Trade Secrets and Trade-Secret Licensing

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ABSTRACT

Exploiting the overlap between intellectual property (IP) categories, especially between patents and trade secrets, is an important facet of IP management. Patents (which require full disclosure) and trade secrets (which are kept confidential) are not incompatible. On the contrary, they can complement one another: patents protect inventions and trade secrets protect collateral know-how. Using patent and trade-secret protection together in a synergistic manner results in a potent exclusivity. Moreover, as licensing has become the preferred instrument for technology transfer, most technology licenses are hybrids, covering both patents and trade secrets. This situation has evolved because licenses that cover patents but do not allow access to collateral know-how usually do not permit patented technology to become commercialized. Despite the ease of obtaining trade-secret protection—immediate efficacy and low cost—this type of IP protection is too often neglected.

1. INTRODUCTION

The term *trade secret* refers to information that is maintained in secrecy and has commercial value. World Trade Organization (WTO) treaties (General Agreement on Trade and Tariffs [GATT] and the Agreement on Trade-Related Aspects of Intellectual Property Rights [TRIPS]), which have 150 nation-signatories, protect trade secrets. The following is an excerpt, addressing the concept of trade secrets, from the TRIPS Agreement:

> *Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices so long as such information:*
> *(a) is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;*
> *(b) has commercial value because it is secret; and*
> *(c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.*[1]

If national legislation is not already in compliance, all WTO countries must adopt this treaty provision. Although the provision eschews the actual term *trade secret,* it certainly refers to what are commonly known as trade secrets and follows the definition of the American Uniform Trade Secrets Act (UTSA) of 1985, cited below (section 2). The language of the North American Free Trade Agreement (NAFTA), binding upon the Canada, Mexico, and the United States also conforms closely with the definitions in the UTSA.

2. DEFINING TRADE SECRET

The UTSA, now in force in 45 U.S. states, defines *trade secret* as follows:

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> *A trade secret is any information, including a formula, pattern, compilation, 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.*[2]

The most widely used definition, from 1929, of *trade secret* is found in the Restatement of Torts.[3] 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 [or her] 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.*[4]

In applying this 1929 definition to determine whether trade secrets exist, courts have relied on the following criteria:

- extent to which the information is known outside of the business
- extent to which it is known by employees and others involved in the business
- measures taken to guard the secrecy of the information
- value of the information to the business and to competitors
- amount of effort or money expended in developing the information
- ease or difficulty with which the information could be properly acquired or duplicated by others

The most recent and, in this author's view, the broadest and best definition of *trade secret* is set forth in Restatement (Third) of Unfair Competition:[5]

> *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.*

This definition most likely will eventually replace the earlier definitions. As of 1996, the Economic Espionage Act (EEA), a federal criminal trade-secret statute, includes the following definition:

> *(A) The term trade secret means all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, 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 —*
>
> *(B) the owner thereof has taken reasonable measures to keep such information secret; and 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.*

3. WHAT IS AND WHAT IS NOT A TRADE SECRET

The definitions included above provide a fairly clear picture of what constitutes a trade secret. At the most basic level, a trade secret is simply information and knowledge. More specifically, it is any proprietary technical or business information, often embodied in inventions, know-how, and show-how. The definitions roughly agree on three requirements that must be met for enforceable trade secrets to exist. The proprietary information must be:

1. secret, in the sense that it is not generally known in the trade
2. valuable to competitors that do not possess it
3. the subject of reasonable efforts to safeguard and maintain it in secrecy

There are critical limitations on trade secrets and pitfalls in trade-secret enforcement and litigation. The requirement to maintain secrecy is a

frequent pitfall. Moreover, any information that is readily ascertainable, or is derived from the personal skills of employees, cannot be considered an enforceable trade secret.

Trade secret protection applies not just to manufacturing processes, early stage inventions, and subpatentable innovations, as is sometimes believed. Patentable inventions can be considered trade secrets; this was made clear in the Supreme Court decision in *Kewanee Oil v. Bicron*, which recognized trade secrets as perfectly viable alternatives to patents.[6] In holding that state trade-secret law is not preempted by the federal patent law, the court tellingly held:

> *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… . 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… . We conclude that the extension of trade-secret protection (even) to clearly patentable inventions does not conflict with the patent policy of disclosure*.

Since the essence of the patent system is the public disclosure of inventions, it is sometimes suggested that keeping inventions secret is wrong. This is a serious misconception. The decision in *Dunlop Holdings v. Ram Golf* made clear that the public benefits from trade secrets. Trade secrets generally do not suppress economic activity, because employees, suppliers, licensees, and others are given access to the necessary information.[7] Additionally, given the high incidence of employee mobility and inadvertent or deliberate leakage, many trade secrets dissipate within a few years. Possible reverse engineering and analysis of products are additional ways that trade secrets may dissipate or become compromised. In other words, trade secrets are secret only in a limited legal sense.

Contrary to conventional wisdom, trade-secret protection can be used in conjunction with patents to protect the tremendous volume of associated know-how that exists for any patentable invention but that cannot be disclosed in a patent specification.

It is useful, also, to specify the use of the terms *know-how* and *trade secret*. While the key requirement of a trade secret is secrecy, know-how does not necessarily require or imply secrecy, as can be seen from the following definitions:

- the knowledge and skill required to do something correctly.[8]
- information that enables one to accomplish a particular task or to operate a particular device or process.[9]
- 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.[10]

Know-how is not protectable as an IP right. Know-how acquires trade-secret status only if it is secret and has economic value and if measures are in place to secure its secrecy. Know-how is intellectual property, however, and is protected if it qualifies as a trade secret. Since we do not speak of "invention and patent licenses," it is likewise inappropriate to refer to "know-how and trade-secret licenses."

4. HISTORY OF TRADE SECRETS

Trade secret law is the oldest form of IP protection. In ancient Rome, trade secret laws established legal consequences for a person who induced another's employee (or slave) to divulge secrets relating to the master's commercial affairs. Trade secrecy was practiced extensively in Medieval European guilds. Modern trade-secret law, however, evolved in the early 19th century, in England, in response to the growing accumulation of technology and know-how and the increased mobility of employees. In 1868, a Massachusetts court held, in *Peabody v. Norfolk,* that a secret manufacturing process was considered property, and was protectable against misappropriation, and that a secrecy obligation for an employee outlasted the term of employment. The decision also held that a trade secret can be disclosed confidentially to others who need to

practice it, and that a recipient can be enjoined from using a misappropriated trade secret. *Peabody v. Norfolk* clearly anticipated the main features of our present trade-secret system, and by the end of the 19th century the principal aspects of contemporary law were well established. [11]

5. IMPORTANCE OF TRADE SECRETS

Trade secrets are the crown jewels of corporations. Indeed, trade secrets are now even more relevant than they were a few decades ago as a tool for protecting innovation, and the stakes involved in their protection are getting higher. Injunctions are now a greater threat in trade-secret misappropriation cases than only a decade ago, and damage awards have been in the hundreds of millions of U.S. dollars in recent years. In a recent trial in Orlando, Florida, two businessmen were seeking US$1.4 billion in damages from the Walt Disney Company, accusing them of stealing trade secrets for use in a Walt Disney World sports complex. The jury awarded the businessmen US$240 million.[12] In another recent case, Cargill, Inc. was found to have misappropriated genetic-corn-seed trade secrets belonging to then Pioneer Hi-Bred International, Inc., and was forced to pay US$300 million. In another instance, Lexar won US$465.4 million in damages from Toshiba for misappropriation of controller technology that enabled a memory chip to communicate with its host device.[13]

Mark Halligan recently proclaimed, "*Trade secrets are the IP of the new millennium and can no longer be treated as a stepchild.*" James Pooley concurred, "*Forget patents, trademarks and copyrights … trade secrets could be your company's most important and valuable assets.*"[14] Henry Perritt[15] said trade secrets are "*the oldest form of IP protection,*" and that, "*patent law was developed as a way of protecting trade secrets without requiring them to be kept secret and thereby discouraging wider use of useful information.*" This interpretation makes patents a supplement to trade secrets, rather than the other way around.

In fact, according to a 2003 survey on strategic IP management sponsored by the Intellectual Property Owners Association (IPO), patents are rarely viewed as an IP panacea, but rather as a supplement to other forms of IP protection.[16] Patents have limits, such as early publication, invent-around feasibility, and strict patentability requirements. Survey respondents did rate proprietary technology highly as a key source of competitive advantage, and a large majority of respondents (88%) cited skills and knowledge as the most important intellectual assets. Trade secrets are therefore directly implicated in the protection of proprietary skills and knowledge.

Moreover, patents are only the tips of icebergs in an ocean of trade secrets. Over 90% of all new technology is covered by trade secrets. And over 80% of all license and technology transfer agreements cover proprietary know-how (trade secrets) or are hybrid agreements covering both patents and trade secrets. Bob Sherwood, an international IP consultant, calls trade secrets the "*workhorse[s] of technology transfer.*"

Finally, and very importantly, trade-secret protection operates without delay and without undue cost, while patents are territorial, expensive to obtain, and can be acquired only in certain countries.

6. TRADE SECRET CHARACTERISTICS

From the above trade-secret definitions, we can understand the following salient characteristics of trade secrets and how they differ substantially from other types of IP rights.

For trade secrets, there is no subject matter or term limitation, registration or tangibility requirement. Furthermore, there is no strict novelty requirement, and trade-secret protection obtains as long as the subject matter is not generally known or available.

What *does* matter is secrecy—that the information is not known by outsiders. And maintaining secrecy requires reasonable affirmative measures to safeguard it. Such measures might include:

- stipulating in writing a trade-secret policy
- informing employees of the trade-secret policy
- having employees sign employment agreements with confidentiality obligations

- restricting access to trade-secrets (on a need-to-know basis)
- restricting public accessibility and escorting visitors
- locking gates and cabinets to sites that house trade secrets
- labeling trade-secret documents as proprietary and confidential
- screening the speeches and publications of employees
- using secrecy contracts in dealing with third parties
- conducting exit interviews with departing employees

It is important to consider that while sufficient economic value or competitive advantage is significant, the proper touchstone for a trade secret is not *actual use* but only *value to the owner*. This means that negative R&D results can give a competitive advantage (just as positive results can), in that the owner of the information has a greater knowledge of what are, and *what are not*, feasible and/or viable options for further commercialization. If competitors become privy to what is not feasible, by sidestepping known blind alleys, their R&D activities can accelerate, and any strategic or competitive advantage originally held by the owner will diminish.

Finally, the misappropriation of trade secrets is actionable if the secrets were acquired improperly, if a trade secret that was acquired improperly is either used or disclosed, or if an individual violates a duty to maintain confidentiality. A trade secret is acquired by *improper means* if it was obtained through theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, or through espionage, including electronic espionage. Remedies for misappropriation of trade secrets include actual and punitive damages, profits, reasonable royalties, and injunctions. The *proper means* of acquiring a trade secret (which do not support a claim for misappropriation) include independent discovery, reverse engineering, chemical analysis, or discovery from observing what has been allowed to enter the public domain.

7. INTEGRATION OF IP RIGHTS

Literature and presentations on IP strategies, IP valuation, and other IP topics almost always address patents and patent portfolios. This focus on patents, however, overlooks the fact that legal protection of innovations of any kind, especially in high-tech fields, requires the use of more than one IP category. This overlap assures dual or multiple protections.

Jay Dratler, in his *Intellectual Property Law: Commercial, Creative, and Industrial Property*, was the first to "*tie all the fields of IP together.*" According to Dratler, IP rights, formerly fragmented by specialties, are now a "*seamless web*" due to progress in technology and commerce.[17] Six years later in 1997, the authors of *Intellectual Property in the New Technological Age* also stressed the need to "*avoid the fragmented coverage … by approaching IP as a unified whole*" and by concentrating on the "*interaction between different types of IP rights.*"[18] Today, we have a unified theory of IP management, a single field of law with subsets, and a significant overlap between IP fields. Several IP rights are available for the same IP or for different aspects of the same IP. Not taking advantage of the overlap misses opportunities, and, according to Dratler, amounts to a kind of "*malpractice.*"

Especially for high-tech products, trademarks and copyrights can supplement patents, trade secrets, and mask works ("blueprints" used in the R&D and production of semiconductor chips). One IP category, often patents, may be the "center of gravity" in certain instances. Other IP rights categories are then supplemental but equally valuable. The supplemental forms of IP may function to:

- cover additional subject matter
- strengthen exclusivity
- invoke additional remedies in litigation
- provide a backup if a primary IP right becomes invalid, thus providing synergy and optimal legal protection

Dratler provides the following examples:

a) Multiple protection for a data processing system can involve:
   - patented hardware and software

- patented computer architecture on circuit designs
- trade-secret production processes
- copyrighted microcode
- copyrighted operating system
- copyrighted instruction manual
- semiconductor chips protected as mask works
- consoles or keyboards protected by design patents, or as trade dress under trademark principles
- trademark registration

b) Multiple protection for a diagnostic kit involving monoclonal antibodies:
- product patent on the test kit
- process patent on the preparation of the antibodies
- trade secrecy for production know-how
- copyright for test kit's instructions
- trademark

Even these examples are somewhat limited, because trade secrets can protect not only know-how and processes, but also large amounts of collateral data, information, and other know-how that are not found in patent specifications.

Other valuable examples:

c) Multiple protection of aesthetic designs:
- patent
- copyright for separable features
- trademark for nonfunctional features
- trade dress for overall appearance
- utility patent for functional features
- trade secrets for collateral and collateral know-how and data

d) Multiple protection for plants and plant parts:
- plant patents
- plant variety protection (PVP) certificates
- utility patents
- trade secrets[19]

To encapsulate the IP integration concept, numerous practitioners recommend to clients to do the following:
- exploit the overlap
- develop a fall-back position
- create a web of rights
- build an IP estate
- build a "wall"
- overprotect (multiple layers of IP rights protection)
- lay a "minefield"

The most important IP management and technology licensing strategy is to exploit the overlap between patents and trade secrets.

8. INITIAL PATENT/TRADE-SECRET EVALUATION

IP management always requires deciding during development between seeking patent protection and maintaining trade secrecy. The Initial Patent/Trade Secret Evaluation Questionnaire (Box 1) can be used to facilitate the decision and to help determine the center of gravity (often patents for products and trade secrets for processes).[20] To avoid the implications of the term *invention* and to cover the wide variety of innovations that may be addressed by this questionnaire, the term *development* is used generically.

The 11 questions are arranged by function, not importance, and roughly correspond to marketing (questions 1–4), technical (questions 5–8), and legal (questions 9–11) categories. Each question should be answered on a scale from 1 to 10. The responses are then totaled. With the current number of questions, the total 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 doesn't really matter which approach is followed 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 can be analyzed or reverse engineered. However, there need be no prejudice about resorting to the other strategy to protect collateral aspects and improvements.

Box 1: Initial Patent/Trade Secret Evaluation Questionnaire

1) **Is the development 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-Limited 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 development be ascertained from commercial product (could the product be "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 was 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) **Is it likely that dissemination of the development from within the company would be difficult to control?**
    1 2 3 4 5 6 7 8 9 10
    Yes-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 Score _____

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

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® situation), but presumably these would be limited to situations where the nature of the product could not be easily ascertained 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 (see Question 4, about commercial significance). The desirability of patenting the process itself would depend on the answers to Questions 2–11.

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

Question 3. This addresses the opposite of the issue in Question 2, namely the defensive value of a patent publication. Hence, while the development may be of minimum commercial advantage to the company, thereby favoring trade secrets, a patent (or publication) should be considered if a competitor's exclusivity would be disadvantageous.

Question 4. This is a difficult question. Some writers have suggested that a product with a short commercial life favors a patenting approach, while a long life favors trade secrets. In this author's view, life span is not a particularly useful criterion since it depends on factors unrelated to the development itself. Estimating the future lifespan for a product under development may also be a highly subjective matter. In some circumstances this question might not have to be considered.

Question 5. The ability to design around an invention is a function of the nature of the patent protection. If a claim is easily avoided, its value is considerably reduced. The destructive effect of trade-secret protection by publication is therefore unchanged, and the relative value of the trade-secret option is higher (because of the decreased value of patent protection).

Question 6. Counterbalancing Question five is the issue of whether, if the trade-secret route is chosen, a competitor will nevertheless be able to ascertain the nature of the development from the product. If competitors can reasonably easily ascertain the nature of the product, patent protection would be favored.

Question 7. The issue of disclosure is often overlooked. For example, the required disclosure of a culture collection-deposit number could provide competitors with access to the culture itself, and this access might greatly outweigh the value of patent protection. The impact of a disclosure of an unclaimed or intermediate process might also have a bearing on whether the final product should be patented.

Question 8. In many cases, evaluating whether others could arrive at the same development independently could be extremely difficult. If, however, it is known that others are working in the field, it would seem quite possible that they could arrive at the same development and patent it first. Consequently, one might eventually be excluded from using the product if patent protection is not sought.

Question 9. Even though patent protection might be indicated for other reasons, this could be counterbalanced by the fact that any coverage eventually obtained would be weak. A weak patent, ignored by competitors and for which the company is unwilling to sue, is as good as no patent. In fact, it may be worse, since the opportunity for trade-secret protection would have been irrevocably lost through publication.

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

Question 11. This question is related to question nine but goes to the issue of inherent

enforceability rather than patent strength. If detecting infringement would be extremely difficult, the ultimate value of a patent would be reduced. Such reduced value must be weighed against the cost of the loss of trade-secret protection caused by patent publication. If the patent rights cannot be effectively enforced, then what ensues may become a de facto release of a trade secret.

9. THE PATENT/TRADE SECRET INTERFACE

Trade secrets are the first line of defense, but they not only come before patents but can go with patents and even follow patents (see sections 11 and 12, below). Moreover, as a practical matter, licenses under patents without access to associated or collateral know-how are often not enough for taking advantage of the patented technology commercially. This is because patents rarely disclose the ultimate scaled-up commercial embodiments. Data and know-how, therefore, are immensely important. In this regard, consider the following persuasive comments:

- *In many cases, particularly in chemical technology, the know-how is the most important part of a technology transfer agreement.*[21]
- *Acquire not just the patents but the rights to the know-how. Access to experts and records, lab notebooks, and reports on pilot-scale operations, including data on markets and potential users of the technology are crucial.*[22]
- *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.*[23]
- *[In technology licensing] related patent rights generally are mentioned late in the discussion and are perceived to have 'insignificant' value relative to the know-how.*[24]
- *Trade secrets are a component of almost every technology license… [and] can increase the value of a license up to three to ten times the value of the deal if no trade secrets are involved.*[25]

A very striking case about the importance of proprietary know-how comes from Brazil. Brazilian officials learned a quick and startling lesson when they decided, some years ago, to translate important patents that issued in developed countries into Portuguese for the benefit of Brazilian industry. They believed that this was all that was necessary to enable their industries to practice these foreign inventions without paying royalties for licenses. Needless to say, without access to the necessary know-how, this scheme was an utter failure. This oversight is somewhat surprising, since Brazil, following the amazing progress and successes of the Asian tigers, had years earlier begun a project of importing technology (including know-how) 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. And, in fact, importing the technologies led not only to exports of improved products, but also to exports of the resulting improved technology to developing countries in Africa, the Middle East, and the rest of Latin America. Such an importation/exportation policy is termed reverse technology transfer.[26]

To reiterate, patents and trade secrets are not mutually exclusive but actually highly complementary and mutually reinforcing. This is partly why the U.S. Supreme Court has recognized trade secrets as perfectly viable alternatives to patents: "*The extension of trade-secret protection to clearly patentable inventions does not conflict with the patent policy of disclosure.*"[27] Interestingly, in his concurring opinion in the Kewanee Oil[28] decision, Justice Marshall was *"persuaded"* that *"Congress, in enacting the patent laws, intended merely to offer inventors a limited monopoly [*sic*] in exchange for disclosure of their inventions [rather than] to exert pressure on inventors to enter into this exchange by withdrawing any alternative possibility of legal protection for their inventions.*" Thus, it is clear that patents and trade secrets can not only coexist but are also in harmony with each other. "*[T]rade-secret/patent coexistence is well-established, and the two are in harmony because they serve different economic and ethical functions.*"[29]

In fact, patents and trade secrets are inextricably intertwined, because the bulk of R&D data and results, and of associated collateral know-how for any commercially important innovation, cannot, and need not, be included in a patent application. Such information deserves, and requires, the protection that trade secrets can provide. In the past, and sometimes still today, if trade-secret maintenance is contemplated (for example, for a manufacturing process technology) the question is always phrased as a choice between patents and trade secrets. For example, titles of articles discussing the matter read, "Trade Secret vs. Patent Protection"; "To Patent or Not to Patent?"; "Trade Secret or Patent?"; and "To Patent or to Padlock?" This perspective imagines that patents and trade secrets are substantially different in terms of duration and scope of protection and have clearly perceivable advantages and disadvantages. However, as this chapter has demonstrated, the perceived differences are illusory. The life of a patent is roughly 20 years from filing, and an average trade secret may last but a few years. Nor do they differ in regard to the scope of protection, since virtually everything produced with human ingenuity is potentially patentable. And while a patent protects against independent discovery and a trade secret does not, a patent can lead competitors to attempt to design or invent around it. A properly guarded and secured trade secret, however, may withstand attempts to crack it.

10. HOW PATENTS AND TRADE SECRETS ARE COMPLEMENTARY

It is unnecessary and, in fact, shortsighted to choose one IP strategy over another. Indeed, the question is not so much whether to patent or to padlock, but rather what to patent and what to keep a trade secret. Of course, it may be best to both patent and padlock, thus integrating patents and trade secrets for the optimal, synergistic protection of innovation.

It is true that patents and trade secrets are opposed on the issue of disclosure. Information that is disclosed in a patent is no longer a trade secret. But patents and trade secrets are indeed complementary, especially under the following circumstances. In the critical R&D stage, before any patent applications are filed and before applications are published and patents issued, trade-secret law dovetails very nicely with patent law.[30] If an invention has been fully described so as to enable a person skilled in the art to make and use it, and if the best mode for carrying out the invention, if available, has been disclosed (as is required in a patent application), all associated or collateral know-how not divulged can, and should, be retained as a trade secret. All of the massive R&D data—including data pertaining to better modes developed after filing, whether or not inventive—should also be maintained as trade secrets, if the data is not disclosed in subsequent applications. Complementary patenting and padlocking is tantamount to having the best of both worlds, especially when technologies are complex and consist of many patentable inventions and volumes of associated know-how.

11. BEST MODE AND ENABLEMENT REQUIREMENTS

The conventional wisdom is that, because of best mode and enablement requirements, trade secret protection cannot coexist with patent protection. This, also, is a serious misconception. These requirements apply only at the *time of filing*, only to the *knowledge of the inventor(s),* and only to the *claimed* invention.

Patent applications are filed early in the R&D stage to get the earliest possible filing or priority date. The patent claims tend to be narrow in order to achieve distance from prior art. Therefore, the specification normally describes rudimentary lab experiments or prototypes in only a few pages; the best mode for commercial manufacture and use are developed later. The best mode and the enablement requirements are thus no impediments to maintaining, as trade secrets, the mountains of collateral know-how developed after filing.

The recent decision in *CFMT v. Yieldup International* is particularly germane to this point: "*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."[31] Such reasoning applies equally well to the best mode requirement.

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.*"[32] In the process, he adds, valuable know-how is generated, which, even if inventive and protectable by patents, can be maintained as trade secrets. Rosenberg asserts that there is "*nothing improper in patenting some inventions and keeping others trade secrets.*" Likewise, Tom Arnold asserts 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.*"[33]

Gale Peterson also emphasizes that "*the patent statute only requires a written description of the* claimed *invention and how to make and use the* claimed *invention*." He therefore advises that, since allowed claims on a patentable system usually cover much less than the entire scope of the system, the disclosure in the application be limited to that necessary to support the claims in a 35 U.S.C. §112 sense (that is, having sufficient information to enable one to make and use the invention) and that every effort be taken to maintain the remainder of the system as a trade secret.

In short, manufacturing-process details, even if available, are not a part of the statutorily required best mode and enablement disclosure of a patent, and it is in this process area where "best modes" for scale-up toward actual production very often lie.

12. EXEMPLARY TRADE SECRET CASES

Of course, it goes without saying that technical and commercial information and collateral know-how that can be protected with trade secrets cannot include information that is generally known, readily ascertainable, or constitutes personal skill. But this exclusion still leaves masses of data and know-how that are protectable as trade secrets—and often also with additional improvement patents. For example, GE's industrial-diamond-process technology is an excellent illustration of the synergistic integration of patents and trade secrets to secure invulnerable exclusivity.

The artificial manufacture of diamonds for industrial uses was very big business for GE, and they had the best proprietary technology for making these diamonds. GE patented much of its technology, and when the patents expired, much of the technology was in the technical literature and in the public domain. But GE also kept certain distinct inventions and developments secret. The Soviet Union and a Far East country were very interested in obtaining licenses to this technology, but GE refused to license to anyone. After getting nowhere with GE, the Far East interests resorted to industrial espionage. A trusted fast-track star performer at GE, a national of that country, was enticed with million dollar payments to spirit away GE's precious trade secrets. The employee was eventually caught, tried and jailed.

Similarly, Wyeth has had an exclusive position on Premarin®, the high-selling hormone-therapy drug, since 1942. Their patents on the manufacturing process (starting with pregnant mares' urine) expired decades ago, but the company also held closely guarded trade secrets. On behalf of a pharmaceutical company that had been trying to come out with a generic form of Premarin® for 15 years, Natural Biologics stole the Wyeth trade secrets. Wyeth sued, prevailed, and got a sweeping injunction, as this was clearly an egregious case of trade-secret misappropriation.

These cases illustrate 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, patenting their inventions and still keeping their competitive advantage by maintaining production details in secrecy. Were GE's or Wyeth's policies to rely on trade secrets in this manner or was Coca Cola's decision to keep its

formula a secret rather than to patent it, unwise and careless? Clearly not.

Other recent decisions, such as *C&F Packing v. IBP and Pizza Hut* and *Celeritas Technologies v. Rockwell International*, demonstrate that dual or multiple IP protection is not only possible but essential to exploit the IP overlap and provide a fallback.[34]

In the *Pizza Hut* case, for instance, Pizza Hut was made to pay US$10.9 million to C&F for misappropriation of trade secrets.[35] 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. C&F had obtained a patent on the equipment to make the sausage and also one on the process for making the sausage. C&F improved the process after submitting its patent applications and kept its new developments as trade secrets.

Pizza Hut agreed to buy C&F's precooked sausage on the condition that C&F divulge its process to several other Pizza Hut suppliers, ostensibly to assure that backup suppliers were available to Pizza Hut. In exchange, Pizza Hut promised to purchase a large amount of precooked sausage from C&F. Accordingly, C&F disclosed the process to several Pizza Hut suppliers and entered into confidentiality agreements with them. Subsequently, Pizza Hut's other suppliers learned how to duplicate C&F's results. Pizza Hut then told C&F that it would not purchase any more of their sausage without drastic price reductions.

One of Pizza Hut's largest suppliers of meat products other than sausage was IBP. Pizza Hut furnished IBP with a specification and formulation of the sausage toppings and IBP signed a confidentiality agreement with Pizza Hut concerning this information. In addition, IBP hired a former supervisor in C&F's sausage plant as its production superintendent, but then fired this employee five months later, after it had implemented its sausage-making process and Pizza Hut was buying the precooked sausage from IBP.

C&F then brought suit against IBP and Pizza Hut for patent infringement and misappropriation of trade secrets, and the court found 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. However, the court determined that C&F possessed valuable and enforceable trade secrets, which had indeed been misappropriated. What a great example of trades secrets serving as backup where patents fail to provide any protection!

In certain instances, a patent is a weak instrument indeed, given the many potential patent attrition factors, such as:

- doubtful patentability due to patent-defeating grounds
- narrow claims granted by a patent office
- the fact that "*only about 5% of a large patent portfolio*" has commercial value[36]
- the short life of a patent (average effective economic life is "*only about five years*")[37]
- enforcement of patents is daunting and expensive
- limited nature or lack of coverage in some countries

13. TRADE SECRETS AND HYBRID LICENSES

In trade-secret licensing practice, the threshold concern one encounters is the so-called black box dilemma. Two pieces of Anglo-Saxon wisdom describe it vividly. The trade-secret owner cannot "let the cat out of the bag," and the potential licensee will not want to "buy a pig in a poke." In plainer words, unrestricted disclosure of a new invention or proprietary know-how would result in the certain loss of trade-secret rights. On the other side, the potential recipient is unlikely to acquire something sight unseen. Fortunately, there is a perfect way out of this quandary. It is a secrecy agreement, also called a nondisclosure agreement, a confidential disclosure agreement, or a prenegotiation agreement. In negotiating and drafting such an agreement, the parties have different concerns that have to be addressed.

Trade secret owners will want to know:

- What mechanisms and procedures should be used to divulge the contents of the black box?

- What restrictions should be placed on recipients with respect to their use of the information in the black box, if they elect to use the information or if they decide not to use the information?
- How long and how thoroughly should recipients be permitted to examine the contents of the black box?
- How much should they charge for a peek into the black box?

On the other side, trade-secret recipients will want to know:

- What restrictions should they accept on use of the information if they want to license and use it?
- What restrictions should they accept on the future use of the information, if they do not want to license it?
- What if the information is already in the public domain?
- What if it turns out that they are already in possession of the information, or an important part of it?
- How much should they pay for a look into the black box?

A written agreement is the safest way to preserve secrecy and the best way to arrange an agreement. It should have provisions that define the area of technology with precision, establish a confidential legal relationship between the parties, furnish proprietary information for a specific purpose only, oblige the recipient to hold information in confidence, and spell out exceptions to secrecy obligations. The last could include information already in the public domain, information that later becomes public knowledge other than through the fault of the recipient, information that is already known to the recipient or that later comes into the possession of the recipient through a third party that has no secrecy obligation to the owner. Very importantly, the written agreement should limit the duration of the secrecy obligation.

Similar critical provisions should be incorporated into trade-secret licenses, technical assistance agreements, and hybrid patent/trade-secret licenses. The provisions should accompany the typical operational clauses that spell out license grants, royalty payments, indemnities, warranties, terms and termination conditions, and other miscellaneous matters.

While such hybrid agreements are very prevalent in the United States, they are quite problematic, since it is a misuse of a patent or an antitrust violation to exact royalty payments after a patent ceases to be in force.[38] This could happen, since the lives of trade secrets are potentially indefinite while patents have a finite lifetime. Hence, depending on how a license agreement is drafted, in the United States it can become impossible to agree to spread royalty payments over a specified term that extends beyond the lives of patents or trade secrets that are embodied in such an agreement. In an American hybrid licensing agreement, the obligation to pay royalties thus ends, even though valuable trade secrets are still in play. But there are solutions to this predicament:

- separate patent and trade-secret agreements
- make initial lump-sum payment(s)
- clearly differentiate between patent and trade-secret rights
- separate allocation of royalties to each of the rights
- provide for appropriate decreases in the royalty rate if patents terminate or are declared invalid or if applications do not issue
- reduce the royalty-payment period (for example to 10 years)
- grant a royalty-free license to patents
- grant a trade-secret license but no patent license

The choice would depend largely on the relative role and value of patents and trade secrets in the given technology.

14. CONCLUSION

Trade secrets are a viable mode of IP protection. They can be used instead of patents, but, more importantly, they can and should be used side-by-side with patents, so that inventions volumes of collateral know-how can be protected. Far from

being irreconcilable, patents and trade secrets make for a happy marriage as equal partners: it is patents *and* trade secrets, not patents *or* trade secrets.

With patents *and* trade secrets it is clearly possible to cover additional subject matter, strengthen exclusivity, invoke different remedies in litigation, and have a backup when the first protection tool becomes invalid or unenforceable. Exploiting the overlap between patents and trade secrets for optimal protection is a practical, profitable, and rational IP management and licensing strategy.

License agreements have become the preferred instruments for technology transfer. Hybrid patent/trade-secret agreements are also prevalent, since patent disclosures generally cover only embryonic or early stage R&D results, which are insufficient for commercializing the patented technology, absent access to collateral proprietary know-how. This know-how, protectable as trade secrets, need not be included in patent applications and is usually developed after filing applications. Such hybrid agreements require clauses that not only maintain trade secrecy for the benefit of the trade-secret owner, but also provide appropriate limitations for the protection of the trade-secret licensee. ■

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14 Halligan and Pooley are prolific authors and frequent lecturers and hence well-known experts on trade secret law and practice. Halligan also teaches two advanced courses in trade secrets at John Marshall Law School. Pooley will be President of the American Intellectual Property Law Association later in 2007. Their statements were made at conferences attended by the chapter's author.

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