Patent/Trade Secret Complementariness: An Unsuspected Synergy

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 essential collateral know-how, associated with such inventions. This results in synergistic integration of patents and trade secrets and secures almost invulnerable exclusivity. Patent specifications are rarely sufficient for commercial use of patented technology without access to the underlying collateral know-how.

To understand the very valuable if not indispensable intellectual property role that trade secrets often play in intellectual property management policies and strategies, it is important to review trade secret law and practice in some detail, particularly because of the existence of deep-seated misconceptions about trade secrets and the patent/trade secret interface.

However, before I do so I should make it unequivocally clear that my position is not that trade secrets should be embraced in favor of patents, nor is it my intention to denigrate patents in any way by embracing trade secrets over patents. What I have practiced in my career and what I endorse as the best policy and practice is to obtain patents as center of gravity in an intellectual property portfolio and maintain trade secrets as underpinnings for patents to protect unpatentable collateral know-how and show-how.

At the outset I would also like to point out that this article will cover operational aspects and matters in intellectual property practice in preference to legalistic issues and will therefore be more like a handbook than a treatise.

II. Three Common Threads in Trade Secret Definitions

Under the American Uniform Trade Secrets Act (UTSA), now in force in 45 states, a trade secret is defined as follows:

> 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.[i]

The most widely used definition of a trade secret in the United States is found in the *Restatement of Torts*[ii]. 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.

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

- the extent to which the information is known outside of the business,
- the extent to which it is known by employees and others involved in the business,
- the extent of measures taken to guard the secrecy of the information.
- the value of the information to the business and to competitors, and
- the ease or difficulty with which the information could be properly acquired or duplicated by others[iii].

The most recent and clearly the broadest and best definition of a trade secret is set forth in the "*Restatement (Third) of Unfair Competition*"[iv]:

> 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.

It is to be hoped that this definition will in time replace the earlier definitions recited above.

As of 1996 there is in the United States also a federal criminal trade secret statute, the EEA, Economic Espionage Act (18 U.S.C.A. §§ 1831-1839), with the following definition:

> 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 —
>
> (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.

Common threads in the above definitions are three requirements that must be met for enforceable trade secrets to exist. The proprietary information must be a) secret in the sense that it is not generally known in the trade, b) valuable vis-à-vis the competition that does not possess it and c) the subject of reasonable efforts to safeguard and maintain 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 quite germane. While the key requirement of a trade secret is secrecy, definitions of "know-how" are completely silent on secrecy as can be seen from the following definitions:

- Know-how. The knowledge and skill required to do something correctly. (The American Heritage Dictionary)

- Know-how. Information that enables one to accomplish a particular task or to operate a particular device or process.[v]
- Know-how is 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.[vi]

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

A juxtaposition of the intellectual property/intellectual property right relationships will elucidate this:

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

Inventions and know-how as intellectual property turn into patents and trade secrets as intellectual property rights upon compliance with stringent legal preconditions.

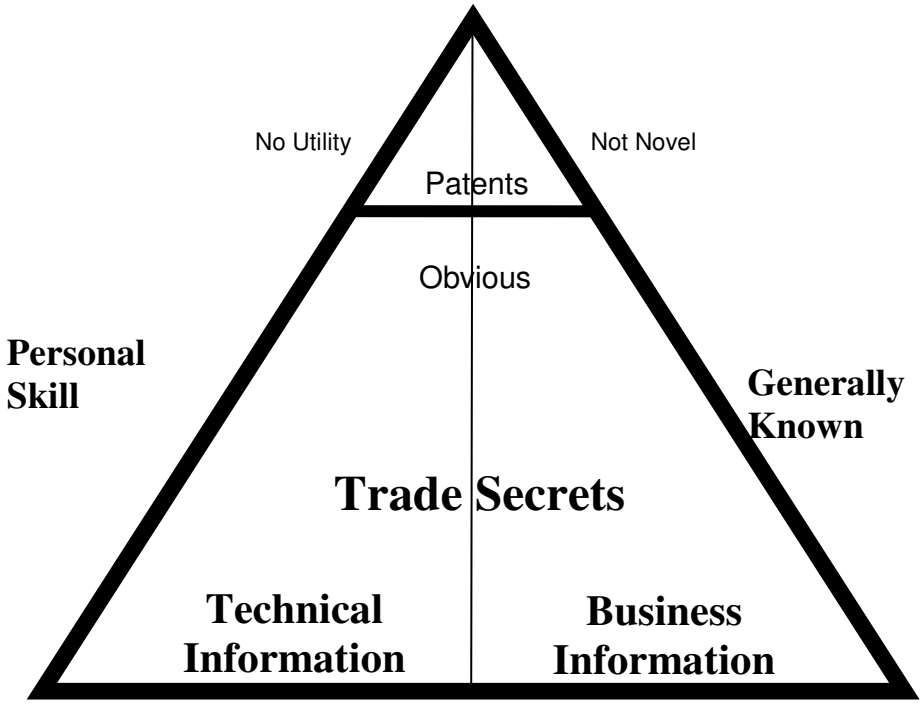
Since we don't speak of "inventions and patents" and "invention and patent licenses," it is correspondingly inappropriate to refer to "know-how and trade secrets" and "know-how and trade secret licenses." "Proprietary know-how" is a possible but not ideal synonym for a "trade secret," as it may not include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

III. What is and What is Not a Trade Secret

From the above definitions, it is possible to glean what is a trade secret and what is not a trade secret. On a primal 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 three basic requisites, mentioned above, are critical limitations on trade secrets and frequent pitfalls in trade secret enforcement and litigation and 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 cannot embody protectable trade secrets.

The confines of trade secrets as well as their relationship to patents can be illustrated by the following pictorial presentation:



Trade secrets are not only applicable as protection devices to early-stage inventions, subpatentable innovations or manufacturing processes, as is commonly but mistakenly believed. That patentable inventions of any kind can also constitute trade secrets is indisputable in light of the landmark Supreme Court decision in *Kewanee Oil v. Bicron*[vii], which recognized trade secrets as perfectly viable alternatives to patents. In holding that state trade secret law is not preempted by the federal patent law, the court held tellingly:

> 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.[viii]
>
> ....
>
> 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.[ix]
>
> ....
>
> We conclude that the extension of trade secret protection (even) to clearly patentable inventions does not conflict with the patent policy of disclosure.[x]

This last quotation is the clincher because it followed a three-way categorization of trade secrets (clearly unpatentable, of doubtful patentability and clearly patentable) and a recognition that "the federal interest in disclosure is at its peak" with respect to the third category.

Interestingly, in his concurring opinion in the *Kewanee Oil*[xi] 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." [xii]

Subsequent Supreme Court decisions, *Aronson v. Quick Point Pencil Co.*, and *Bonito Boats v. Thunder Craft Boats* have, if anything, further strengthened the bases for trade secret reliance[xiii].

And again contrary to conventional wisdom, trade secret protection can as matter of fact also be relied on in conjunction with, and complementary to patents, to protect the tremendous volume of collateral or associated know-how that exists for any patentable invention but cannot and need not be disclosed 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 which is disclosure of inventions for the benefit of the public. However, in light of the *Dunlop Holdings v. Ram Golf*[xiv] decision, it is clear that the public does receive benefits from trade secrets as there is no suppression in an economic sense.

More specifically, the *Dunlop Holdings* court gave 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 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 by monopoly (*sic*) protection, it would be unjust to hold that such an election should impair his right to continue diligent efforts to make the product of his own invention.[xv]

Even were an inventor to keep his discovery completely to himself, something that neither the patent nor trade secret laws forbid; there is a high probability that it will be soon independently developed. If the invention, though still a trade secret, is put into public use, the competition is alerted to the existence of the inventor's solution to the problem and may be encouraged to make an extra effort to independently find the solution thus known to be possible.

As a practical matter, others, often several or many employees, usually know the trade secret, suppliers may also be "in the know" and governmental agencies may likewise be informed. Moreover, there may be a licensee or several licensees who definitely would have the secret details of a product or process. And independent creation is indeed possible if not likely. Besides, most trade secrets may dissipate within a few years, given the high incidence of employee mobility on top of possible threats of reverse engineering or analysis of products. Hence, it is plausible to conclude that trade secrets can be considered as "wasting assets," whose average life perhaps is only about three to five. 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, the following salient characteristics of trade secrets as well as striking differences over other IP rights can be perceived.

There is no subject matter or term limitation, nor is there a registration requirement and, in fact, there is not even a 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.

But secrecy is the most important criterion — a *sine qua non* — without exceptions. Hence, reasonable affirmative measures must be taken to safeguard and maintain trade secrecy. Among such measures are:

- Memorializing a trade secret policy in writing
- Informing employees of the trade secret policy
- Having employees sign Employment Agreements with confidentiality obligations
- Restricting access to trade secrets (on need-to-know basis)
- Restricting public accessibility (escorting visitors)
- Locking gates and cabinets to sites that house trade secrets
- Labeling trade secret documents as proprietary and confidential
- Screening speeches and publications of employees
- Using secrecy contracts in dealing with third parties
- Conducting exit interviews with departing employees, etc.

While sufficient economic value or competitive advantage is also an indispensable requisite, the proper touchstone is not "actual use" but only "value to owner," which means that negative R&D results 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 was 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, while "proper means," which do not support a claim for misappropriation, include independent discovery, reverse engineering, or discovery from observing what has been allowed to enter the public domain.

Remedies for misappropriation of trade secrets include actual and punitive damages, profits, reasonable royalties and injunctions.

VI. Trade Secrets Have a Long History

Trade secret law is the oldest form of intellectual property protection, and already in Roman times, the law afforded relief against a person who induced another's employee (slave) to divulge secrets relating to the master's commercial affairs. Trade secrecy was practiced extensively in the European guilds in the Middle Ages and beyond. Modern trade secret law evolved in England in the early 19th century — in response to the growing accumulation of technology and know-how and the increased mobility of employees. Recognized in U.S. by the middle of the 19th century, *Peabody v. Norfolk*[xvi] held that a secret manufacturing process is property, protectable against misappropriation; secrecy obligation 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. This decision anticipates the features of our present trade secret system and by the end of the 19th century the principal features of contemporary law were well established.

It is interesting to note that Henry Perritt believes that indeed 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."[xvii]

VII. Trade Secrets Are the "Crown Jewels" of Corporations

Trade secrets are said to be 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 in recent years. For instance, in a trial in Orlando, Florida, in which two businessmen were seeking $1.4 billion in damages from Walt Disney Co., accusing the company of stealing trade secrets for the sports complex at Walt Disney World, the jury awarded them $240 million.[xviii] Misappropriation of trade secrets of Pioneer Hi-Bred International on genetic corn seed materials by Cargill, Inc. cost the latter $300 million and 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[xix].

Anent the importance of trade secrets, Mark Halligan proclaimed recently: "Trade secrets are the IP of the new millennium and can no longer be treated as a stepchild," as did James Pooley by stating: "Forget patents, trademarks and copyrights…trade secrets could be your company's most important and valuable assets." Halligan and Pooley are prolific authors and frequent lecturers and hence well-known experts on trade secret law and practice.[xx]

Indeed, according to a Survey on Strategic IP Management by the Intellectual Property Owners[xxi] (IPO) in 2003, patents are often not viewed as a panacea inasmuch as patents have limits, such as, strict patentability requirements, early publication and invent-around

feasibility but proprietary technology is highly rated as a key source of competitive advantage and the really important intellectual assets are skills and knowledge (88% of responses), which implicates trade secrets.

Moreover, patents are but the tips of icebergs in an ocean of trade secrets. Most technology is unpatented. 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, that is, trade secrets, or constitute hybrid agreements relating to patents and trade secrets. Bob Sherwood, an international IP consultant, calls trade secrets the "work horse of technology transfer."

Finally, and very importantly, trade secret protection operates without delay and without undue cost against the world, while 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, 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 likewise obtains. In these stages maintenance of trade secrecy is particularly critical, because any divulgation would destroy not only the trade secret status of the invention but also adversely affect the (absolute) novelty requirement of Patent Laws.

And after issuance, 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 during the pendency stage and beyond after issuance, is associated or collateral know-how and 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, let me cite the following persuasive comments:

- "In many cases, particularly in chemical technology, the know-how is the most important part of a technology transfer agreement." (Homer Blair)[xxii]
- "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." (Robert Ebish)[xxiii]
- "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." (Peter Rosenberg)[xxiv]

- "Trade secrets are a component of almost every technology license…(and) can increase the value of a license up to 3 to 10 times the value of the deal if no trade secrets are involved." (Melvin Jager)[xxv]

A striking case about the criticality of proprietary know-how comes from abroad. Brazil 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 the Brazilian industry. They believed that 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 failure. This is very strange inasmuch as Brazil and Mexico, for example, following the amazing progress and successes of the "Asian tigers," had already embarked years earlier on a drive of importing 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 it did – lead in turn, not only to exportation of improved products but also to exportation of the thus improved technology to lesser developed countries in Africa, the Middle East, and other Latin American countries. Such an importation/exportation policy and practice is called "reverse technology transfer."[xxvi]

IX. Exploitation of the Overlap Between Patents and Trade Secrets is Paramount

Books, articles and presentations on intellectual property rights almost always, even nowadays, speak to patents, copyrights and trademarks as discreet subjects and with scant 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*[xxvii], was the first one to "tie all the fields of IP together." According to him, from former fragmentation by specialties, IP rights are now a "seamless web," due to progress in technology and commerce.

In 1996, Stephen Elias published *Patent, Copyright and Trademark, A Desk Reference to Intellectual Property Law* with a *Guide to Use Intellectual Property Protections*[xxviii]. His "guide" lists 119 "Creative Work" categories and the "Applicable Rights" for each category, which shows that in the vast majority of cases dual or triple protection obtains.

Lastly, in 1997 the authors (Professors Merges, Merrell, Lemly and Jorde) of *Intellectual Property in the New Technological Age*[xxix] 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.

Thus, we now have a unified theory in the intellectual property world, 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, amounts to "malpractice," according to Professor Dratler.

Especially for high-tech products, trademarks and copyrights can supplement patents, trade secrets and mask works for the products' technological content. One intellectual property species, often patents, may be the center of gravity and more important than others. Other intellectual property species are then supplementary but very valuable to:

- cover additional subject matter,
- strengthen exclusivity,
- invoke additional remedies in litigation,
- standup if a primary intellectual property right becomes invalid

and thus provide synergy and optimize legal protection.

Professor Dratler gives the following illustrations:

a) 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
- 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 in biotech 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

In my view, even these illustrations don't go far enough, because trade secrets serve not only for protection of 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.

Other solid examples:

c) Multiple protection of aesthetic designs:
- design patent
- copyright for separable features
- trademark for non-functional features
- trade dress for over-all 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 certificates
- utility patents
- trade secrets[xxx]

To drive home the intellectual property integration concept, I use, as do other practitioners, the following catch phrases:

- exploit the overlap
- develop a fall back position
- create a web of rights
- build an IP estate
- build a wall
- build a ringfence (India)
- overprotect
- lay a minefield

for synergistic effects 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 also patents) and constitute a huge category of hybrid license agreements.

X. Initial Patent/Trade Secret Evaluation Guide

A reoccurring 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 to determine the center of gravity (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 which may be addressed by this questionnaire, the term "development" is used in a generic sense.

INITIAL PATENT/TRADE SECRET EVALUATION QUESTIONNAIRE

		Scores
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-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 nature of development be ascertained from 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 changes 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		

The eleven questions in this questionnaire have been arranged not 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). Each question would be answered on a scale of 1 to 10. These values are then totaled. 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 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.

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

Q1) 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 No. 6).

Note that the question 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 (cf Question No. 4 — "commercial significance"). The desirability of patenting the process itself would depend on answers to questions 2-11.

Q2) 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 which provided a significant commercial edge, however, probably should be patented.

Q3) This addresses the reverse problem, 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.

Q4) This is a difficult question which might be eliminated. Some writers have suggested the short commercial life of a product favors patenting whereas a long life favors trade secrets. In the writer's view, this is not a particularly useful criterion since it depends on factors unrelated to the development itself. It also is extremely subjective.

Q5) The ability to "design around" is a function of how basic patent protection would be. If a claim is easily avoided, its value is considerably reduced. The destructive effect of

trade secret protection by publication is unchanged. The relative value of the trade secret option thus is increased (as a result of the decrease in the value of patent protection).

Q6) Counterbalancing Question 5 is the consideration of whether, if the trade secret route is chosen, a competitor nevertheless will be able to ascertain the nature of the development from the product. If so, patent protection would be favored.

Q7) This 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 which 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 final product should be patented.

Q8) Evaluating this possibility could be extremely difficult in many cases. If, however, it is known that others are working in the field, it would seem quite probably that they will arrive at the same development, the consequence being possible exclusion if patent protection is not sought.

Q9) 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 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.

Q10) Ideally, the dissemination of information from within the company is controllable. If not, however, a trade secret might be lost. If this risk exists, as for example where numerous employees, visitors, suppliers, etc. have access to the development, patent protection is more attractive. The same question arises with scientific publications.

Q11) This question is related 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 compared to trade secret destruction by the patent publication.

XI. Patents and Trade Secrets Inextricably Dovetail

Patents and trade secrets are not mutually exclusive but actually 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."[xxxi]. Trade secrets are the first line of defense: they precede patents, accompany patents, and follow patents. As stated above, 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"[xxxii]. Thus, it is clear that patents and trade secrets can not only coexist, but are in harmony rather than in conflict with each other.

In fact, they are inextricably intertwined, because the bulk of R&D data and results or associated, collateral know-how for any commercially important innovation cannot and need not be included in a patent application but deserves, and requires, protection which trade secrets can provide.

It is unnecessary and, in fact, 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 patent as well as to padlock, that is, 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 is disclosed 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 R&D stage and before any patent applications are filed and also before applications are published and patents issued, trade secret law particularly "dovetails" with patent law.[xxxiii] Provided an invention has been described so as to enable a person skilled in the art to make and use it and the best mode for carrying out the invention, if available, has been disclosed, as is requisite in a patent application, all associated or collateral know-how not divulged can and should be retained as a trade secret. All the massive R&D data, including data pertaining to better modes developed after filing, whether or not inventive, can and should also be maintained as trade secrets, 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.

XII. Best Operational Practice: File Early, File Often

In view of the fact that patent and trade secret protection indeed 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. Pending patent applications are preserved 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 as the invention under § 102(c) of the U.S. Patent Code. 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. But even if it is allowed, the decision can then 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 R&D stage and beyond in the stage of commercialization and ideally as many offensive as well as defensive patents as possible should be procured on a given innovative product or process. For example, Pitney Bowes, Inc., as recently attested to by Chief Patent Counsel Chuck Malandra at a meeting of the Association of Corporate Patent Counsel, obtained over 100 patents on their Paragaon™ Mail Processor, which he called a "simple machine." At Ciba-Geigy Corporation (now Novartis, Syngenta, Ciba Specialty Chemicals, and others), 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. That building substantial patent portfolios is a sophisticated industry practice is confirmed by *IP Law & Business*: "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 invalidated, there are hundreds more to fall back upon. IBM Corporation is the master of that strategy."[xxxiv]

XIII. The "Best Mode" Requirement is No Impediment

The conventional wisdom that, because of the "best mode" requirement, which is embedded in the American and many foreign patent laws, trade secret protection cannot coexist with patent protection is a serious misconception. Tom Arnold, the founder of the former Arnold, White & Dirkey firm in Houston, is in full agreement when he states 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." (*1988 Licensing Law Handbook*)[xxxv].

Any contention that trade secrets cannot coexist with patents on a given invention overlooks the simple truths that the best mode requirement applies:

- *only* at the time of filing,
- *only* to the knowledge of the inventors, and
- *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, patent applications are normally filed very early in the research stage, after a first reduction to practice. The specification of such an early application typically describes in relatively few pages only rudimentary lab or shop experiments done and 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. (An updated best mode disclosure is not required for a continuation application but is required for a continuation-in-part application.)

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. Decisional 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*; *Wahl Instruments v. Acvious*; *Teleflex v. Ficosa North America*, and *Matsushita v. Cinram International*.[xxxvi] From these and similar decisions, Professor Chisum concludes that "(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" ("Best Mode Concealment…"[xxxvii]). And Tom Arnold allows as how "(p)atents do not disclose the engineering detail of any particular embodiment of a product nor the production engineering for its commercial manufacture."[xxxviii]

It is also noteworthy that the development of a best mode is often done by others, for example specialists in process development and pharmaceutical formulation employed by assignees (as for example in *Glaxo v. Novopharm*[xxxix]), without involvement of the inventor, to whom knowledge of such a best mode cannot be imputed. Thus the touchstone in this regard is the "mode" believed to be the best by the inventor, which is a subjective standard.

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

Lastly, 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. And as stated above, the best mode requirement applies only to the claimed invention, as shown by *Christianson v. Colt Industries*; *Northern Telecom v. Samsung Electronics* ("the contours of the best mode requirement are defined by the claimed invention"), *Eli Lilly v. Barr Labs*, (unclaimed proprietary method for the synthesis of a starting material), *Applied Medical Resources v. US Surgical*, ("disclosure of the best mode of a non-claimed element (special lubricant) was (not) necessary" because "by 'his invention' is meant the claimed invention"). [xli]

In a chapter, entitled "Filing for Patent Protection Without Loss of Trade Secret Protection" in his book on *Trade Secret Protection*, 1997, 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 advises therefore that inasmuch as allowed claims on a patentable system cover

> usually much less than the entire scope of the system, that the disclosure in the application be limited to that disclosure necessary to 'support' the

> claims in a § 112 sense, and that every effort be taken to maintain the remainder of the system as a trade secret[xlii].

And Tom Arnold also affirms that "patents often do not disclose important secrets that nevertheless are within the scope of the patents' effective control."[xliii]

The *CFMT v. Yieldup International* decision by the CAFC is likewise highly germane: "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." Such reasoning applies of course equally well to the best mode requirement.[xliv]

In Peter Rosenberg's opinion, "(p)atents 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." In this process, he adds, valuable know-how is generated, which even if inventive and protectable by patents, can be maintained as trade secrets, there being "nothing improper in patenting some inventions and keeping others trade secrets."[xlv]

As can be seen from all the above citations and quotations, the foregoing conclusions are amply supported by case law and authors. And this shows that the best mode requirement is a very narrow defense at best. In fact, according to a recent decision, the CAFC has held claims invalid for failure to satisfy the best mode requirement on only seven occasions. (*Bayer v. Schein Pharmaceuticals*[xlvi]).

While information and know-how which is generally known, readily ascertainable or constitutes personal skill is outside the ambit of trade secrets, as stated above, there exist masses of data and tons of know-how, which are grist for trade secrets and often also 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 secreted unlike gadgets or machinery, which can be reverse-engineered, the question always was phrased in the alternative. For example, titles of articles discussing the matter read "Trade Secret vs. Patent Protection," "To patent or not to patent?," "Trade Secret or Patent?," "To Patent or to Padlock?," etc. Anent this choice, the respective advantages and disadvantages, for example, in terms of duration and scope of protection, are considered controlling. However, on scrutiny 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 as regards the scope of protection with "everything under the sun made by man" being patentable. 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 and a trade secret, properly guarded and secured, may withstand attempts to crack it.

In greater detail, as for the respective duration of patents and trade secrets, it is simplistic to state that the patent life is twenty years from filing and trade secrets last indefinitely and let it go at that. Patents too can last longer than twenty years. They can be extended by up to five years or longer under the Drug Price Competition and Patent Term Restoration Act of 1984, the Uruguay Round Agreements Act of 1994 and the American Inventors Protection Act of 1999 or by private acts. Patent coverage can also be extended by a process of "evergreening," that is, by filing for improvement patents. And of course a patent can have a life of less than 20 years if it lapses for non-payment of maintenance fees or if the patent or patent claims are held invalid or are 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, the notable examples of the Coca-Cola formula, the musical instrument cymbal, the Angostura Bitters, etc. to the contrary notwithstanding. Most products or devices are subject to analysis or reverse engineering sooner or later and manufacturing techniques 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.

Anent subject matter scope of protection via patents and trade secrets, the common perception is that the scope of possible protection for trade secrets is much broader than for patents. If § 101 of the Patent Code is compared with the definition of a trade secret from the Uniform Trade Secret Code, that appears to be the case. The list of patentable categories according to the Patent Code (process, machine, manufacture or composition of matter) is a very brief one indeed, while the definition of trade secrets is open-ended, especially since it also includes commercial matters, such as, customer lists and other business information. However, on closer scrutiny and taking into account the Supreme Court decision in *Chakrabarty* (1980 — establishing the patentability of living organisms) to the effect that "everything under the sun that is made by man" is patentable, and the holding in *State Street Bank* that formerly unpatentable business methods and computer programs are also patentable, the scope of patent protection is equally all-encompassing.[xlvii] It is true that to be patentable fairly stringent requirements must be met in terms of novelty, utility and unobviousness, etc. 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 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 those who reverse-engineer or analyze products that are secret or are produced by secret processes. But here too a patent application or patent, after they are published and the invention is disclosed, often spur competitors to invent around and develop improved products which may be separately patented and may not be dominated and become commercially much more important than the earlier more basic invention. The trade

secret, on the other hand, if proper security measures are taken, may be safely maintained for a longer period of time. Also an important patent may cause competitors to seek invalidation.

Regarding touted differences in terms of costs and efforts required in obtaining and maintaining patents and in securing and maintaining trade secrets, there may not be much of a difference 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 expensive or over a period of time even more expensive. But the matter of cost and effort 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. And indeed, independent discovery and reverse engineering are solid defenses against trade secret misappropriation charges and leakage is a constant threat as recognized by the Supreme Court in the *Kewanee Oil* case: "patent law acts as a barrier, trade secret law functions relatively as a sieve." Moreover, there is a belief that a trade secret owner can be enjoined as an infringer from practicing his or her invention by a later inventor/patentee of the same invention. This is also an unfortunate misconception. Patent systems in foreign countries usually provide for so-called "prior user rights" and in the U.S. we have the "First Inventor Defense" (Sec. 273 of the Patent Code). However, this covers only business methods and otherwise bears little resemblance to a true "Prior User Rights" provision as exists in other countries because it has so many exceptions and limitations as to be meaningless.

Very 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 on the basis of 1) much thoughtful literature, going back to at least 1944, which postulated such a right, and 2) the fact that it has never happened that a trade secret owner was enjoined by the later patentee.

Ellis concluded in his classic treatise on *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[xlviii].

A similar sentiment according to Bennett resides in the cogent maxim: "A Constitutional award to one inventor does not mandate a Constitutional penalty to another."[xlix]

In the literature, referred to above, it is also emphasized that a prior user right or an *in personam* right:

- is a first inventor's common law right,
- is required by principles of equity and due process and
- not granting it, amounts to taking property without compensation.

The contrary position, espoused by patent *über alles* advocates, holds that when the choice is made to 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." (Bennett).[1]

The *Gore v. Garlock* decision has mistakenly been interpreted as putting an end to this debate by resolving the perceived conflict in favor of the patentee.[1i] Far from it, this case only held that trade secrets of a third party are not prior art, but 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, which means in a 35 U.S.C.A., § 102(g) context only 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, which is generally known, readily ascertainable or constitutes personal skill. But this exclusion still leaves large amounts of data and know-how for protection under trade secrets and often also under additional improvement patents. In this regard General Electric Corporation's industrial diamond process technology comes to mind as 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 GE also had the best proprietary technology for making such diamonds. 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. But GE also kept certain distinct inventions and developments secret. American and foreign companies were very interested in obtaining licenses to this technology but GE refused to license anyone. Getting nowhere with GE, certain foreign interests resorted to industrial espionage and a trusted fast track star performer 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. But after a while this GE employee got caught, tried and jailed.

Since 1942 Wyeth has had an exclusive position on Premarin, the big-selling hormone-therapy drug. Their patents on the Premarin manufacturing process (starting with

pregnant mares' urine) expired decades ago, but they also have held closely-guarded trade secrets. On behalf of a pharmaceutical company, which had been trying to come out with a generic Premarin for 15 years, Natural Biologics stole the Wyeth trade secrets. Wyeth sued and prevailed, getting a sweeping injunction, as it was an egregious case of trade secret misappropriation.

These cases illustrate so 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, for that matter, Coca Cola's decision to keep their formula secret rather than to patent it, which could have been done, damnable? Clearly not.

Other recent decisions, such as, *C&F Packing v. IBP and Pizza Hut*[lii] ("Pizza Hut") and *Celeritas Technologies v. Rockwell International*[liii] also demonstrate that it is now well established that dual or multiple protection for IP is not only possible but essential to exploit the IP overlap and provide a fall back position.

In the Pizza Hut case, for instance, Pizza Hut was made to pay $10.9 million to C&F for misappropriation of trade secrets. After many years of research C&F had developed a process for making and freezing a precooked sausage for pizza toppings which had the characteristics of freshly cooked sausage and surpassed other precooked products in price, appearance and taste. C&F had obtained one patent on the equipment to make the sausage and also another one on the process itself. It continued to improve 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. C&F disclosed the process to several Pizza Hut suppliers, entering into confidentiality agreements with them. Subsequently, Pizza Hut's other suppliers learned how to duplicate C&F's results and at that time Pizza Hut told C&F that it would not purchase any more sausage from it without drastic price reductions.

IBP was one of Pizza Hut's largest suppliers of meat products other than sausage. 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. IBP also hired a former supervisor in C&F's sausage plant as its own production superintendent but 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, 1) on summary judgment before trial that the patents of C&F were invalid because the inventions had been on sale more than one year before the filing date and 2) after trial that C&F possessed valuable and enforceable trade secrets, which were indeed misappropriated.

What great examples of trades secrets serving as fall back positions after patents expire or are invalidated and no longer provide any protection! Indeed a patent alone can be a slender reed in light of the existence of three dozens of invalidity and unenforceability reasons and many other potential patent attrition factors, such as:

- doubtful patentability due to patent-defeating grounds,
- narrow claims granted by a patent office,
- enforcement being a daunting and expensive task,
- only very limited or no coverage in existence in foreign countries,

as well as others.

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, they in fact make for a happy marriage with patents in a dominant role and trade secrets in a subservient role. Thus a policy and practice of utilizing both routes for optimal protection and invulnerable exclusivity is rational, practical and profitable.

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[i] Unif. Trade Secrets Act § 1(4), 14 U.L.A. 372 (1985 & Supp. 1989).
[ii] Restatement (First) of Torts (1929).
[iii] Restatement (First) of Torts, § 757 Comment B (1929).
[iv] Restatement (Third) of Unfair Competition, § 39 (1995).
[v] J. Thomas McCarthy et al., McCarthy's Desk Encyclopedia of Intellectual Property, p. 330 (3rd ed. 2004).
[vi] International Association for the Protection of Intellectual Property, Mexican Congress Resolution (1973).
[vii] Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470 (U.S. 1974).
[viii] Id. at 484.
[ix] Id. at 493.
[x] Id. at 491.
[xi] Id. at 493.
[xii] Id. at 494 (Marshall, J. Concurring).
[xiii] Aronson v. Quick Point Pencil Co., 440 U.S. 257 (U.S. 1979); Bonito Boats v. Thunder Craft Boats, 489 U.S. 141 (U.S. 1989).
[xiv] Dunlop Holdings, Ltd. v. Ram Golf Corp., 524 F.2d 33, 36 (7th Cir. 1975).
[xv] Id. at 37.
[xvi] Peabody v. Norfolk, 98 Mass. 452 (Mass. 1868).
[xvii] Henry H. Perritt Jr., Trade Secrets 1-1, 3-7 (Practising Law Institute 2d ed. 2006)
[xviii] All Pro Sports Camp v. Walt Disney Co., 727 So. 2d 363 (Fla. 5th DCA 1999)
[xix] Dave Price, Cargill Reaps Bitter Harvest in Pioneer Dispute, FIN. & COM., May 17, 2000, http://www.finance-commerce.com/recent_articles/051700b.htm; Lexar Media v. Toshiba Corp., No. 1-02-CV-812458 (Santa Clara Co., Calif., Super. Ct. 2005).
[xx] Halligan also teaches two advanced courses in trade secrets at John Marshall Law school. Pooley will become the president of the American Inetellectual Property Law Association this year. Their statements were made at conferences attended by this author.
[xxi] 2003 Survey on Strategic IP Management by the Intellectual Property Owners
[xxii] Homer Blair, Understanding Patents, Trademarks, and Other Propreitary Assets and Their Role in "Technology Transfer and Licensing: The Practical View, 6 (Distributed by Franklin PierceLaw Center (1978), Professor Emeritus of Franklin Pierce Law Center).
[xxiii] Robert Ebish, a free lance writer.
[xxiv] Peter Rosenberg, Pat. L. Fundamentals, v. 2 3.08 (2d ed. 2001).
[xxv] Melvin Jager, "The Critical Role of Trade Secret Law in Protecting Intellectual Property Assets." The LESI Guide to Licensing Best Practices, 127 (2002).
[xxvi] See presentations by Karl F. Jorda at a) Santiago University, Santiago de Comporela, Spain, Jan. 1997, b) IABA XX Conference, Atlanta, Georgia, May 1977, and c) Fifth ASIPI Congress, Rio de Janeiro, May 1977.
[xxvii] Jay Dratler, "Intellectual Property Law: Commercial, Creative, and Industrial Property," vii, (Law Journal Seminars-Press v.1 1991).
[xxviii] Stephen Elias, "Patent, copyright & trademark : a desk reference to intellectual property," 10, (Berkeley: Nolo Press, 1996).
[xxix] Robert P. Merges et. al., Intellectual Property in the New Technological Age (Aspen Publishers 3d ed. 2003)
[xxx] See Advanta USA Inc. v Pioneer Hi-Bred Internat'l Inc., W.D. Wis., No. 04-C-238-S (2004)(stating that the Plant Varieties Patent Act does not preempt trade secrets)
[xxxi] Donald Chisum, et. al., Understanding Intellectual Property Law, 3B[1] at 3-7 (Matthew Bender 1992).
[xxxii] Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 491 (U.S. 1974).
[xxxiii] See Bonito Boats v. Thunder Craft Boats, 489 U.S. 141 (U.S. 1989).
[xxxiv] IP Business Law, May 2003, p. 43.
[xxxv] 1988 Licensing Law Handbook, Arnold, White, & Durkee, 37,. Appendix C, p. 295, 308 (Clark Boardman)

[xxxvi] Christianson v. Colt Industries Operating Corp., 870 F.2d 1292, 1303 (7th Cir. 1989); Wahl Instruments, Inc. v. Acvious, Inc., 950 F.2d 1575 (Fed. Cir. 1991); Fed. Circ. 1991; Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313 (Fed. Cir. 2002); Matsushita Elec. Indus. Co. v. Cinram Int'l, Inc., 299 F. Supp. 2d 370 (D. Del. 2004)

[xxxvii] 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

[xxxviii] See Supra n. 36

[xxxix] See Glaxo Inc. v. Novopharm Ltd., 52 F.3d 1043 (Fed. Cir. 1995).

[xl] See supra n. 38

[xli] Christianson, 870 F.2d 1292; Northern Telecom Ltd. v. Samsung Elecs. Co., 215 F.3d 1281 (Fed. Cir. 2000);Eli Lilly & Co. v. Barr Labs., 251 F.3d 955 (Fed. Cir. 2001);Fed. Cir. 2001; Applied Med. Res. Corp. v. United States Surgical Corp., 448 F.3d 1324 (Fed. Cir. 2006).

[xlii] Gale R. Peterson, Trade Secret Protection : In an Information Age 5-109 (Glasser Legal Works 1997).

[xliii] 1988 Licensing Law Handbook, Arnold, White, & Durkee, 37 (Clark Boardman)

[xliv] CFMT, Inc. v. YieldUp Int'l Corp., 349 F.3d 1333, 1338 (Fed. Cir. 2003).

[xlv] Peter Rosenberg . Pat. L. Fundamentals, v. 2 3.08 (2d ed. 2001).

[xlvi] See Bayer AG & Bayer Corp. v. Schein Pharms., Inc., 301 F.3d 1306 (Fed. Cir. 2002).

[xlvii] See Diamond v. Chakrabarty, 447 U.S. 303 (U.S. 1980); State St. Bank & Trust Co. v. Signature Fin. Group, 149 F.3d 1368 (Fed. Cir. 1998).

[xlviii] Ridsdale Ellis, Trade Secrets (Baker Voorhis 1953).

[xlix] Bennett, "The Trade Secret Owner Versus the Patentee of the Same Invention: A Conflict?", 57 JPOS 742, 747 (1975).

[l] See Supra n. 51.

[li] See W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540 (Fed. Cir. 1983).

[lii] E.g. C&F Packing Co. v. IBP, Inc., 224 F.3d 1296 (Fed. Cir. 2000).

[liii] E.g. Celeritas Techs. v. Rockwell Int'l Corp., 150 F.3d 1354 (Fed. Cir. 1998).