁸ The United States recognized trade secret law by the middle of the nineteenth century in *Peabody v. Norfolk*.²⁹ *Peabody* held that a secret manufacturing process is prop-

24. See generally JERRY COHEN & ALAN S. GUTTERMAN, TRADE SECRETS PROTECTION AND EXPLOITATION, app. E at 513 (1998); WESTON ANSON, FUNDAMENTALS OF INTELLECTUAL PROPERTY VALUATION 93 (2005). This list of measures is an abbreviated, generalized summary of secrecy measures in industry.

25. See generally 35 U.S.C. §§ 283-284 (2000).

26. See A. Arthur Schiller, *Trade Secrets and the Roman Law*, 30 COLUM. L. REV. 837, 838-39 (1930).

27. See POOLEY, *supra* note 10, § 1.03(1).

28. COHEN & GUTTERMAN, *supra* note 24, at 5-6.

29. 98 Mass. 452 (1868).

erty, protectable against misappropriation.³⁰ In addition, the court held that an obligation of secrecy for an employee outlasts the term of employment, a trade secret can be disclosed confidentially to others who need to practice it, and a recipient can be enjoined from using a misappropriated trade secret.³¹ This decision anticipated the features of our present trade secret system, and by the end of the nineteenth century, the principal features of contemporary law were well established.³² It is interesting to note that Henry Perritt, Professor of Law at Villanova University, believes that trade secrets are “the oldest form of intellectual property protection” and that “patent law was developed as a way of protecting trade secrets without requiring them to be kept secret. De-linking legal protection from secrecy encourages wider use of useful information.”³³

VII. TRADE SECRETS ARE THE “CROWN JEWELS” OF CORPORATIONS

Some describe trade secrets as the “crown jewels” of corporations. Indeed, trade secrets are now gaining greater reverence as a tool for protection of innovation, and the stakes are getting higher. Injunctions have become a greater threat in trade secret misappropriation cases and damage awards have been in the hundreds of millions of dollars in recent years. For instance, in a trial in Orlando, Florida, two businessmen sought \$1.4 billion in damages from Walt Disney Company, accusing the company of stealing trade secrets for the sports complex at Walt Disney World.³⁴ The jury awarded them \$240 million.³⁵ Similarly, Cargill’s misappropriation of Pioneer Hi-Bred International’s trade secrets regarding genetic corn seed materials cost Cargill \$100 million.³⁶ Additionally, Lexar won \$465.4 million in damages from Toshiba for misappropriation of controller technology, which enables a memory chip to communicate with its host device.³⁷

Regarding the importance of trade secrets, Mark Halligan proclaimed recently, “Trade secrets are the IP of the new millennium and

30. *Id.* at 452.

31. *Id.* at 461.

32. *See id.*

33. HENRY H. PERRITT, JR., *TRADE SECRETS: A PRACTITIONER’S GUIDE* §§ 1:1, 3:5.2 (2d ed. 2008).

34. NewsChannel2000.com, *Jury Awards \$240M in Disney Sports Trial*, <http://www.wesh.com/sh/news/stories/nat-news-20000811-180209.html> (last visited Oct. 24, 2008); *see* All Pro Sports Camp, Inc. v. Walt Disney Co., 727 So. 2d 363, 364, 368 (Fla. Dist. Ct. App. 1999) (discussing the facts of the case and holding that the previous federal judgment regarding copyright infringement did not preempt the plaintiff’s state claim for trade secret misappropriation).

35. NewsChannel2000.com, *supra* note 34.

36. Dave Price, *Cargill Reaps Bitter Harvest in Pioneer Dispute*, FINANCE & COMMERCE, May 17, 2000, http://web.archive.org/web/20041227151118/http://www.finance-commerce.com/recent_articles/051700b.htm (last visited Sept. 20, 2008).

37. Lexar Media, Inc. v. Toshiba Corp., No. 1-02-CV-812458, 2005 WL 5872071, at *1 (Cal. App. Dep’t Super. Ct. Oct. 14, 2005).

can no longer be treated as a stepchild.”³⁸ James Pooley also stated: “Forget patents, trademarks and copyrights . . . trade secrets could be your company’s most important and valuable assets.”³⁹ Halligan and Pooley are prolific authors, frequent lecturers, and hence, well-known experts on trade secret law and practice.⁴⁰

Indeed, according to a Survey on Strategic IP Management by the Intellectual Property Owners (IPO) in 2003, patents are often not viewed as a panacea inasmuch as patents have limits.⁴¹ These limits include strict patentability requirements, early publication, and invent-around feasibility. Proprietary technology, however, is highly rated as a key source of competitive advantage.⁴² According to 88% of respondents, the most important intellectual assets are skills and knowledge, which implicate trade secrets.⁴³

Moreover, patents are but the tips of icebergs in an ocean of trade secrets. Most technology is unpatented. Based on my experience, I have reached two conclusions: (1) trade secrets cover over 90% of all new technology; and (2) over 80% of all license and technology transfer agreements cover trade secrets or constitute hybrid agreements relating to patents and trade secrets. Robert Sherwood, an international intellectual property consultant, calls trade secrets the “workhorse of technology transfer.”⁴⁴

Finally, and very importantly, trade secret protection operates against the world without delay and without undue cost. In contrast, patents are territorial and so expensive to obtain and maintain that they can be taken out only in selected countries.

In fact, all patents are born as trade secrets. Throughout the patent-drafting stage, known as the invention disclosure stage, the subject matter is a prime example of a trade secret species. Also, during the patent-pending stage, until publication of the application or issuance of the patent, trade secret protection continues to exist. In these stages, maintenance of trade secrecy is particularly critical because any divul-

38. Letter from Mark Halligan, Professor, John Marshall Law School, to Karl Jorda, David Rines Professor of Intellectual Property Law & Industrial Innovation (Feb. 26, 2008) (on file with author).

39. James Pooley, President, American Intellectual Property Law Association, Address at ASIPI Conference (Nov. 3, 2007).

40. Mark Halligan teaches two advanced courses in trade secrets at John Marshall Law School. James Pooley is the 2008 president of the American Intellectual Property Law Association.

41. Iain Cockburn & Rebecca Henderson, Survey on the Strategic Management of Intellectual Property in America’s Corporations, Address at Managing Corporate Intellectual Property Today Conference Sponsored by the Intellectual Property Owners Association (Nov. 10, 2003) (PowerPoint available at http://www.ipo.org/AM/Template.cfm?Section=Managing_Corporate_IP_Today_Conference2&Template=/CM/ContentDisplay.cfm&ContentID=8565#256,1).

42. *See id.*

43. *See id.*

44. ROBERT M. SHERWOOD, INTELLECTUAL PROPERTY AND ECONOMIC DEVELOPMENT 58 (1990).

gence would not only destroy the trade secret status of the invention but would also adversely affect the absolute novelty requirement of patent laws.

After a patent is issued, all subject matter relative to the patented invention that is not disclosed in the specification, even though it was available, as well as all subject matter developed after filing—while pending and after issuance—is associated or collateral know-how. It is also grist for trade secrets and can retain its trade secret status even after expiration, invalidation, abandonment, or dedication of the patent.

VIII. COLLATERAL KNOW-HOW IS ESSENTIAL FOR USE OF PATENTED TECHNOLOGY

As a practical matter, licenses under patents without access to associated or collateral know-how are often not enough for commercial use of the patented technology because patents rarely disclose the ultimate scaled-up commercial embodiments. Hence, data and know-how are immensely important. In this regard, the following comments by intellectual property scholars are persuasive. For instance, Homer Blair, Professor Emeritus of Franklin Pierce Law Center, states, “[I]n many cases, particularly in chemical technology, the know-how is the most important part of a technology transfer agreement.”⁴⁵ Peter Rosenberg explains, “It is common practice in industry to seek and obtain patents on that part of a technology that is amenable to patent protection, while maintaining related technological data and other information in confidence. Some regard a patent as little more than an advertisement for the sale of accompanying know-how.”⁴⁶ Melvin Jager opines that “trade secrets are a component of almost every technology license . . . [and] can increase the value of a license for the licensee and the licensor up to 3 to 10 times the value of the deal if no trade secrets are involved.”⁴⁷

A striking illustration of the criticality of proprietary know-how comes from abroad. Some years ago, Brazil’s patent office (INPI) decided to translate important patents, which were issued in developed countries other than Brazil, into Portuguese for the benefit of the Brazilian industry. INPI officials believed that was all that was necessary to enable their industries to practice these foreign inventions without paying royalties for licenses. Needless to say, this scheme was an utter fail-

45. HOMER O. BLAIR, UNDERSTANDING PATENTS, TRADEMARKS, AND OTHER PROPRIETARY ASSETS AND THEIR ROLE IN TECHNOLOGY TRANSFER AND LICENSING: THE PRACTICAL VIEW 6 (1978).

46. PETER ROSENBERG, PATENT LAW FUNDAMENTALS, 3-12 (2d ed. 2001).

47. Melvin F. Jager, *The Critical Role of Trade Secret Law in Protecting Intellectual Property Assets*, in LICENSING BEST PRACTICES: THE LESI GUIDE TO STRATEGIC ISSUES AND CONTEMPORARY REALITIES 127 (Robert Goldscheider ed., 2002).

ure.⁴⁸ This is very strange inasmuch as Brazil and Mexico, for example, following the amazing progress and successes of the “Asian tigers” (Singapore, South Korea, Taiwan, and Thailand), had already embarked years earlier on a drive of importing and paying for technology from developed countries to be adapted and improved for local needs. They expected that the cost of importing the technology would be money well spent because this can and did lead, in turn, not only to exportation of improved products but also to exportation of the improved technology to lesser developed countries in Africa, the Middle East, and Latin America. Such an importation/exportation policy and practice is called “reverse technology transfer.”⁴⁹

IX. EXPLOITATION OF THE OVERLAP BETWEEN PATENTS AND TRADE SECRETS IS PARAMOUNT

Books, articles, and presentations on intellectual property rights almost always, even today, speak to patents, copyrights, and trademarks as discreet subjects and offer limited coverage of trade secrets. However, doing so overlooks the fact that legal protection of innovation of any kind, especially in high-tech fields, requires the use of more than one intellectual property category. This results in integration of intellectual property rights for dual, triple, or multiple protection.

Professor Jay Dratler, in his 1991 pioneering work *Intellectual Property Law: Commercial, Creative, and Industrial Property*, was the first to “tie all the fields of intellectual property together.”⁵⁰ According to Dratler, intellectual property rights are no longer fragmented by specialties and are now a “seamless web,” due to progress in technology and commerce.⁵¹ Later, in 1996, Stephen Elias published *Patent, Copyright and Trademark*, which included a user guide on intellectual property protections.⁵² His guide listed 119 “Creative Work” categories and the “Applicable Legal Rights” for each category, which shows that in the vast majority of cases dual or triple protection is possible.⁵³ Finally,

48. A personal communication from Robert Sherwood of August 7, 2008, confirms that he too recalls this translation project, noting that INPI embarked on this project, which he calls “the infamous Brazilian attempt to dodge royalty payments,” sometime before 1986 but dropped it by the early 1990s. Sherwood has visited Brazil four times each year since 1986, conferring with government officials, congressmen, journalists, judges, scholars, and business leaders to promote the cause of intellectual property right, in general, and trade secret, in particular.

49. See Karl F. Jorda, Corporate Patent Counsel, Address at the Santiago de Compostela: Como Conduce la Importacion de Tecnologia a la Exportacion de la Misma (Jan. 29, 1977) (transcript on file with author); Karl F. Jorda, Address at the Inter-American Bar Association XX Conference: How Importation of Technology Leads to Exportation of the Same (Apr. 30-May 7, 1977) (transcript on file with author).

50. JAY DRATLER, JR. & STEPHEN M. MCJOHN, 1 INTELLECTUAL PROPERTY LAW: COMMERCIAL, CREATIVE, AND INDUSTRIAL PROPERTY, at vii (2008).

51. *Id.*

52. STEPHEN ELIAS, PATENT, COPYRIGHT & TRADEMARK 10 (2d ed. 1997).

53. *Id.*; see also STEPHEN ELIAS & RICHARD STIM, PATENT, COPYRIGHT & TRADEMARK 9 (6th

in 1997, Professors Robert P. Merges, Peter S. Menell, and Mark A. Lemley authored *Intellectual Property in the New Technological Age*.⁵⁴ In this work also, the writers concentrated on the integration of, and the complementariness and interplay between, the various fields of intellectual property rights.⁵⁵

Thus, there exists now a unified theory in the intellectual property world creating a single field of law with subsets and significant overlap between intellectual property fields. Several intellectual property rights are available for the same intellectual property or different aspects of the same intellectual property. Not taking advantage of the overlap misses opportunities or worse, according to Dratler, amounts to malpractice.⁵⁶

Especially for high-tech products, trademarks and copyrights can supplement patents and trade secrets and mask works for the products' technological content. One intellectual property species, often patents, may be the centerpiece and more important than others. Other intellectual property species are supplementary but very valuable to achieving the following goals: (1) cover the additional subject matter; (2) strengthen the exclusivity; (3) invoke the additional remedies in litigation; and (4) serving as backup if a primary intellectual property right becomes invalid. These goals then provide synergy and optimize legal protection.

Professor Dratler gives the following examples to illustrate the possible additional and separate protection available for different aspects and components of high-tech products. Multiple protection for a data processing system can involve: patented hardware and software; patented computer architecture on circuit designs; trade secrecy for production processes; copyrighted microcode; copyrighted operating systems; copyrighted instruction manuals; semiconductor chips protected as mask works; consoles or keyboards protected by design patents; trade dress under trademark principles; and trademark registration.⁵⁷ Multiple protection in biotech for a diagnostic kit can involve monoclonal antibodies, and can include: product patent on the test kit; process patent on the preparation of the antibodies; trade secrecy for production know-how; copyright for the test kit's instructions; and trademark registration.⁵⁸

In my view, even these illustrations from Professor Dratler do not go far enough. Trade secrets serve not only to protect production proc-

ed. 2003).

54. ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE: 2008 CASE AND STATUTORY SUPPLEMENT* (4th ed. 2008).

55. *See generally id.*

56. *See* DRATLER, *supra* note 50, at vii.

57. *Id.* at 1-21 to 1-22.

58. *Id.* at 1-22.

esses and know-how, but can also protect the volumes of collateral data, information, and know-how on other aspects of patented products, which are not found in patent specifications.

Further solid examples of multiple protection from other areas, such as aesthetic designs, include design patent, copyright for separable features, trademark for non-functional features, trade dress for over-all appearance, and utility patent for functional features,⁵⁹ and, of course, trade secrets for collateral know-how and data. Multiple protection for plants and plant parts is also available via plant patents, plant variety protection certificates, utility patents, and trade secrets.⁶⁰

To drive home the intellectual property integration concept, I use, as do other practitioners, the following catch phrases: exploit the overlap; develop a fallback position; create a web of rights; build an intellectual property estate; build a wall, build a ringfence;⁶¹ overprotect; and lay a minefield. Such phrases portray the synergistic effects achieved via multiple protection.

The most important, albeit most disputed, intellectual property management policy and strategy is exploitation of the overlap between patents and trade secrets. There is no argument whatsoever about coexistence and compatibility of patents and trademarks. There is likewise no controversy whatsoever about franchise agreements, which cover trademarks and trade secrets—and often patents—and constitute a huge category of hybrid license agreements.

Software provides a perfect example of why patent protection alone is not the panacea of intellectual property protection and provides a good example of how integration of intellectual property rights can provide better protection. For software, developers can leverage copyright, trade secret, and patent protection to provide an overlapping, robust protection not provided by any one intellectual property right.

In spite of the obvious incompatibility of copyrights and trade secrets—one requiring disclosure and the other nondisclosure—it is permissible in the United States to redact trade secret material when submitting the software for copyright registration.⁶² The copyright applicant need only submit the first and last twenty-five pages of the software program, with the trade secrets blacked out, to obtain copyright registration for the work.⁶³ Therefore, the owner may copyright

59. *Id.*

60. See *Advanta USA, Inc. v. Pioneer Hi-Bred Int'l Inc.*, No. 04-C-238-S, slip op. at 17 (W.D. Wis. 2004) (stating that the Plant Varieties Patent Act does not preempt trade secrets).

61. This is a phrase used by a guest lecturer from India in an Intellectual Property Management class of mine.

62. Copyright Office Circular No. 61, at 3 (1964), reprinted in 11 BULL. COPYRIGHT SOC'Y 361 (1964), available at <http://www.copyright.gov/circs/circ61.pdf>.

63. See *id.* at 2.

software, but this does not necessitate the disclosure of trade secrets.⁶⁴ Thus, copyright owners may enjoy copyright and trade secret protection simultaneously.

X. INITIAL PATENT/TRADE SECRET EVALUATION GUIDE

A recurring question in intellectual property management involves the initial election between seeking patent protection on a given development and attempting to maintain trade secrecy in that development. To facilitate this initial election and determine the intellectual property centerpiece—often patents for products and trade secrets for processes—I developed the following “Initial Patent/Trade Secret Evaluation Questionnaire.” To avoid the implications of “invention” and to cover the wide variety of innovations that practitioners may address with the following questionnaire, I use the term “development” generically.

64. *See id.*

INITIAL PATENT/TRADE SECRET EVALUATION QUESTIONNAIRE

- | | |
|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 1) Is development itself likely to be a commercial product or the subject of licensing? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Likely Unlikely |
| 2) How much of a competitive advantage would be provided if the company maximized exclusivity? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Very Great Very Little |
| 3) How much of a competitive disadvantage would it be if a competitor obtained exclusivity? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Very Great Very Little |
| 4) Is it likely the commercial significance of the development would be limited in time? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Yes No |
| 5) Is it likely one could develop alternatives ("design around")? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Unlikely Likely |
| 6) Can the nature of the development be ascertained from the commercial product ("Reverse Engineered")? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Likely Unlikely |
| 7) Would disclosure of this development require or permit access to other, unprotectable information? | 1 2 3 4 5 6 7 8 9 10
- - - - -
No Yes |
| 8) Is it likely others will independently arrive at the same development? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Likely Unlikely |
| 9) If a patent were obtained, what are the chances of validity being upheld by a court? | 1 2 3 4 5 6 7 8 9 10
- - - - -
High Low |
| 10) Will dissemination of the development from within the company be difficult to control? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Difficult Not Difficult |
| 11) Would it be difficult to determine if competitors are using the development? | 1 2 3 4 5 6 7 8 9 10
- - - - -
Not Difficult Difficult |

Total _ _ _

The eleven questions in this questionnaire have not been arranged in the order of perceived importance but by “function,” roughly following the areas of: marketing (Questions 1-4); technical (Questions 5-8); and legal (Questions 9-11). The responder answers each question on a scale of 1 to 10 and then totals these values. With the current number of questions, this sum would range from 11 to 110. If the sum approaches the higher end of the scale (above 75), trade secret protection would seem favorable; a sum at the lower end (below 45) would suggest that patent protection would be more advantageous. At times, values in the middle range (45–75) will result. Such a score suggests that it does not really matter which approach one follows initially. For example, trade secret protection might be appropriate for manufacturing-process technology, which competitors might find easier to re-create; patents make sense for products that one can analyze or reverse engineer. However, there need be no prejudice toward employing the other strategy to protect collateral aspects and improvements.

To obtain the most accurate results from the questionnaire, the following considerations for each question are helpful in interpreting the survey responses.

As to Question 1, if the development is likely to be commercialized or licensed, patent protection would seem preferable to trade secret protection. There might be some exceptions—such as the Coca-Cola formula that has been a trade secret for over 100 years—but presumably, these would be limited to situations where an outsider could not easily ascertain the nature of the product by reverse engineering (see Question 6).

Note that Question 1 pertains to commercialization of the development itself. Thus, the mere use of a process to produce a commercial product is not commercialization of the process (compare to Question 4). The desirability of patenting the process itself would depend on answers to Questions 2-11.

The aim of Question 2 is to ascertain whether exclusivity on the development would be commercially meaningful. A development of marginal commercial importance might be better kept as a trade secret. One that provides a significant commercial edge, however, probably should be patented.

Question 3 addresses the reverse problem, namely the defensive value of a patent publication. Hence, while the development may be of minimal commercial advantage to the company, thereby favoring trade secrets, a patent publication should be considered if a competitor’s exclusivity would be disadvantageous.

Question 4 is a difficult question, which one may eliminate. It has

been suggested that a short commercial life of a product favors patenting, whereas a long life favors trade secrets. In my view, this is not a particularly useful criterion since it depends on factors unrelated to the development itself. It also is extremely subjective.

Question 5 deals with the ability to "design around." Patents with narrow claims can easily be avoided by "designing around" or "inventing around." Hence, the value of such patents is considerably reduced. The destructive effect of trade secret protection by publication is unchanged. The relative value of the trade secret option is increased because of the decrease in the value of patent protection.

Question 6, counterbalancing Question 5, considers whether a competitor will be able to ascertain the nature of the development from the product even if an inventor chooses the trade secret route. If so, patent protection would be favored.

Question 7, dealing with disclosure, is an often overlooked but important consideration. For example, a required disclosure of a culture collection deposit number could provide competitors with access to the culture itself. This access might greatly outweigh the value of patent protection. A disclosure of an unclaimed process or intermediate on a final product similarly might have a bearing on whether the inventor should patent the final product.

Evaluating the possibility in Question 8 could be extremely difficult in many cases. If, however, it is known that others are working in the field, it would seem quite probable that they will arrive at the same development, the consequence being possible exclusion if patent protection is not sought.

Regarding Question 9, even though other reasons may indicate a preference for patent protection, this preference could be counterbalanced by the fact that any coverage eventually obtained would be weak. A weak patent which is ignored by competitors, and on which the company is not willing to sue, is as good as no patent. In fact, it may be worse since the opportunity for trade secret protection has been irrevocably lost through publication.

Regarding Question 10, ideally, the dissemination of information from within the company is controllable. If not, however, a trade secret might be lost. If this risk exists, for example where numerous employees, visitors, suppliers, and others have access to the development, patent protection is more attractive. The same concern arises with scientific publications.

Question 11 bears a relationship to Question 9, but goes to the issue of inherent enforceability rather than patent strength. If detection of infringement would be extremely difficult, the ultimate value of a patent would be reduced and, again, that reduced value must be com-

pared to trade secret destruction by the patent publication.

XI. PATENTS AND TRADE SECRETS INEXTRICABLY DOVETAIL

Patents and trade secrets are not mutually exclusive but are highly complementary and mutually reinforcing. In fact, they dovetail. “[T]rade secret-patent coexistence is well-established, and the two are in harmony because they serve different economic and ethical functions.”⁶⁵ In fact, trade secrets are the first line of defense: they precede patents, accompany patents, and follow patents. As stated above, the United States Supreme Court has recognized trade secrets as perfectly viable alternatives to patents: “[T]he extension of trade secret protection to clearly patentable inventions does not conflict with the patent policy of disclosure.”⁶⁶ Thus, it is clear that patents and trade secrets not only coexist, but are in harmony with each other.

Actually, they are inextricably intertwined because the bulk of research and development data and results or associated collateral know-how for any commercially important innovation cannot and need not be included in a patent application. However, it deserves and requires the protection that trade secrets can provide.

It is unnecessary and shortsighted to choose one over the other. The question is not *whether* to patent or to padlock but rather *what* to patent and *what* to keep a trade secret, and whether it is best to both patent and padlock. The goal is to integrate patents and trade secrets for optimal synergistic protection of any innovation.

It is true that patents and trade secrets are at polar extremes on the issue of disclosure. Information that a party discloses in a patent is no longer a trade secret. As pointed out above, however, patents and trade secrets are indeed complementary, especially under the following circumstances.

In the critical research and development stage, before any patent applications are filed, published, or issued, trade secret law “dovetails” with patent law.⁶⁷ Any associated or collateral know-how not required to be disclosed in a patent application can and should be retained as a trade secret. One should also maintain as trade secrets all the massive research and development data, including data pertaining to better modes developed after filing, whether inventive or not, to the extent some of the data are not disclosed in separate follow-up applications. Complementary patenting and padlocking is tantamount to having the best of both worlds, especially with respect to complex technologies

65. DONALD S. CHISUM & MICHAEL A. JACOBS, UNDERSTANDING INTELLECTUAL PROPERTY LAW § 3B(1) (1992).

66. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 491 (1974).

67. *See Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 161 (1989).

consisting of many patentable inventions and volumes of associated know-how.

XII. BEST OPERATIONAL PRACTICE: FILE EARLY, FILE OFTEN

In view of the fact that patent and trade secret protection dovetail in the ways described above, the best and most practical approach or strategy for protection of any innovation would be the following: to file a broad patent application or several applications simultaneously or sequentially as early as possible covering all potentially patentable aspects. "File early, file often" and "it is better to be a first applicant than a first inventor" are time-honored maxims in the patent profession. The patent office preserves pending patent applications in secrecy during the pendency period. This is not necessarily a decision in favor of patenting; rather, it serves to gain time and keep all options open. There is no need to make a decision as to which way to go until an application is allowed or is to be published or issued. If the decision is made at the outset to keep an innovation a trade secret, it may not be possible to patent it thereafter. This election can be construed as abandonment of the invention under Section 102(c) of the United States Patent Code.⁶⁸ However, by filing an application it is possible to defer a decision to keep the innovation a trade secret if, for instance, the application is not allowed. Even if it is allowed, the decision can be made in light of the then-current circumstances to abandon the application and stay with trade secret protection. If the application is not allowed and was not published, the subject matter can naturally be kept a trade secret like any other proprietary know-how.

As a best practice, however, filing of patent applications on improvements and additional patentable aspects should be continued throughout the research and development stage and beyond in the stage of commercialization. Ideally, an inventor should procure as many offensive and defensive patents as possible on a given innovative product or process. For example, Pitney Bowes, Inc. obtained over 100 patents on its Paragon™ Mail Processor, which was described as a "simple machine."⁶⁹ At Ciba-Geigy Corporation, my former employer, I also obtained many patents on improved processes for manufacturing an important corn herbicide, Atrazine, in the face of conventional wisdom that manufacturing processes are best kept secret. *IP Law & Business* confirms the idea that building substantial patent portfolios is a sophisticated industry practice:

When building patent portfolios, many companies, especially in the computer

68. 35 U.S.C. § 102(c) (2000).

69. Chuck Malandra, Chief Patent Counsel, Address at Ass'n of Corporate Patent Counsel: Patent Operation at Pitney Bowes (Feb. 3, 2004).

and telecommunication industries, go for big numbers. They want to amass a sizable quantity of patents, so that if one or two are invalidated, there are hundreds more to fall back upon. IBM Corporation is the master of that strategy.⁷⁰

XIII. THE “BEST MODE” REQUIREMENT IS NO IMPEDIMENT

Conventional wisdom holds that, because of the “best mode” requirement,⁷¹ which is embedded in American and many foreign patent laws, trade secret protection cannot coexist with patent protection. This is a serious misconception. Tom Arnold, the founder of the former Arnold, White & Dirkey firm in Houston, agrees that it is “flat wrong” to assume, as “many courts and even many patent lawyers seem prone” to do, that “because the patent statute requires a best mode disclosure, patents necessarily disclose or preempt all the trade secrets that are useful in the practice of the invention.”⁷²

Any contention that trade secrets cannot coexist with patents on a given invention overlooks three simple truths. The best mode requirement applies: (1) *only* at the time of filing; (2) *only* to the knowledge of the inventors; and (3) *only* to the claimed invention. Consequently, the best mode requirement is actually no impediment to the coexistence of patents and trade secrets for almost any invention for the following reasons.

In order to obtain the earliest possible filing or priority date, inventors normally file patent applications very early in the research stage, after a first reduction to practice. In relatively few pages, the specification of such an early application typically describes only rudimentary lab or shop experiments done, samples or prototypes obtained, and a mode of carrying out the invention. Better modes, including the best mode, for commercial manufacture and use remain to be developed later in the development or pilot stage and after the filing of a first application.⁷³

Besides, manufacturing process details are, even if available at the time of filing, not a part of the statutorily required enablement and best mode disclosure of a patent. Case law leaves no doubt that disclosure of manufacturing details or production specifications is not required, as

70. NEWS, IP LAW & BUSINESS, May 2003, [http://0-find.galegroup.com.lib.wuacc.edu/ips/retrieve.do?contentSet=IAC-Documents&resultListType=RESULT_LIST&qrySerId=Locale\(en%2C%2C\)%3AFQE%3D\(ke%2CNone%2C23\)master+of+that+strategy%24&sgHitCountType=None&inPS=true&sort=DateDescend&searchType=BasicSearchForm&tabID=T003&prodId=IPS&searchId=R1¤tPosition=34&userGroupName=wuacc_mabee&docId=A152048388&docType=IAC&contentSet=IAC-Documents](http://0-find.galegroup.com.lib.wuacc.edu/ips/retrieve.do?contentSet=IAC-Documents&resultListType=RESULT_LIST&qrySerId=Locale(en%2C%2C)%3AFQE%3D(ke%2CNone%2C23)master+of+that+strategy%24&sgHitCountType=None&inPS=true&sort=DateDescend&searchType=BasicSearchForm&tabID=T003&prodId=IPS&searchId=R1¤tPosition=34&userGroupName=wuacc_mabee&docId=A152048388&docType=IAC&contentSet=IAC-Documents) (last visited Sept. 20, 2008).

71. Disclosure in the patent specification of the “best mode” known to the inventor(s) of carrying out the claimed invention is a crucial condition of a valid patent.

72. ARNOLD, WHITE & DURKEE, 1988 LICENSING LAW HANDBOOK 37 (1988).

73. An updated best mode disclosure is not required for a continuation application but is required for a continuation-in-part application.

is clear from such decisions as *Christianson v. Colt Industries Operating Corp.*,⁷⁴ *Wahl Instruments, Inc. v. Acvious, Inc.*,⁷⁵ and *Teleflex, Inc. v. Ficosa North America Corp.*⁷⁶ From these and similar decisions, Professor Donald Chisum concludes, “An inventor is not required to supply ‘production specifications’ nor ‘processes or materials . . . for commercial manufacturing convenience or for accommodating the needs of a particular supplier or customer.’”⁷⁷ Additionally, Tom Arnold opines, “Patents do not disclose the engineering detail of any particular embodiment of a product nor the production engineering for its commercial manufacture.”⁷⁸

It is also noteworthy that others often develop the best mode. For example, in *Glaxo v. Novopharm*,⁷⁹ specialists in process development and pharmaceutical formulation employed by assignees eventually developed the best mode.⁸⁰ This occurs without involvement of the inventor to whom knowledge of such a best mode cannot be imputed.⁸¹ Thus, the touchstone in this regard is the mode believed to be the best by the inventor, which is a subjective standard.⁸²

Interestingly, according to Professor Chisum, another rationale behind the best mode requirement is that the requirement “is intended to allow the public to compete fairly with the patentee following the expiration of the patents.”⁸³ Chisum states that this rationale is not tenable as it ignores the realities of the patent system and the commercial market place because rarely will the disclosure of the best mode set forth in an application “be of competitive interest when the patent expires.”⁸⁴

Finally, patent claims tend to be narrow for distance from the prior art to satisfy the novelty and unobviousness requirements of sections 102 and 103 of the United States Patent Code.⁸⁵ As stated above, the

74. 870 F.2d 1292, 1303 (7th Cir. 1989) (stating that Colt need not disclose the technical data and details for a particular brand or commercialization of the patented gun in order to satisfy the best mode requirement).

75. 950 F.2d 1575, 1579 (Fed. Cir. 1991) (holding that withholding certain technical data directed to a particular manufacturing implementation did not necessarily violate the best mode requirement).

76. 299 F.3d 1313, 1332 (Fed. Cir. 2002) (finding that not disclosing the best way to practice a particular commercial embodiment did not violate the best mode requirement).

77. Donald S. Chisum, *Best Mode Concealment and Inequitable Conduct in Patent Procurement: A Nutshell, a Review of Recent Federal Circuit Cases and a Plea for Modest Reform*, 13 SANTA CLARA COMPUTER & HIGH TECH. L.J. 277, 286 (1997).

78. See ARNOLD, WHITE & DURKEE, *supra* note 72, at 36.

79. 52 F.3d 1043 (Fed. Cir. 1995).

80. See *id.* (finding that the best mode disclosed in the patent application need only be the best mode “contemplated by the inventor,” not the best mode later developed by the assignee).

81. See *id.* at 1050-52.

82. *Id.* at 1050.

83. See DONALD S. CHISUM, 3 CHISUM ON PATENTS: A TREATISE ON THE LAW OF PATENTABILITY, VALIDITY AND INFRINGEMENT § 7.05(1)(a) (2007).

84. *Id.* § 7.05(1)(b).

85. See 35 U.S.C. §§ 102, 103 (2000).

best mode requirement applies only to the claimed invention.⁸⁶

In his book *Trade Secret Protection*, Gale Peterson emphasizes that “the patent statute only requires a written description of the *claimed* invention and how to make and use the *claimed* invention.”⁸⁷ He advises therefore that, inasmuch as allowed claims on a patentable system cover “usually much less than the entire scope of the system . . . the disclosure in the application [should] be limited to that disclosure necessary to ‘support’ the claims in a § 112 sense, and . . . every effort [should] be taken to maintain the remainder of the system as a trade secret.”⁸⁸ Tom Arnold also affirms, “[P]atents often do not disclose important secrets that nevertheless are within the scope of the patents’ effective control.”⁸⁹

The *CFMT, Inc. v. Yieldup International Corp.*⁹⁰ decision by the United States Court of Appeals for the Federal Circuit is likewise highly germane. The court stated:

Enablement does not require an inventor to meet lofty standards for success in the commercial marketplace. Title 35 does not require that a patent disclosure enable one of ordinary skill in the art to make and use a perfected, commercially viable embodiment absent a claim limitation to that effect [T]his court gauges enablement at the date of the filing, not in light of later developments.⁹¹

Such reasoning applies equally well to the best mode requirement.⁹²

In Peter Rosenberg’s opinion, “Patents protect only a very small portion of the total technology involved in the commercial exploitation of an invention Considerable expenditure of time, effort, and capital is necessary to transform an [inventive concept] into a marketable product.”⁹³ In this process, he adds, valuable know-how is generated.⁹⁴ Even if this know-how is inventive and protectable by patents, it can be maintained as trade secrets, as there is “nothing improper in patenting some inventions and keeping others trade secrets.”⁹⁵

It is clear, then, from all the above citations and quotations that authorities and court decisions amply support my foregoing conclusions. This demonstrates that the best mode requirement is a very narrow defense at best. In fact, according to a recent decision, the Federal Circuit

86. See *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 964-65 (Fed. Cir. 2001) (holding that an unclaimed proprietary method for the synthesis of a starting material need not be disclosed); *N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1286 (Fed. Cir. 2000) (stating “the contours of the best mode requirement are defined by the scope of the *claimed* invention”); *Christianson v. Colt Indus. Operating Corp.*, 870 F.2d 1292, 1303 (7th Cir. 1989); *supra* note 73 and accompanying text.

87. GALE R. PETERSON, *TRADE SECRET PROTECTION: IN AN INFORMATION AGE* § 5.6 (1997).

88. *Id.*

89. ARNOLD, WHITE & DURKEE, *supra* note 72, at 37.

90. 349 F.3d 1333 (Fed. Cir. 2003).

91. *Id.* at 1338-39.

92. *Cf. id.* at 1338.

93. Rosenberg, *supra* note 46, at 3-12.

94. *Id.*

95. *Id.*

has held claims invalid for failure to satisfy the best mode requirement on only seven occasions.⁹⁶

Information and know-how that is generally known, readily ascertainable, or constitutes personal skill lies outside the ambit of trade secrets. However, as stated above, there exist masses of data and tons of know-how which are grist for trade secrets and often for additional improvement patents.

XIV. THE DIFFERENCES ARE NOT THERE

In the past—and even today—if trade secrecy was contemplated at all, for example for manufacturing process technology, which can be kept secret unlike gadgets or machinery that can be reverse-engineered, the question of whether to pursue patent or trade secret protection was always phrased in the alternative. Titles of articles invariably used “or”—never “and”—when referring to the patent/trade secret interface. The respective advantages and disadvantages of patents and trade secrets, in terms of duration and scope of protection, control the choice between them. Upon scrutiny, however, the perceived differences are not there. The patent life may be more or less than twenty years from filing and a garden-variety type of trade secret, far from being indefinite, may last but a few years. Nor is there a difference with regard to the scope of protection because “anything under the sun made by man” is patentable.⁹⁷ And while a patent does, and a trade secret does not, protect against independent discovery, a patent leads to efforts by competitors to design or invent around, but a trade secret, properly guarded and secured, may withstand attempts to crack it.

As for the respective duration of patents and trade secrets, to state only that the patent life is twenty years from filing and trade secrets last indefinitely is simplistic. Patents too can last longer than twenty years. They can be extended up to five years or longer under the Drug Price Competition and Patent Term Restoration Act of 1984,⁹⁸ the Uruguay Round Agreements Act of 1994,⁹⁹ the American Inventors Protection Act of 1999,¹⁰⁰ or a private act. Patent coverage can also be extended by a process of “evergreening,” that is, by filing for improvement patents.

96. See, e.g., *Bayer AG & Bayer Corp. v. Schein Pharms., Inc.*, 301 F.3d 1306, 1322 (Fed. Cir. 2002) (holding that disclosure of an unclaimed intermediate is not required).

97. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

98. Drug Price Competition and Patent Term Restoration Act of 1984, Pub. L. No. 98-417, 98 Stat. 1585 (1984) (codified as amended in scattered sections at 21 U.S.C. § 355, 35 U.S.C. §§ 156 and 271 (e)(1) (2000)). This is commonly known as the Hatch-Waxman Act. Title 35 U.S.C. § 156 specifically provides for a five-year patent extension.

99. Uruguay Round Agreements Act of 1994, 35 U.S.C. § 154(b)(2) (2008) (originally enacted as Pub. L. No. 103-465, 108 Stat. 4809, 4984-85 (1994)).

100. American Inventors Protection Act of 1999, Pub. L. No. 106-113, 113 Stat. 1501 (1999) (codified in scattered sections of 35 U.S.C.), amended by Pub. L. No. 107-273, 116 Stat. 1757-1922 (2002).

Of course, a patent can have a life of less than twenty years if it lapses for non-payment of maintenance fees, if the patent or patent claims are held invalid, or if the patent is abandoned, disclaimed, or dedicated.

On the other hand, when it comes to trade secrets the term may be indefinite. But that is rarely the case, as is evidenced by the notable examples of the Coca-Cola formula, the musical instrument cymbal, the Angostura Bitters, and the few others that provide examples to the contrary.¹⁰¹ Most products or devices will eventually be subject to analysis or reverse engineering, and manufacturing techniques that are more susceptible to trade secrecy may also lose secrecy in various ways. Trade secrecy may dissipate in a matter of a few years in view of the high degree of employee mobility and inadvertent or deliberate leakage. Again, the perceived differences in duration may not exist as a practical matter.

Regarding differences in protectable subject matter, the common perception is that the scope of possible protection for trade secrets is much broader than for patents. If section 101 of the Patent Code is compared with the definition of “trade secret” from the Uniform Trade Secret Act, that appears to be the case.¹⁰² The list of patentable categories according to the Patent Code is very brief, while the definition of trade secrets is open-ended.¹⁰³

With closer scrutiny, however, one must take into account two important court decisions regarding patents. In the Supreme Court decision *Diamond v. Chakrabarty*,¹⁰⁴ the Court held that, effectively, “anything under the sun that is made by man” is patentable.¹⁰⁵ In *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*,¹⁰⁶ the Federal Circuit stated that because formerly unpatentable business methods and computer programs are also patentable, the scope of patent protection is equally all-encompassing.¹⁰⁷ It is true that to be patentable fairly stringent requirements must be met in terms of novelty, utility, and unobviousness, but on the trade secrets side there are also fairly stringent requirements in terms of commercial value and secrecy measures that have to be put in place and maintained. Thus, it appears that the differences when it comes to scope of protectable subject matter are not very large at all, if there are

101. The Coca-Cola recipe is a well-known trade secret held over 100 years. The secret of making cymbals is another trade secret kept for over 200 years, and the Angostura Bitters is a food flavoring from the Caribbean Islands used to make Manhattans that has also been kept as a trade secret for over 200 years.

102. Compare 35 U.S.C. § 101 with UNIF. TRADE SECRETS ACT § 1(4).

103. Categories under the Patent Code include “process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. Contrast this with trade secret protection, which also includes commercial matters such as customer lists and other business information. UNIF. TRADE SECRETS ACT § 1(4).

104. 447 U.S. 303 (1980) (establishing the patentability of living organisms).

105. *Id.* at 309.

106. 149 F.3d 1368 (Fed. Cir. 1998).

107. *Id.* at 1373.

any.

Even with respect to the nature of protection, the question arises whether there is really a crucial difference. It is true that patents confer exclusive rights, that is, the right to exclude others from making, using, offering to sell, selling, or importing a given invention. On the other hand, trade secrets provide no protection against independent developers or against those who reverse engineer or analyze products that are secret or are produced by secret processes. Patent applications and patents, after they are published and the invention is disclosed, often spur competitors to invent around and develop improved products. These products may be separately patented, may not be dominated, and may become commercially more important than the earlier, more basic invention. The trade secret, on the other hand, if properly secured, may be safely maintained for a longer period of time. In addition, an important patent may cause competitors to seek invalidation.

There may not be much of a difference in terms of costs and efforts required to obtain and maintain patents and to secure and maintain trade secrets either, even though it is true that patenting can be expensive. However, implementing measures to safeguard trade secrets, if not already in place for other business and legal reasons, may be equally or more expensive over time. The matter of cost and effort, though, is of no import when it comes to protecting important technology.

XV. THE TRADE SECRET OWNER HAS PRIOR USER RIGHTS

It is often alleged that trade secrets provide weaker protection as they are fraught with serious disadvantages. Indeed, independent discovery and reverse engineering are solid defenses against trade secret misappropriation charges, and leakage is a constant threat. The Supreme Court in *Kewanee Oil* recognized this problem, and stated, “[P]atent law acts as a barrier, trade secret law functions relatively as a sieve.”¹⁰⁸ Moreover, there exists a belief that a later inventor/patentee of the same invention can enjoin a trade secret owner as an infringer from practicing his or her own invention. This is also an unfortunate misconception, as patent systems in foreign countries usually provide for so-called “prior user rights.”¹⁰⁹

In the United States, section 273 of the Patent Code includes the “First Inventor Defense.”¹¹⁰ Unfortunately, this first-to-invent defense provision bears little resemblance to a true prior user right provision as exists abroad and as was initially introduced as part of proposed patent

108. *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 489 (1974).

109. See, e.g., Mark A. Lemley & Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L.J. 1299, 1326 (2003).

110. 35 U.S.C. § 273 (2000).

reform legislation. The present version has exceptions and limitations that make it meaningless¹¹¹ because “serious and effective preparation” for commercial use¹¹²—such as animal and clinical studies and optimization of the manufacturing process—is excluded, and it is this R&D stage that is crucial. In order to assert the defense, the prior invention must have been reduced to practice more than one year before the patentee’s filing date.¹¹³ The one-year requirement is important because inventions often are conceived independently by more than one inventor within the same year due to outside stimuli. The defense, which formerly applied only to manufacturing processes, was further constricted to cover only methods of doing business, which became patentable in the wake of *State Street Bank*.¹¹⁴

Importantly, however, a good case can be made in the United States for the general proposition that the trade secret owner has a de facto prior user right to continue the practice of his trade secret based on two major premises. First, much thoughtful literature, going back to at least 1944, postulated such a right.¹¹⁵ Second, a later patentee has never enjoined a trade secret owner.

Ridsdale Ellis concluded in his classic treatise, *Trade Secrets*, “To give a patent to a subsequent inventor without barring him from suing the first inventor and secret user of the invention, would be to offer as a reward to anyone who could discover the invention by independent research the economic scalp of the first inventor and secret user.”¹¹⁶ A similar sentiment, according to Richard Bennett, resides in the cogent maxim, “[A] Constitutional award to one inventor does not result in a Constitutional penalty to another.”¹¹⁷

In the literature referenced above, it is also emphasized that a prior user right or an in personam right includes three major elements: (1) it is a first inventor’s common law right; (2) it is required by principles of equity and due process; and (3) failure to grant it amounts to taking property without compensation.¹¹⁸ The contrary position, espoused by patent *über alles* advocates, holds that when the choice is made to

111. See Lemley & Chien, *supra* note 109, at 1302 n.14 (stating that the defense is “extremely limited”).

112. Foreign patent laws commonly include “serious and effective preparation” in their “prior user rights” legislations.

113. 35 U.S.C. § 273(b)(1).

114. See *supra* text accompanying note 106.

115. See, e.g., George Benjamin, *The Right of Prior User*, 26 J. PAT. OFF. SOC’Y 329 (1944); James B. Gambrell, *The Constitution and the In Personam Defense of First Invention*, 39 J. PAT. OFF. SOC’Y 791 (1957); James B. Gambrell & Harold C. Herman, *The Second Inventors Patent, The Defense of First Invention, and Public Policy*, 41 J. PAT. OFF. SOC’Y 388 (1959).

116. RIDSDALE ELLIS, *TRADE SECRETS BY RIDSDALE ELLIS OF THE SUPREME COURT BAR* § 180 (1953).

117. Richard E. Bennett, *The Trade Secret Owner Versus the Patentee of the Same Invention: A Conflict?*, 57 J. PAT. OFF. SOC’Y 742, 762 (1975).

118. Karl F. Jorda, *The Rights of the First Inventor/Trade Secret User as Against Those of the Second Inventor/Patentee (Part II)*, 61 J. PAT. OFF. SOC’Y 593, 605 (1979).

forego a patent and to rely instead on trade secret protection, the trade secret owner assumes the risk of being enjoined by the patentee. This is also a clearly untenable position. How can there be such an assumed risk when the Supreme Court recognized trade secrets as viable and compatible alternatives to patents and when “no court has ever decided a case in which the issue was even raised”?¹¹⁹

The Federal Circuit’s decision in *Gore & Associates, Inc. v. Garlock, Inc.*¹²⁰ has mistakenly been interpreted as putting an end to this debate by resolving the perceived conflict in favor of the patentee.¹²¹ Far from it, this case only held that trade secrets of a third party are not patent-defeating prior art.¹²² Such a holding is an entirely different proposition from a holding that the trade secret owner is an infringer vis-à-vis the patentee. Maintaining secrecy is a sine qua non in trade secret law and is not to be equated with “concealment” in patent law. In 35 U.S.C. § 102(g), “concealment” means too long a delay in filing a patent application in relation to another applicant, i.e., in a situation where both resort to the patent system. This is to be clearly distinguished from a situation where one party relies on the trade secret system and is outside the patent system altogether.

XVI. EXEMPLARY CASES PROVE THE POINT

As stated above, technical and commercial information and collateral know-how that can be protected via the trade secret route cannot include information and know-how that is generally known, readily ascertainable, or constitutes personal skill. This exclusion, however, still leaves large amounts of data and know-how for protection under trade secrets and often also under additional improvement patents. In this regard, the industrial diamond process technology of General Electric Corp. (GE) is an excellent illustration of the synergistic integration of patents and trade secrets to secure invulnerable exclusivity.¹²³

The artificial manufacture of diamonds for industrial uses was a very lucrative business for GE.¹²⁴ GE also had the best proprietary technology for making such diamonds.¹²⁵ GE patented much of its technology and some of the patents had already expired, so that much of the technology was in the technical literature and in the public do-

119. Bennett, *supra* note 117, at 756.

120. 721 F.2d 1540 (Fed. Cir. 1983).

121. *See id.* at 1550.

122. *Id.* Prior art is the sum of technological information against which the patentability of an invention is judged.

123. *See* Lawrence Ingrassia, *How Secret G.E. Recipe for Making Diamonds May Have Been Stolen*, WALL ST. J., Feb. 28, 1990, at A1, A8.

124. *Id.*

125. *Id.*

main.¹²⁶ However, GE also kept certain distinct inventions and developments secret.¹²⁷ American and foreign companies were very interested in obtaining licenses to this technology but GE refused to license anyone.¹²⁸ Unable to make progress with GE, certain foreign interests resorted to industrial espionage.¹²⁹ A trusted star employee at GE, a national of the foreign country in question, who was above suspicion, was enticed with million dollar payments to spirit away GE's crown jewels.¹³⁰ Eventually, GE discovered the employee's deception, and the authorities caught, tried, and jailed him.¹³¹

Another example of the value of integrating trade secrets and patents is the case of *Wyeth v. Natural Biologics, Inc.*¹³² Since 1942, Wyeth has had an exclusive market on Premarin, the big-selling hormone-therapy drug.¹³³ Its patents on the Premarin manufacturing process—starting with pregnant mares' urine—expired decades ago, but the company has also held closely guarded trade secrets.¹³⁴ On behalf of a pharmaceutical company, which had been trying to come out with a generic version of Premarin for fifteen years, Natural Biologics stole the Wyeth trade secrets.¹³⁵ Wyeth sued and prevailed, getting a sweeping injunction, as it was an egregious case of trade secret misappropriation.¹³⁶

These cases illustrate extremely well the value of trade secrets and, more importantly, the merits of marrying patents with trade secrets. Indeed, these cases show that GE and Wyeth could have the best of both worlds. Were GE's or Wyeth's policies to rely on trade secrets in this manner or Coca Cola's decision to keep its formula secret rather than to patent it damnable? Clearly not.

Other recent decisions, such as *C&F Packing Co. v. IBP, Inc.*¹³⁷ (the Pizza Hut case) and *Celeritas Technologies, Ltd. v. Rockwell International Corp.*,¹³⁸ also demonstrate that it is now well established that dual or multiple protection for intellectual property is not only possible but essential to exploit the intellectual property overlap and provide a fallback position.¹³⁹

126. *Id.*

127. *Id.*

128. *Id.*

129. *Id.*

130. *Id.*

131. *Id.*

132. Civ. No. 98-2469, 2003 WL 22282371 (D. Minn. Oct. 2, 2003).

133. *Id.* at *1.

134. *Id.* at *2-*5.

135. *Id.* at *8-*13.

136. *Id.* at *26-*29.

137. 224 F.3d 1296 (Fed. Cir. 2000).

138. 150 F.3d 1354, 1358 (Fed. Cir. 1998) (holding that "[i]mplementation details and techniques that [go] beyond information disclosed in [a] patent" may constitute proprietary information).

139. *See C&F Packing Co.*, 224 F.3d at 1301-03; *Celeritas Techs., Ltd.*, 150 F.3d at 1358.

In the Pizza Hut case, for instance, the court ordered Pizza Hut to pay \$10.9 million to C&F for misappropriation of trade secrets.¹⁴⁰ After many years of research, C&F had “developed a process for making and freezing a precooked sausage for pizza toppings” that had the characteristics of freshly cooked sausage and “surpassed other precooked products in price, appearance, and taste.”¹⁴¹ C&F had obtained one patent on the equipment to make the sausage and another patent on the process itself.¹⁴² It continued to improve the process after submitting its patent applications and kept its new developments as trade secrets.¹⁴³

Pizza Hut agreed to purchase large quantities of C&F’s sausage so long as C&F divulged its unique cooking and freezing process to other Pizza Hut suppliers.¹⁴⁴ C&F agreed to disclose the sausage-making process to certain Pizza Hut suppliers, after entering into confidentiality agreements with them.¹⁴⁵ As a result, other Pizza Hut suppliers were able to replicate C&F’s process.¹⁴⁶ Pizza Hut subsequently refused to purchase any more of C&F’s sausage barring a massive price reduction.¹⁴⁷

Pizza Hut furnished IBP, one of Pizza Hut’s largest suppliers of meat products, with C&F’s sausage-making process.¹⁴⁸ IBP was required to enter into a confidentiality agreement with Pizza Hut concerning the process.¹⁴⁹ After relying on information from Pizza Hut and a former C&F employee, IBP began using C&F’s sausage-making process and providing the sausage to Pizza Hut.¹⁵⁰ As a result, C&F sued both IBP and Pizza Hut for patent infringement and misappropriation of trade secrets.¹⁵¹ The court made two findings: first, on summary judgment, that the patents of C&F were invalid because the inventions had been on sale more than one year before the filing date;¹⁵² and second, after trial, that C&F possessed valuable and enforceable trade secrets, which were indeed misappropriated.¹⁵³

The above cases are wonderful examples of trade secrets serving as fallback positions after patents expire or become invalid and no longer provide any protection. Indeed, a patent alone can be a slender reed in light of the existence of the many factors that can make a patent invalid

140. *C&F Packing Co.*, 224 F.3d at 1300-01.

141. *Id.* at 1299.

142. *Id.*

143. *Id.*

144. *Id.*

145. *Id.*

146. *Id.*

147. *Id.*

148. *Id.* at 1300.

149. *Id.*

150. *Id.*

151. *Id.*

152. *Id.* at 1300-01.

153. *Id.* at 1308.

or unenforceable, such as: narrow claims granted by a patent office; enforcement being a daunting and expensive enforcement costs; and very limited or the complete absence of coverage in foreign countries, as well as other attrition factors.

XVII. CONCLUSION

In conclusion, it bears reiteration that patents and trade secrets are viable alternative modes of protection in the intellectual property field. Hence, it is patents *and*—not *or*—trade secrets because they can and should be relied upon at the same time and side-by-side to protect any given invention or innovation. Far from being irreconcilable, patents and trade secrets make for a happy marriage as compatible partners. Thus, a policy and practice of utilizing both routes for optimal protection and invulnerable exclusivity is rational, practical, and profitable.

