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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.

Before I start my presentation about the patent/trade secret[2] interface, I want to 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

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[2] A synopsis of trade secret law and practice is attached as an Appendix.

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.

II. INTEGRATION OF INTELLECTUAL PROPERTY RIGHTS

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."[3] 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.[4] Later, in 1996, Stephen Elias published *Patent, Copyright and Trademark* that included a user guide on intellectual property protections.[5] His guide lists 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.[6] Finally, in 1997, Professors Robert P. Merges, Peter S. Menial, Mark A. Lemley, and Thomas M. Jorde authored *Intellectual Property in the New Technological*

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[3] JAY DRATLER, JR. & STEPHEN M. MCJOHN, 1 INTELLECTUAL PROPERTY LAW: COMMERCIAL, CREATIVE, AND INDUSTRIAL PROPERTY, at vii (2008).
[4] *Id.*
[5] STEPHEN ELIAS, PATENT, COPYRIGHT & TRADEMARK 10 (2d ed. 1997).
[6] *Id.*; *see also* STEPHEN ELIAS & RICHARD STIM, PATENT, COPYRIGHT & TRADEMARK 9 (6th ed. 2003).

Age.[7] In this work, the writers also "avoid the fragmented coverage … by approaching intellectual property as a unified whole" and "concentrate on the interaction between different types of intellectual property rights."[8]

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.[9]

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 additional subject matter, (2) strengthen exclusivity; (3) invoke additional remedies in litigation; and (4) stand up 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. For example, 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 system,

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[7]ROBERT P. MERGES, PETER S. MENELE, MARK A. LEMLEY & THOMAS M. JORDE, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE, ASPEN LAW & BUSINESS, 1997 (ISBN 1-56706-493-0).
[8]*See* circular of the Legal Education Division of Aspen Law & Business (on file with author).
[9]*See* DRATLER, *supra* note 3, at vii.

copyrighted instruction manual, semiconductor chips protected as mask works, consoles or keyboards protected by design patents, trade dress under trademark principles, and trademark registration.[10] 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.[11]

In my view, even these illustrations from Professor Dratler do not go far enough. Trade secrets serve not only to protect production processes 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,[12] and, of course, also 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.[13]

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

[10] *Id.* at 1-21 to 1-22.
[11] *Id.* at 1-22.
[12] *Id.*
[13] *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).

ringfence,[14] 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 of course 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.[15] 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.[16] Therefore, the owner may copyright software, but this does not necessitate

[14]This is a phrase used by a guest lecturer from India in an Intellectual Property Management class of mine.
[15]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.
[16]*See id.* at 2.

the disclosure of trade secrets.[17] Thus, copyright owners may enjoy copyright and trade secret protection simultaneously.

III. Overlap Between Patents and Trade Secrets

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."[18] 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."[19] Thus, it is clear that patents and trade secrets can not only coexist, but also 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.

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[17] *See id.*
[18] Donald S. Chisum & Michael A. Jacobs, Understanding Intellectual Property Law § 3B(1) (1992).
[19] Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 491 (1974).

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

IV. Best Operational Practice

In view of the fact that patent and trade secret protection indeed dovetail in the ways described above, the best and most pragmatic 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

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

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.[21] 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 their Paragon™ Mail Processor, which was described as a "simple machine."[22] 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 and telecommunication industries, go for big numbers. They want to amass a sizable quantity of patents, so that if one or two are

[21] 35 U.S.C. § 102(c) (2000).
[22] Chuck Malandra, Chief Patent Counsel, Address at Ass'n of Corporate Patent Counsel: Patent Operation at Pitney Bowes (Feb. 3, 2004).

> invalidated, there are hundreds more to fall back upon. IBM Corporation is the master of that strategy.[23]

V. THE "BEST MODE" REQUIREMENT

Conventional wisdom holds that, because of the "best mode" requirement,[24] which is embedded in American and many foreign patent laws, trade secret protection cannot coexist with patent protection. This is a 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."[25]

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

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[23] *NEWS,* IP LAW & BUSINESS, 43, May 2003.
[24] 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.
[25] ARNOLD, WHITE & DURKEE, 1988 LICENSING LAW HANDBOOK 37 (1988).

pilot stage and after the filing of a first application.[26]

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 is clear from such decisions as *Christianson v. Colt Industries Operating Corp.*,[27] *Wahl Instruments, Inc. v. Acvious, Inc.*,[28] and *Teleflex, Inc. v. Ficosa North America Corp*.[29] From these and similar decisions, Professor Donald Chisum concludes, "[a]n 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."[30] 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."[31]

It is also noteworthy that others often develop the best mode. For example, in *Glaxo v. Novopharm*,[32] specialists in process development and pharmaceutical formulation employed by assignees eventually developed the best mode.[33] This occurs without involvement of the inventor to whom knowledge of such a best mode cannot

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[26]An updated best mode disclosure is not required for a continuation application but is required for a continuation-in-part application.
[27]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).
[28]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).
[29]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).
[30]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).
[31]*See* ARNOLD, WHITE & DURKEE, *supra* note 25, at 36.
[32]52 F.3d 1043 (Fed. Cir. 1995).
[33]*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).

be imputed.[34] Thus, the touchstone in this regard is the mode believed to be the best by the inventor, which is a subjective standard.[35]

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."[36] 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."[37]

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 U.S. Patent Code.[38] As stated above, the best mode requirement applies only to the claimed invention.[39]

VI. Exemplary Confirmatory Cases

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 Corporation (GE) is an

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[34] *See id.* at 1050-52.
[35] *Id.* at 1050.
[36] *See* DONALD S. CHISUM, 3 CHISUM ON PATENTS: A TREATISE ON THE LAW OF PATENTABILITY, VALIDITY AND INFRINGEMENT § 7.05(1)(a) (2007).
[37] *Id.* at § 7.05(1)(b).
[38] *See* 35 U.S.C. §§ 102, 103 (2000).
[39] *See also* 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) and 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").

excellent illustration of the synergistic integration of patents and trade secrets to secure invulnerable exclusivity.[40]

The artificial manufacture of diamonds for industrial uses was a very lucrative business for GE.[41] GE also had the best proprietary technology for making such diamonds.[42] 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 domain.[43] However, GE also kept certain distinct inventions and developments secret.[44] American and foreign companies were very interested in obtaining licenses to this technology but GE refused to license anyone.[45] Unable to make progress with GE, certain foreign interests resorted to industrial espionage.[46] 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.[47] Eventually, GE discovered the employee's deception, and the authorities caught, tried, and jailed him.[48]

Another example of the value of integrating trade secrets and patents is the case of *Wyeth v. Natural Biologics, Inc*.[49] Since 1942, Wyeth has had an exclusive market on Premarin, the big-selling hormone-therapy drug.[50] Its patents on the Premarin manufacturing process—starting with pregnant mares' urine—expired decades ago, but

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[40] *See* Lawrence Ingrassia, *How Secret G.E. Recipe for Making Diamonds May Have Been Stolen*, WALL ST. J., Feb. 28, 1990, at A1, A8.
[41] *Id.*
[42] *Id.*
[43] *Id.*
[44] *Id.*
[45] *Id.*
[46] *Id.*
[47] *Id.*
[48] *Id.*
[49] Civ. No. 98-2469, 2003 WL 22282371 (D. Minn. Oct. 2, 2003).
[50] *Id.* at *1.

the company has also held closely guarded trade secrets.[51] 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.[52] Wyeth sued and prevailed, getting a sweeping injunction, as it was an egregious case of trade secret misappropriation.[53]

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 their formula secret rather than to patent it damnable? Clearly not.

Other recent decisions, such as, *C&F Packing Co. v. IBP, Inc*.[54] (the Pizza Hut case) and *Celeritas Technologies, Ltd. v. Rockwell International Corp*.[55] 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.[56]

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.[57] 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

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[51] *Id.* at *2-*5.
[52] *Id.* at *8-*13.
[53] *Id.* at *26-*29.
[54] 224 F.3d 1296 (Fed. Cir. 2000).
[55] 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").
[56] *See C&F Packing Co.*, 224 F.3d at 1301-03; *Celeritas Techs., Ltd.*, 150 F.3d at 1358.
[57] *C&F Packing Co.*, 224 F.3d at 1300-01.

precooked products in price, appearance, and taste."[58] C&F had obtained one patent on the equipment to make the sausage and another patent on the process itself.[59] It continued to improve the process after submitting its patent applications and kept its new developments as trade secrets.[60]

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.[61] C&F agreed to disclose the sausage-making process to certain Pizza Hut suppliers, after entering into confidentiality agreements with them.[62] As a result, other Pizza Hut suppliers were able to replicate C&F's process.[63] Pizza Hut subsequently refused to purchase any more of C&F's sausage barring a massive price reduction.[64]

Pizza Hut furnished IBP, one of Pizza Hut's largest suppliers of meat products, with C&F's sausage-making process.[65] IBP was required to enter into a confidentiality agreement with Pizza Hut concerning the process.[66] 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.[67] As a result, C&F sued both IBP and Pizza Hut for patent infringement and misappropriation of trade secrets.[68] The court made two findings: first, on summary judgment, that the patents of C&F were invalid because the

[58] *Id.* at 1299.
[59] *Id.*
[60] *Id.*
[61] *Id.*
[62] *Id.*
[63] *Id.*
[64] *Id.*
[65] *Id.* at 1300.
[66] *Id.*
[67] *Id.*
[68] *Id.*

inventions had been on sale more than one year before the filing date,[69] and second, after trial, that C&F possessed valuable and enforceable trade secrets, which were indeed misappropriated.[70]

The above cases are perfect 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 many reasons that can render it invalid or unenforceable, and many other potential attrition factors, such as, narrow claims granted by a patent office, enforcement being a daunting and expensive undertaking, only very limited or no coverage in foreign countries, as well as others.

VII. CONCLUSION

In conclusion, it bears reiteration that patents and trade secrets are viable alternative modes of protection in the intellectual property field. Moreover, patents and trade secrets 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, they make for a happy marriage with patents and trade secrets as compatible partners, protecting patentable aspects and unpatentable collateral know-how, respectively. Thus, a policy and practice of utilizing both routes for optimal protection and invulnerable exclusivity is rational, practical, and profitable.

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[69] *Id.* at 1300-01.
[70] *Id.* at 1308.

TRADE SECRET LAW AND PRACTICE

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.[71]

The Restatement of Torts states the most widely used definition of a trade secret in the United States.[72] 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.[73]

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.[74]

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[71] UNIF. TRADE SECRETS ACT § 1(4), 14 U.L.A. 372 (Supp. 1989).
[72] RESTATEMENT (FIRST) OF TORTS (1939).
[73] *Id.* at § 757 cmt. b.
[74] *Id.*

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."[75] It is to be hoped that this definition will in time replace the earlier outdated 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, 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—
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> (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.[76]

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 secrecy.

On the subject of definitions, a word about nomenclature and terminology associated with the usage of the terms "know-how" and "trade secret" is appropriate.

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[75] RESTATEMENT (THIRD) OF UNFAIR COMPETITION, § 39 (1995).
[76] 18 U.S.C. § 1839(3) (2007).

While the key requirement of a trade secret is secrecy, definitions of know-how are completely silent about secrecy. One dictionary definition of know-how is "the knowledge and skill required to do something correctly."[77] 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."[78] 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."[79]

Thus, know-how *per se* 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):

Intellectual Property	**Intellectual Property Right**
Invention	Patent, Trade Secret
Know-how, Invention	Trade Secret
Brand-name	Trademark
Work of Authorship	Copyright

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

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[77] AMERICAN HERITAGE DICTIONARY 705 (2d College ed. 1982).
[78] J. THOMAS MCCARTHY ET AL., MCCARTHY'S DESK ENCYCLOPEDIA OF INTELLECTUAL PROPERTY 330 (3d ed. 2004).
[79] International Association for the Protection of Intellectual Property (AIPPI), Mexican Congress Resolution (1973).

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, but not ideal, synonym for a "trade secret," as it may not include inventions when protected under the trade secret regime.

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 personal skills of employees, is not protectable as a trade secret.

Also from the above definitions of trade secrets, one can perceive the following salient characteristics of trade secrets. First of all, there is no subject matter or term limitation, registration requirement, or even a 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); (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.[80] While sufficient economic value or competitive advantage is also an indispensable requirement, the proper touchstone is not actual use but only 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 Unites 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" includes 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.[81]

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[80] *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.
[81] *See generally* 35 U.S.C.A. §§ 283-284.