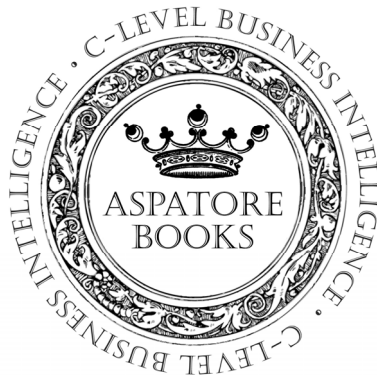


I N S I D E T H E M I N D S

The Art & Science of Patent Law



BOOK & ARTICLE IDEA SUBMISSIONS

If you are a C-Level executive, senior lawyer, or venture capitalist interested in submitting a book or article idea to the Aspatore editorial board for review, please email TLR.AspatoreAuthors@thomson.com. Aspatore is especially looking for highly specific ideas that would have a direct financial impact on behalf of a reader. Completed publications can range from 2 to 2,000 pages. Include your book/article idea, biography, and any additional pertinent information.

©2008 Thomson/Aspatore

All rights reserved. Printed in the United States of America.

No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, except as permitted under Sections 107 or 108 of the U.S. Copyright Act, without prior written permission of the publisher. This book is printed on acid free paper.

Material in this book is for educational purposes only. This book is sold with the understanding that neither any of the authors or the publisher is engaged in rendering legal, accounting, investment, or any other professional service. Neither the publisher nor the authors assume any liability for any errors or omissions or for how this book or its contents are used or interpreted or for any consequences resulting directly or indirectly from the use of this book. For legal advice or any other, please consult your personal lawyer or the appropriate professional.

The views expressed by the individuals in this book (or the individuals on the cover) do not necessarily reflect the views shared by the companies they are employed by (or the companies mentioned in this book). The employment status and affiliations of authors with the companies referenced are subject to change.

Aspatore books may be purchased for educational, business, or sales promotional use. For information, please email West.customer.service@thomson.com.

ISBN 1-58762-346-3

Library of Congress Control Number: 2003115764

For corrections, updates, comments or any other inquiries please email
TLR.AspatoreEditorial@thomson.com.

First Printing, 2008

10 9 8 7 6 5 4 3 2 1

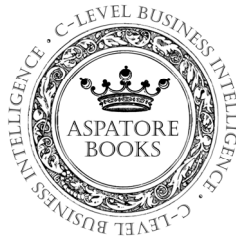
If you are interested in purchasing the book this chapter was originally included in, please visit www.Aspatore.com.

Of Better Mousetraps and Beaten Paths

Samuel W. Apicelli

Partner

Duane Morris, LLP



“The future belongs to those who believe in the beauty of their own dreams.”

– Eleanor Roosevelt

Patent Law Basics

A patent is a right provided for by the U.S. Constitution that allows inventors to prevent others from making, using, or selling their inventions without permission. The U.S. Constitution at Article 1, section 8, clause 8, grants Congress the power:

“To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries”

Essentially, Congress has been authorized to grant inventors the exclusive rights to their ideas for a limited time to encourage the progress of science and the useful arts. That is the essence of patent law. Our founding fathers decided that it was not only important to encourage people to invent, but it was also important to encourage inventors not to keep their ideas secret, but instead to let the citizens of the United States know about their ideas. The intent of these “intellectual property” provisions is inconsistent with secrecy, and is more like a contract where exclusive rights are exchanged for public disclosure of an idea, and its eventually becoming public property.

The patent clause of the U.S. Constitution was one of the provisions that Jefferson and Franklin felt very strongly about. Many of the other founding fathers believed a patent system was important to help science progress in the newly formed republic. Of course, back then they actually did not refer to technology as “science,” but rather as the “useful arts.” “Science” referred instead to literature.

An idea is “protected” by keeping it secret or by obtaining such legal protection as may be available under the law. Being the originator or inventor does not of itself carry the right to exclusive ownership of an idea. While the idea remains secret, it can be guarded and disclosed only to persons who previously have promised not to use or disclose the idea without your approval. A specific written contract (a so-called “Confidentiality Agreement”) is preferred for this purpose over an oral

agreement or understanding, the terms of which may be difficult to prove. An agreement that promises confidentiality binds only the parties to the agreement. It cannot bind third parties who may independently develop a similar idea or find out about the idea innocently. If an inventor intends to publicize his or her idea, for example, by marketing a product embodying the idea, secrecy will be lost. Under such circumstances a confidentiality agreement is useless. Unless the inventor or originator has obtained exclusive rights under the law, he or she has no right to stop competitors from selling a similar product.

Many companies have a strict policy to decline all offers of confidential disclosure. If an inventor proposes a disclosure to such a company, he or she may be provided with a “Disclosure Form” that does not promise confidentiality. The typical form specifically disclaims any duty of confidentiality. If the inventor discloses the idea under such terms, he or she has no right to complain later about others using or disclosing the idea. Moreover, the fact the idea has been disclosed may make it impossible to obtain a patent in the United States or in other countries.

Different types of ideas fit into different niches of the law. Not every idea is protectable. For example, mathematical algorithms and laws of nature are excluded under the patent laws, which are intended to protect articles of manufacture, methods of manufacture, ornamental designs of useful articles, and some forms of plants. There are three types of patents: a design patent, a utility patent, and a plant patent. Design patents run for 14 years and provide exclusive rights in ornamental designs of useful articles. Utility and plant patents run for 20 years. Plant patents are a unique type of patent, governed by a very small portion of the patent law directed to the protection of asexually propagated plants. Plant patents are rarely seen by most patent attorneys.

There are also three main requirements to obtain a utility patent. To be patentable, an invention as it is claimed must be useful and unknown (“novel”) in the prior art, and the differences between the invention and the prior art must be such that the subject matter claimed as a whole would not have been obvious to a person of ordinary skill in the art at the time the invention was made – that is, the invention must be “unobvious.”

Usefulness is a requirement that weeds out inventions like perpetual motion machines and other sorts of quackery. It gives the Patent Office the ability to deny a patent if an examiner sees no technological use for the invention. If the Patent Office denies a patent on this basis, the inventor then has to provide evidence that, in fact, the invention actually works and is useful.

The invention must also be new. Specifically, an inventor will not receive a patent if the invention was described in a printed publication or patented anywhere else in the world before he or she invented it. The patent statute also provides that the invention cannot have been described in a printed publication, patented, or be in use, or “on-sale,” in the United States for more than a year before the filing date of an application. So there are actually two requirements to establish novelty. The second is an artificial requirement, part of the reason behind which is that Congress has recognized that getting patents is an expensive undertaking. Congress therefore reasoned that a year before an inventor applies for a patent, he or she should be allowed to test-market the invention by offering it for sale to see if it has any commercial value. However, after a year of commercially disclosing the invention, it would be unfair to the American public if the inventor were to then file for patent protection.

The last requirement for patentability is nonobviousness. This is a difficult one to explain, and I usually use a short story to illustrate the concept.

You come to my office and say, “Sam, I have a little kid’s wagon. I have painted it purple, pink, and yellow plaid. I have searched the world and cannot find a written description for such an invention. I believe there has never been a purple, pink, and yellow plaid wagon in the course of history. Please give me my patent.”

I respond, “Yes, you’re probably right. There probably have never been any purple, pink, and yellow plaid wagons out there. However, even though you have met the novelty requirement, little kid’s wagons are well known. People who make such wagons are referred to in the patent law as ‘skilled in the art.’ Those skilled people know that wagons can be painted, and they normally paint them red. Persons skilled in the art are also aware of the palette of colors that are available, and that purple, pink, and yellow are well known colors. Also, the plaid pattern is many thousands of years old and

very well known. The combination of a little wagon with purple, pink, and yellow plaid is an obvious variation. A person with skill in the art of making wagons would find this is an obvious change to make, so you are not entitled to a patent.”

However, you then say to me, “I understand all that, but when you take my purple, pink, and yellow plaid wagon one thousand yards out into the middle of the field, it becomes invisible. It completely vanishes so that the human eye cannot see it.”

Now the invention has switched from the obvious to the unobvious. Typically the unobvious invention demonstrates an unexpected result. Often, a patentable invention comes about as a result of searching for a solution to an ongoing, long-felt problem or need that people in the art have tried to solve, but were unable to do previously. Nonobviousness can be startling, or ever so subtle.

A U.S. patent gives the holder rights only within the borders of the United States. Most countries in the world require “absolute” novelty; that is, the invention cannot have been publicly disclosed or offered for sale prior to the filing date of a patent application. The United States has entered into two international treaties with regard to patents: the Paris Convention Treaty and the Patent Cooperation Treaty. Countries that adhere to these treaties acknowledge a filing in other countries and allow for additional time to file in their home country. For example, if you file for a patent in the United States, you have one year from the U.S. filing date to file in each country that adheres to the Paris Convention Treaty, or lose all your rights in each country. If you file under the Patent Cooperation Treaty, you can get that time period extended, along with an international examination of your application. Even with the benefits of these treaties, at the end of the day, the inventor still has to go through each individual country’s examination process to get a patent right granted in that country.

The Patent System and Our Society

I think the U.S. patent system is one of the reasons our country has prospered and has been a technological leader in the world. A common misperception is that patents keep others from doing something they want

to do and have an inherent right to do. I think that is the wrong perspective. What a patent provides, and has shown to do throughout history, is to challenge others to innovate, rather than accept the obstacle and do nothing. This innovative spirit fuels our economy.

For example, about ten years ago, if you looked in the *Patent Gazette*, where newly issuing patents are published, you would have seen that several hundred patents had issued for technology developed to keep people from getting stuck by hypodermic needles and scalpels. The question becomes why such a concentration of patents in this area? At that time, AIDS had just become a public health issue, since an accidental needle prick could sentence an EMT worker or surgeon to death for simply doing their job. A problem existed and needed to be solved. Also, inventors realized that success would yield an opportunity to make a profit. This resulted in literally hundreds of different ideas being put forward, many of which were granted patents. Instead of retarding development, the patent system actually encouraged innovation by forcing each inventor to improve upon the known technology to obtain a patent. The patent system is truly one of the main engines of our technological society.

Counseling the Client on Obtaining a Patent

When first meeting with a client regarding their intent to get a patent, I normally explain to them the patent process and the Patent Office requirements they have to meet. For example, I explain that a patent is obtained by filing a patent application with the U.S. Patent and Trademark Office, and prosecuting the application before a patent examiner until the patent is granted, whereupon the term of exclusive rights begins. I also ask them what they intend to do with their invention. A patent is an asset I am going to help them create. The client will end up spending a great deal of money on that asset, and they should not spend that money unless they are going to make a profitable return on that investment.

As a consequence of this philosophy, I often give the client my “wet blanket speech.” I explain to them that no one will come to their house the day after their patent issues and dump a bucket of money on their front door step. That simply does not happen! Hard work, coupled with a passionate belief in the utility of their invention, is the premier requirement

for successfully creating a business around a patented idea, thereby generating a profitable return on the capital they have risked.

My next step is to encourage the client to do some Web-based patent searching. Clients should do that for a couple of reasons. One, it gets them familiar with what patents are and what they are spending their money on. Second, they know their invention better than anyone else and can therefore do a fairly thorough first-cut search. Often I suggest clients have me hire a professional searcher in Washington to ensure that no search avenues were overlooked. Remember, if the invention has already been described in a printed publication or a patent, there will be significant questions raised as to the viability of obtaining a patent at all.

During the Web-based search, the client gathers a large amount of helpful information. The client can see which companies have patents on products that are very similar to their invention. If the client then gets a patent, those companies should be contacted regarding a license deal. Alternatively, the client might find someone else who already has been issued a patent for the same or a similar invention and has already spent several thousand dollars with their patent attorney. The client might want to contact that person to investigate the possibility of a license deal. A patent license is a form of contract in which one party agrees to allow another party to use their invention in exchange for a fee. If the client wishes to make, use, or sell an invention that is the subject of a patent, they must get the patent-holder's permission, or be liable for infringement. If they knew of the patent and still infringed, any monetary liability can be trebled by a court upon a finding of willfulness. In this situation, getting a license will be less costly and more expeditious than applying for a patent itself, or “just doing it anyway.”

Pursuing a Patent

If the client wishes to pursue a patent, the first step is to draft a written description of the invention and prepare formal drawings of the invention. In addition, the first person to invent has a “priority of right,” in the United States, so it is very important for the client to document, in a signed writing, when the invention was conceived. After that, I prepare a draft patent application for their review. Applications for patent must fully disclose the

material sought to be protected. This material will be dedicated to the public when the patent eventually expires, and a patent normally cannot be extended or renewed. The scope of exclusive rights is defined by claims that specifically define the elements of the invention and how the elements fit or work together. The patent application as a whole must disclose the invention in sufficient detail to enable a person of ordinary skill in the art to make and use the subject matter claimed.

The typical utility patent application includes a substantial write-up describing the field of the invention, the pertinent prior teachings in that field (the “prior art”), a detailed description of preferred embodiments of the invention, and the claims. Drawings showing the claimed elements of the invention are required in most cases. Formal documents, including an Inventor’s Declaration, are needed when filing the application with the Patent Office, as is an official filing fee.

The filing fees for individuals and small businesses are lower than for large businesses. The applicant can qualify for the lower fee rates by simply swearing to the fact.

At the end of the application, there is one or more claims. The claims are very similar to the “metes-and-bounds” portion of a deed for real estate. In a deed, there is always a “metes-and-bounds” clause that defines the property claimed by the deed – that is, “the parcel of land running from the old oak tree to the iron post.” In a similar fashion, the claims section of a patent application defines the invention. Each claim defines the property to which the inventor wants to have exclusive rights granted by the government. Broader, less-detailed claims cover a larger range of variations than narrower claims. Thus, broader claims make it more difficult for a competitor to sidestep the patent by structuring a competing article in a manner different than that claimed. On the other hand, narrower claims are more readily passed by the examiner as unobvious. It is important when drafting the original claims and when later amending the claims to distinguish over prior art, to concentrate on the commercially valuable aspects of the invention, and to avoid adding any limitations that are unnecessary to support an argument that the invention is novel and unobvious.

When the application is completed and approved by the inventor, it is filed, along with a government fee, at the U.S. Patent Office. Once the application is filed, the office will send an official filing receipt in about six to eight weeks to confirm the arrival and entry of the application into the system.

Each application is assigned to a patent examiner working in the technical field of the invention. The examiners range from recent graduates of engineering schools to grizzled veterans who have spent many years examining applications in a particular field. The examiners have a backlog of applications to examine, and an applicant can expect a first official action 14 to 18 months after their filing date. The examiner will review the claims and do a patent search to determine whether the invention is useful, novel, and nonobvious, and then report their conclusions in an official action mailed to the patent attorney who filed the application. If the invention can jump all the hurdles (usefulness, novelty, and obviousness), then the inventor will receive a patent.

If the patent examiner decides the application does not meet one or more of those requirements, the application will be rejected. The official action will state any grounds for rejection and provide copies of documents the examiner found in a search.

Upon receipt, I will read through the official action and explain to the client what the examiner's conclusions were and how we might go about persuading the examiner to reconsider and withdraw the rejection. The inventor/applicant has a right to reconsideration of the application. That is a formal request made in writing to the patent examiner to reconsider the decision. The inventor is entitled to amend the claims and provide written arguments in an effort to distinguish the invention from any prior art relied upon by the examiner. The applicant, through his or her attorney, files this response to the official action to point out to the examiner why the invention is novel and unobvious, and/or to amend the claims to define the invention more narrowly. If the patent examiner is convinced, by a preponderance of the evidence, that his objections are overcome, then the inventor will be issued a patent for the claimed invention.

Costs Involved in the Patent Process

A significant amount of the cost of obtaining a patent is associated with lawyer fees. Patent attorneys' fees are based upon market forces. People do write their own patent applications, but as I often tell prospective clients, "You can also do your own brain surgery, but you probably won't be happy with the results." As an attorney, I cannot review patent applications drafted by a layperson because that would be unethical under the rules governing patent practitioners.

Some patents are easier to prepare than others. A salad spinner patent application is much easier and less time consuming to draft than a digital switching network patent application. The costs are proportional to the complexity of the subject matter. It is also important to look at the attorney's individual technical skills. I do mostly electrical and mechanical patents, since I have a background in physics and mechanical/electrical engineering. I would not work with inventions related to chemistry or biotechnology, since I am not technically competent in those fields. Rather, I would call in one of my partners, who specializes in these areas, to look at such an invention.

Being a Patent Lawyer

For me, being a patent lawyer is very fulfilling, since it provides me with the opportunity to be both a scientist and a lawyer at the same time. Before becoming an attorney, I was an engineer and an engineering manager for about 12 years at an electronics company. Going into patent law was a smooth transition because I could stay in the engineering field while engaging in more scholarly work.

I define success as not just whether I obtain a patent for a client. I define success as having a client who comes back to me for more advice and additional patent work. This means that when the client worked with me on the first application, they felt they received good, honest, and forthright advice that helped them, even if they did not get the patent. As a patent attorney, it would be very easy for me to tell every client that they have "one hell of an idea" and then take their money. That is what the client wants to hear. However, I choose to give honest advice, and whether I

make a buck off that advice is a secondary issue. What is most important to me is that the client gets a fair deal.

People often ask me if I think they have a good idea. My standard response is, “If I knew what a good idea was, do you think I would be doing this job 70 hours a week?” No one knows whether something is worthy of a patent until an examiner looks at the application. Even if it does qualify for a patent, turning that invention into money takes hard work and some luck. I have seen great ideas fall flat and stupid ones make a pile of money. The person who sold pet rocks made several million dollars. He did not have a patent on the rocks, but just picked rocks up, put them in a box, and sold them. While the idea is important, the ability to go out and *sell* makes all the difference.

A patent is valuable only if the product it covers makes money. It will make money only when the owner has convinced a portion of America they need to part from some of their hard-earned cash for this thing. Does anyone actually *need* a pair of sneakers costing several hundred dollars because a famous sports celebrity signed them? I doubt it. People want them because they have been *sold* an idea or image that those shoes will some how change their lives for the better. A patent helps only to protect the position in the market place that has been gained by *selling*.

Patent litigation carries its own costs. Ultimately, litigation decisions are all based on economics. The American Intellectual Property Law Association publishes a survey every year of the average costs for patent litigation. For example, the cost of filing a patent infringement lawsuit, through the discovery phase, in Philadelphia, where what is at stake is between \$1 million and \$25 million, is between \$500,000 and \$700,000. To do a complete patent infringement trial would probably cost over \$1 million. Appeals can easily double that million. When considering patent litigation, the client has to look at the situation economically, and consider how much is at risk before deciding to spend \$1 million to protect it.

Misconceptions

People tend to think that patents hinder technology and prevent innovation. That is the biggest misconception. I think patents do just the

opposite, and in fact, encourage the American spirit of entrepreneurship and competition. I think if you look objectively at the history of technology in this country, you would see this is true. The patent system has stimulated financial resources to back new creations because those who have invested their money in a new, patented idea know that their risk-based capital will be protected for a limited time by that patent. This protection encourages investors to take financial risks.

People also do not know what a patent is. They often confuse copyrights, trademarks, and patents. Patents and copyrights are grants from the American people provided by the Constitution. Copyrights are intended to protect the form of expression of an idea having some artistic or literary identity. The copyright does not carry exclusive rights to the idea conveyed in a work – only the form in which the idea is expressed – so you cannot protect an idea by registering a copyright in a description of the idea. Furthermore “copyright” is by definition the right to copy. If a copyright owner cannot prove an infringer actually copied his or her work, as opposed to independently generating a similar work without copying, the owner cannot prevail in a lawsuit for infringement.

Trademark and unfair competition laws are another and a distinct form of intellectual property law. The trademark laws are intended to permit a business to identify itself and its goods and services uniquely by a distinctive name, logo, or other identifier. It does not matter how the distinctive identifier originated. Protection arises with use of the mark to identify goods or services offered for sale, and is maintained by continuing to use the mark to identify the products of the owner’s business.

The Future of Patent Law

Currently I see a strong push to harmonize patent laws around the world. Other than in the United States and Canada, if you disclose your invention publicly to anyone who can understand it, you lose all of your rights to obtain a patent. Also, the first person who files has “priority of right” in other countries. In the United States, the right to a patent belongs to the first person to invent, so there is no race to the patent office. I do not agree with the current push to harmonize U.S. patent laws with those from other countries. I think this push is at the expense of the individual inventor, the

small guy. Frankly, it is the small guy that creates most of the jobs and moves this country forward economically. Remember, it was a young kid who dropped out of Harvard to play with suitcase computers who created the operating system software that led to MSDOS and Windows and changed our lives forever – not IBM!

Samuel W. Apicelli's practice involves all aspects of patent, trademark, and copyright procurement and enforcement. In addition, he has more than 12 years of experience as an electrical/mechanical engineer, engineering manager, and an international businessman.

Before entering law school in 1990, Mr. Apicelli was employed by AMP, Inc., the world's largest manufacturer of electrical and electronic interconnection devices. Between 1978 and 1990, he held several engineering and management positions at AMP, including product engineer, engineering analyst, technology transfer manager, director of engineering for Southern Europe and Latin America, and director of engineering for Asia Pacific operations. As director of engineering, he was based in London, England, where he administered and had profit and loss responsibility for numerous product and manufacturing development programs. He also acted as an advisor to the international management teams for the preparation of their yearly business plans.

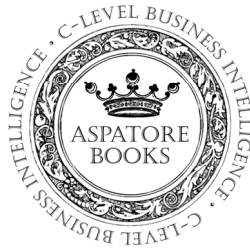
Mr. Apicelli's engineering and patent preparation and prosecution experience includes electrical and electronic engineering related to interconnection technology; the mechanical design of electronic systems; high-speed metal-stamping tools and systems; polymer-molding tools and systems; high-speed parts-assembly machines and systems; semiconductor device fabrication methods and machines; semiconductor device packaging and interconnection; and medical device design and fabrication, including laparoscopic, endoscopic, and arthroscopic devices and methods, orthopedic devices, cardiac repair devices, surgical devices, and heat transfer devices for electronic systems.

Having written and prosecuted well over 250 patents in a variety of technical disciplines related to mechanical and electrical engineering, Mr. Apicelli has been awarded two patents for his own inventions. Mr. Apicelli received his JD degree from Franklin Pierce Law Center, where he was an editor of the law review journal IDEA, The Journal of Law and Technology. Since graduation in 1993, he has been an occasional lecturer for the patent practice I & II courses that are taught to second-year intellectual property students at Franklin Pierce Law Center. He also lectures on intellectual property topics for the Kutztown University Small Business Development Center. He received his BA

degree in physics from Bates College. He is admitted to practice law in Pennsylvania, Massachusetts, and New Jersey, and before the U.S. Patent and Trademark Office.

Dedication: *I would like to acknowledge my wife Andrea Barnett-Apicelli and my son Jackson Apicelli, without whom I would be lost.*

None of these materials is offered as, nor should be construed as, legal advice. These materials are not intended to create an attorney-client relationship with Samuel W. Apicelli, Esquire, Duane Morris LLP, or any Duane Morris LLP intellectual property attorney. Such a relationship would require direct, personal contact with an attorney and would also require an agreement that confirms that a relationship is established and the terms of that relationship. The information contained in these materials should not be acted or relied upon without specifically seeking professional legal advice. The views expressed in this chapter do not necessarily represent the views of Duane Morris LLP or the other intellectual property lawyers in the firm.



www.Aspatore.com

Aspatore Books is the largest and most exclusive publisher of C-Level executives (CEO, CFO, CTO, CMO, Partner) from the world's most respected companies and law firms. Aspatore annually publishes a select group of C-Level executives from the Global 1,000, top 250 law firms (Partners & Chairs), and other leading companies of all sizes. C-Level Business Intelligence™, as conceptualized and developed by Aspatore Books, provides professionals of all levels with proven business intelligence from industry insiders – direct and unfiltered insight from those who know it best – as opposed to third-party accounts offered by unknown authors and analysts. Aspatore Books is committed to publishing an innovative line of business and legal books, those which lay forth principles and offer insights that when employed, can have a direct financial impact on the reader's business objectives, whatever they may be. In essence, Aspatore publishes critical tools – need-to-read as opposed to nice-to-read books – for all business professionals.

Inside the Minds

The critically acclaimed *Inside the Minds* series provides readers of all levels with proven business intelligence from C-Level executives (CEO, CFO, CTO, CMO, Partner) from the world's most respected companies. Each chapter is comparable to a white paper or essay and is a future-oriented look at where an industry/profession/topic is heading and the most important issues for future success. Each author has been carefully chosen through an exhaustive selection process by the *Inside the Minds* editorial board to write a chapter for this book. *Inside the Minds* was conceived in order to give readers actual insights into the leading minds of business executives worldwide. Because so few books or other publications are actually written by executives in industry, *Inside the Minds* presents an unprecedented look at various industries and professions never before available.

