

The Patent King

He has a staggering 558 patents, costing companies around the world some \$1.5 billion in licensing fees. But what did Jerome Lemelson actually invent? by Nicholas Varchaver

This past February, Jerome Lemelson passed an impressive milestone: The number of companies paying for licenses on his patents reached 750. The list includes an amazing array of corporations: old-economy stalwarts like Alcoa, Boeing, Dow Chemical, Eli Lilly, and GE; manufacturing behemoths like Ford, GM, and U.S. Steel; technology titans like IBM, Hewlett-Packard, and Cisco. The portfolio of products covered over the years by Lemelson's patents is equally staggering: They include components in such everyday consumer products as the Walkman, the VCR, the fax machine, and the camcorder. At one time or another his patents have covered Velcro darts and industrial robots, crying dolls and semiconductors. He even holds patents—perhaps his most important ones, as we'll see—on the ubiquitous bar-code scanner.

So far, these licenses have reaped nearly \$1.5 billion. This is almost surely more than any individual patent holder has ever earned from licensing patents, and it hasn't come about by accident. Lemelson spent his life thinking up patents—and then filing lawsuits to enforce them. So rich is his patent portfolio that even now he remains in litigation with some 400 companies (including AOL Time Warner, the parent of FORTUNE's publisher). Well, not Lemelson, exactly—but rather a for-profit foundation that holds the rights to his patents. Lemelson, you see, has been dead for three years. When he passed

THE PATENT KING

away in October 1997, at the age of 74, he had just won his greatest patent victory, crushing Ford Motor Co.

It would be appealing to view Lemelson as part of the great American tradition of the small inventor battling the rapacious corporation. Certainly there have been plenty of people who have seen him in this light. The distinguished writer Tom Wolfe once hailed him as a "genius" in a laudatory article. Two of the most prestigious institutions in the country, MIT and the Smithsonian, have allied themselves with his name. To many small inventors, Lemelson is a figure of heroic proportions.

Lemelson may well have been a genius: He earned 558 patents (some came after his death), which leaves him four places behind the *inventore-di-tutti-inventori*, Thomas Edison. But his was a different kind of brilliance altogether. In truth, his most lucrative patents were the product of a masterful exploitation of the patent system, and they created a huge legal web that to this day ensnares corporations. Critics—especially the many businesses he has sued—portray Lemelson as the anti-Edison. They contend that he never invented the key technologies for which he had the patents. Even one of Lemelson's former attorneys, Arthur Lieberman, questions whether Lemelson was an inventor in the layman's sense of the word. Rather, he says, Lemelson would figure out where an industry was headed—and then place a patent claim directly in its path. "In many cases, Lemelson didn't patent inventions," says Lieberman. "He invented patents."

The Lemelson litigation and licensing program—which has been masterminded over the past dozen years by a wily lawyer named Gerald Hosier—is unprecedented in its size and scope, and has become the leading edge in a wave of patent litigation. Even as personal-injury and product-liability suits—the bane of most large corporations—have been declining, federal patent lawsuit filings have increased 60% since 1993.

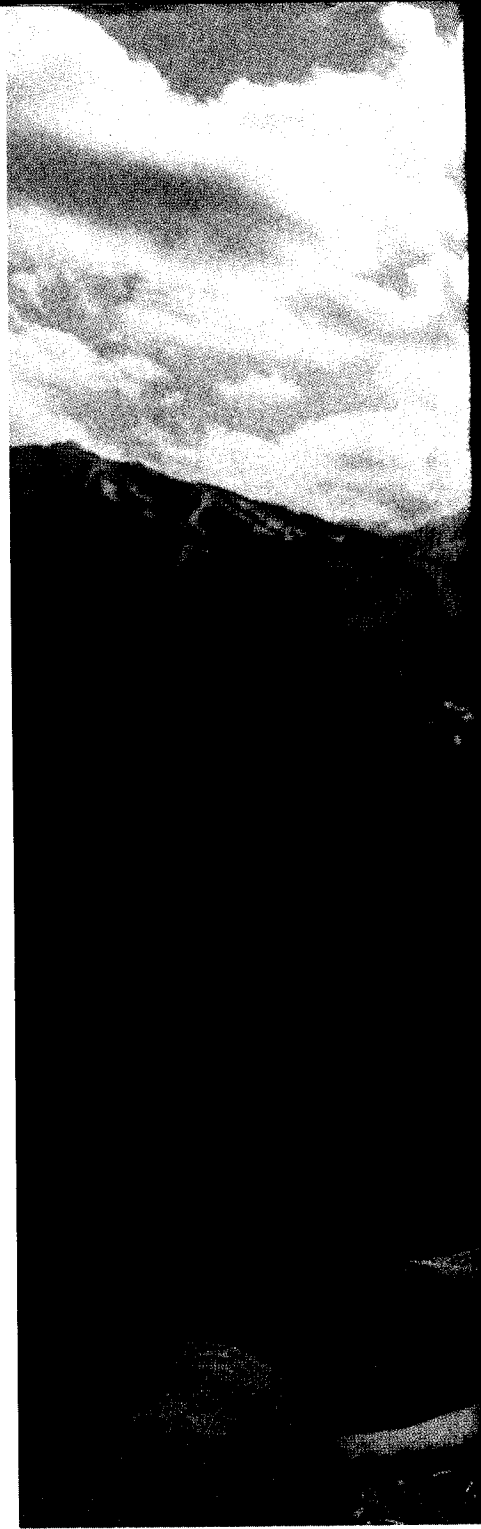
Now, though, the Lemelson litigation machine faces a serious threat, in the form of a suit brought by a group of bar-code-equipment manufacturers. If they win key rulings in the next year, the Lemelson operation will, in all likelihood, finally wind down. But if they don't, the \$1.5 billion collected so far by Lemelson will be just a down payment on a much larger tab—payment not for the creation of new ideas but for what can only be called an intellectual land grab.

You'd be hard-pressed to find a more appealing representative for Lemelson's legacy than his widow, Dorothy. Petite, charming, and ebullient at age 75, Dorothy was married to Lemelson for 43 years. For many of those years they lived in Metuchen, N.J.—next door to Menlo Park, the site of Edison's famous laboratory—where Dorothy worked as an interior designer while her husband waged his lonely battles with corporations. These days she has homes in Portland, Ore., and Incline Village, Nev., and heads the Lemelson family's charitable foundation (a separate entity from the for-profit foundation that controls his patents). Since the mid-'90s it has doled out millions for programs that foster innovation. Perhaps not surprisingly, MIT and the Smithsonian have been big recipients of the foundation's largesse.

She is also, these days, the chief bur-nisher of her late husband's image. She recalls him as a self-effacing man, a gentle soul. Most of all, though, she wants him to be accepted as a Great Man, something he longed for during his lifetime. "He wanted people to know what he had accomplished," she says a little wistfully. "He actually saw very early on a new world. All the things that he was working on were the things that created the world that you guys are living in now." His ability to foresee technological innovations, decades before others, was, in her view, the true basis of his eventual success. His patent battles? He simply wanted recompense for the ideas that corporations routinely stole from him.

Her reminiscences tend to revolve around his obsession with his work. She recalls Lemelson dragging her to the Patent Office in Washington, D.C., on the way back from their honeymoon in 1954. ("It was so hot there," she says. "It was horrible.") Her husband would keep notebooks by his side when he slept—in case he woke up with a brainstorm. He would mutter ideas into a Dictaphone as he drove his family to the beach, and then sit under an umbrella (to avoid skin cancer), writing in a notebook while his sons frolicked in the water. When he bought toys for his boys, he would often disassemble them to see how they worked.

For Lemelson, being an inventor did not mean waiting for a "eureka moment." The process entailed a great deal of study and hard work—though not necessarily the kind you would assume. Lemelson, for



The mastermind of the Lemelson litigation machine, Gerald Hosier, won his greatest victory six months before Lemelson's death.

example, didn't build models to test his technological inventions. Inventing for him was a purely theoretical exercise. An engineer by training—he had three engineering degrees from NYU—he would spend his days poring through the 40-odd technical journals he subscribed to, publications with names such as *Automation* and *Modern Materials Handling*. And it was his immersion in this wide range of



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technical information that spawned Lemelson's patents, as he drew connections and synthesized new ideas.

One of the many paradoxes of Lemelson is that the process of creation his wife describes so lovingly isn't markedly different from the process described by his critics. "He would look at the magazines and determine the direction of industry," shrugs ex-Lemelson attorney Lieberman. In this view, Lemelson wasn't attempting to create real products. He was just using his knowledge to get the first chit in at the Patent Office and lay the groundwork for a future claim.

Lemelson's first patent, issued in 1953, was for a beanie with a propeller on top. Lemelson made no claim to have invented anything so wonderful as the propeller-beanie; his patent was for an incremental improvement—a tube through which the wearer could blow and whirl the propeller.

Many of the early Lemelson patents were for simple toys, for a reason that is well known to starving young inventors: Toys offer a better chance of generating quick revenue than complex inventions that can require decades to get developed. Making

tiny improvements on existing things is also a common practice among inventors.

Unfortunately for Lemelson, toy companies were not particularly inclined to license his patents—especially when they already had something similar on the market. Unfortunately for the toy companies, Lemelson was not the sort to simply walk away. He soon became convinced that his ideas were being stolen, and he was determined to do something about it. His response—common enough in this litigious age but highly unusual in the 1950s—was to sue. These early suits both reflected

THE PATENT KING

and shaped Lemelson's world view, and became key pillars of the Lemelson legend among those who view him as a hero.

Take, for instance, *Lemelson v. Kellogg*—an early Lemelson suit that was captured by Tom Wolfe in a stylish 1986 article, "Land of Wizards." Wolfe's account presented the archetypal example of the honest inventor wronged by a big corporation: *Inventor has idea for a children's mask that can be cut out of the back of a cereal box. Inventor sends idea to big corporation. Big corporation summarily rejects it. Inventor sees years later that big corporation has used his idea. Inventor sues big corporation, but nasty judge, in thrall to big corporation, dismisses the case.*

Here's what really happened: Lemelson did in fact suggest a children's mask, and Kellogg did in fact reject the idea. But the company explained why in a letter dated Nov. 9, 1954: "We have used masks and mask cutouts in many forms ... therefore, we do not wish to consider these." Lemelson went ahead and obtained a patent for a particular type of cutout mask—and then, five years later, sued Kellogg when he saw a printed mask on a box of corn flakes. In its response, Kellogg cited seven instances in which it had inscribed masks on cereal boxes, dating back as early as 1947

—and a dozen prior patents on similar masks. At trial, Lemelson's own expert witness conceded that none of the elements in his patent were new. Given this set of facts, the surprise isn't that Lemelson lost the case, which he did, resoundingly. It's that he kept fighting the case until his final appeal was denied—in 1972.

There are few departments of the government that are as old as the country itself, but the U.S. Patent and Trademark Office is one of them. Viewed by the founders as a fundamental principle, patent protection was explicitly provided for in the Constitution; in fact, the nation's first patent examiner was Thomas Jefferson. Today the Patent Office has decamped to Jefferson's side of the Potomac, where it occupies a drab modern building in Virginia. Parts of it, though, conjure another century.

Since at least the 1870s, patents have been stored by subject matter in snug compartments called shoes (so named because the original containers were shoeboxes). Today they fill endless, cramped rows of shelving in a series of spaces collectively called the "search room." Until the Patent Office began offering electronic searching in the early '90s, researching patents was

a Dickensian experience: Pallid clerks known as patent searchers spent entire careers pulling down desiccated, yellowed documents, leafing through thick, dusty files, and reading page after dense page. And there was no guarantee that the patent they were searching for would be where it was supposed to be.

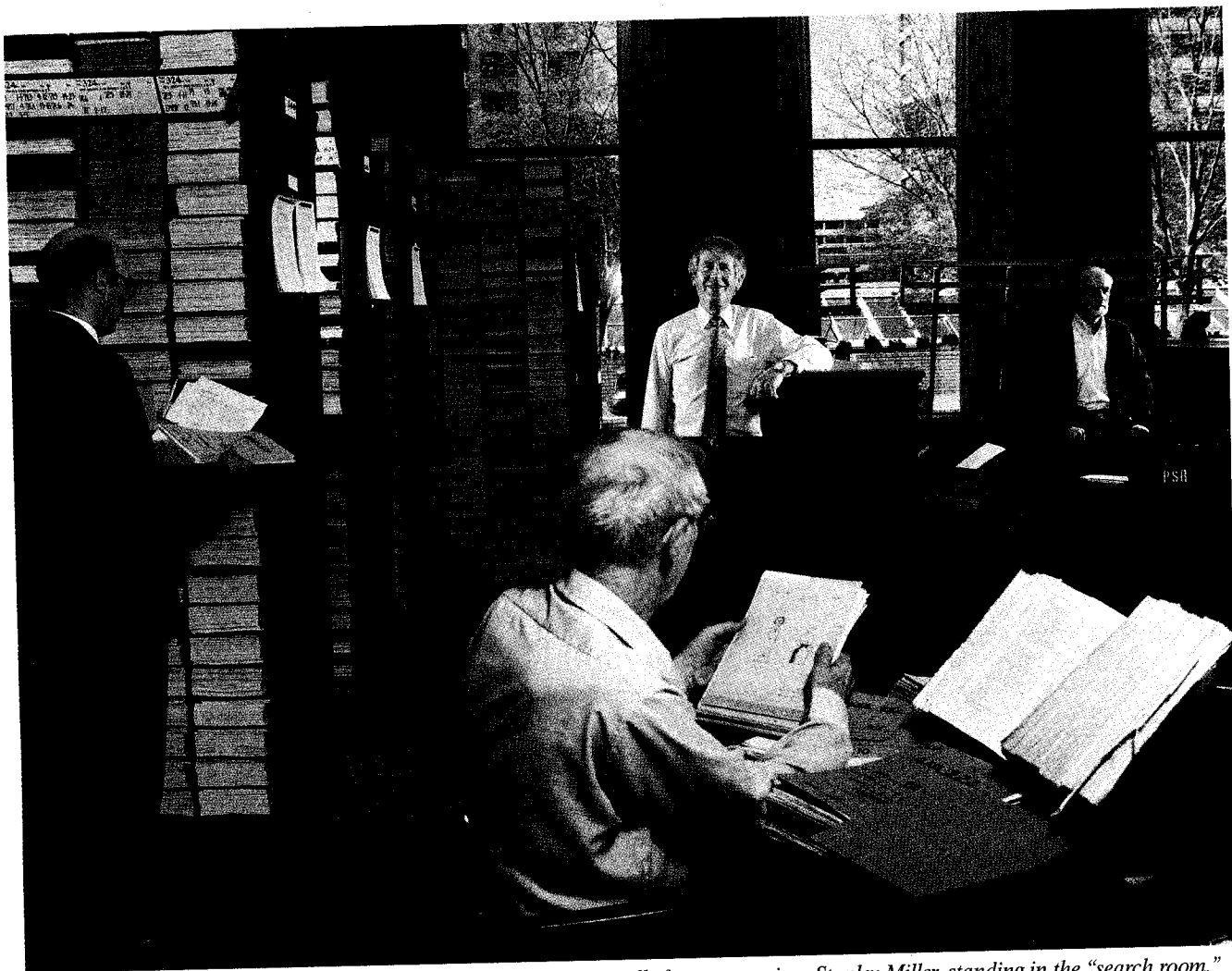
Until 1995, when a new law changed a number of patent practices, the most profound change to have taken place at the Patent Office occurred in the late 19th century. That's when the Office stopped requiring inventors to submit working models of their inventions. From then on, words and drawings alone would suffice.

Divorced from tangible objects, the patent application process became a kind of black art. Today a serious patent practitioner will craft an application in such a way that it not only describes a particular invention but also potentially covers other inventions. To use a common example, if one had invented the stool, it wouldn't be good patent strategy to submit an application that defines the stool as "a wooden base with three legs appended." It would be much smarter to say "a base with at least three legs appended." The latter would allow the patent to cover a stool constructed out of wood, metal, or plas-

Dorothy Lemelson firmly believes her late husband should be hailed as a Great Man. "He actually saw very early on a new world," she says.



THE PATENT KING



Lemelson was a relentless patent applicant. "He'd whine a lot," recalls former examiner Stanley Miller, standing in the "search room."

tic—or, conceivably, a four-legged chair.

Lemelson, who drafted his own patent applications through most of his career, was a master of the art. "You have to stake the four corners of your invention broadly enough so that they give you maximum protection," he explained to *The New Yorker* in 1993. "You tend to avoid adjectives. You don't say 'transistor' when you can use 'controllable electronic valve'—that sort of thing. Of course, if you write too broadly you may invalidate your claim.... But if you write too narrowly you may miss the thing about the technology that turns out to be truly valuable." Lieberman puts it more pungently: "You put enough shit into it to allow your claims to wander in all kinds of directions."

As a patent applicant, Lemelson had other qualities that served him well. He was relentless. To him, a rejection wasn't the end of something but merely the beginning. He would lobby, cajole, appeal, reapply—whatever it took. (Lemelson

would later testify that he was always turned down on his first attempt at a patent: "It happens in every case that I file.... And you fight with them and overcome them.") "He'd whine a lot," recalls Stanley Miller, who dealt with Lemelson during his years as a patent examiner and supervisor from 1956 to 1998. "He tried to get your sympathy." Adds Miller: "He took advantage of whatever loophole there was."

Lemelson would grind down the examiners by submitting "jumbo" applications that stretched to more than 100 pages. "There's no way that you could read an entire application in the case of the jumbo applications," says Miller. Not only were they huge, they could be incredibly vague; some patent examiners began referring to Lemelson as "Black Box Jerry" because of his tendency to offer sweeping notions with very little technical detail.

And then there were the delays. Until that 1995 law changed the rules, a newly issued patent had a 17-year life span—dur-

ing which time nobody was supposed to be able to use the idea without paying for it. But a patent application could be delayed through something called a "continuation." During *that* process, applicants were permitted to amend, modify, or add claims to their inventions. As long as the inventor could persuade an examiner that the new claims were consistent with the original specifications, he could even go so far as to incorporate somebody else's technology into his own patent application.

Nobody ever sought continuations the way Lemelson did. Some of his applications had a half-dozen continuations, each of which could add years to the process. Sometimes Lemelson would be informed that one of his patents was about to be issued—and respond by filing a continuation, inexplicably creating another delay.

But as any savvy patent practitioner knows, his action wasn't inexplicable at all. Consider: Lemelson first submitted some of his key technological patent applications

in the mid-1950s. But thanks to all the delays—delays often triggered by Lemelson's continuations—many of them weren't issued until the '80s and '90s. By then, though, Lemelson had amended them to include real products that had come on the market—which he could claim to have invented because he had applied for the patent back in the '50s! And because the patent only took effect when it was issued, that meant that every manufacturer of the product needed to license it from the “inventor.”

Take, for instance, a 1954 Lemelson patent application describing a video camera positioned to view a production line. According to the 150-page patent application, Lemelson's idea would be used to “provide means whereby a video picture signal may be used to effect automatic quality control.” But Lemelson never built such a machine, and critics say it wouldn't work if built. (That view is disputed by John Grindon, an expert witness for the Lemelson team.) Years later, though, the underlying concept found its way into common industrial use as a technology called “machine vision”—in which a camera inspects items on an assembly line, compares them with a digital image stored in its memory, and determines whether they're defective.

You could credit Lemelson as a visionary for having the germ of this idea. But, to use the analogies often employed by his critics, it's the kind of vision that Jules Verne or Leonardo da Vinci had. Both the French novelist and the Renaissance genius had abstract, unworkable ideas for technologies that, in some cases, were ultimately created centuries later. Should Boeing have to pay da Vinci's estate because he envisioned a flying machine in the 15th century?

“Lemelson's original patents are quite different from how machine vision is practiced or ever was practiced,” says Steve Dickerson, a professor emeritus at the Georgia Institute of Technology and holder of a patent on machine vision. “What he invented and what people did are absolutely different.” But that didn't prevent Lemelson from suing decades later, once the systems had come into use. By then, of course, Lemelson's patent applications had been amended to encompass real machine-vision technology rather than his merely theoretical notion.

Was Lemelson's approach—stalling to keep patent applications alive and amending them to get out in front of emerging

technology—a conscious strategy from the start? It's impossible to know. Lemelson's current lawyer, Gerald Hosier, vehemently denies it, blaming the delays on the Patent Office. He points out that it would make little sense for an impoverished inventor to map out a plan in 1954 that called for a 40-year wait to cash in. But even if that wasn't Lemelson's original idea, he clearly came to realize the benefits of delay. Says Lieberman: “It's too simple to be refuted.”

Even if they called him Black Box Jerry at the Patent Office, Lemelson never saw himself in those terms. On the contrary, he aspired to be nothing less than a modern-day Edison. Which is why, when companies began bringing products to life in the 1960s and 1970s that Lemelson felt were covered in one of his '50s-era patents—

“In many cases,” says one of Lemelson's former attorneys, “he didn't patent inventions. He invented patents.”

and when those companies then declined to license his patents, as they invariably did—he reacted exactly as he had when the toy companies spurned him. First he seethed. And then he sued.

Lemelson pursued litigation the same way he pursued patent applications—relentlessly, obsessively, even maniacally. Almost always, in those years, he either lost the case outright or settled for a tiny sum. It didn't matter: He just wouldn't stop. In one instance he litigated at least ten cases for a total of 19 years over something called a “bellows noisemaker,” a 75 cent item that squeaks or squeals when pressed. (It's usually put inside a toy.) Though Lemelson conceded that such noisemakers had existed for decades, he managed to secure a patent on the grounds that his version was made out of one piece of plastic rather than two. He even managed to prevail in one of the cases: a 1979 trial against a two-person company that had sold \$8,225 of the items. According to a lawyer familiar with the case, Lemelson wound up winning some \$300 in

damages—and didn't bother to collect.

An even more powerful illustration of Lemelson's motives and tactics comes from a series of letters he wrote in the 1960s and 1970s to Raymond Armington, the president of a Cleveland-based company called Triax. As it happens, Triax was Lemelson's first real ally in corporate America. A builder of automated warehouses, Triax held a series of patents covering its various processes. Lemelson, needless to say, also had patents covering automatic warehousing. But when Lemelson accused Triax of infringing his patents, Triax responded not by fighting but by joining forces with him. The company believed that if their two patent portfolios were combined, they'd cover every conceivable permutation of automated warehouse. That meant that any company using such technology would have to pay up.

Though the plan did not meet with much success, it wasn't for lack of trying. For example, here is Lemelson in 1967, intensely monitoring other people's inventions—and then trying to capture them in his own pending patent applications. “I am enclosing a reprint of an article in the February 1967 issue of *Control Engineering Magazine* which briefly describes the Speed-Park Garage,” Lemelson writes, referring to an automated car-parking garage that Ford had just opened. He then suggests modifying one of his pending patent

applications so that it would cover a key element of the technology: “It may be quite profitable to us in the future to attempt to get claims on the fork-reject switch....” Another letter describes how a competitor has redesigned a part so that it wouldn't infringe on Lemelson's patent. “Couldn't we file a reissue application,” Lemelson asks, “to add a claim or two to cover this aspect?”

May 1969: Triax, complains Lemelson, isn't suing enough companies: “Perhaps it may be wise to initiate one or more infringement actions in those cases which come close to the grey area....”

June 1971: Lemelson, frustrated that Triax isn't acting aggressively enough, rails about “massive infringement” worth “millions of dollars.” “What in the world are we waiting for?” he demands. In another letter he continues in this vein: The defense of a patent infringement action can cost as much as \$500,000, he says. “With this in mind, we should be able to get some of them to take a license at this time even if it means bringing an action. If we over-



Cognex co-founder Robert Shillman is suing to have Lemelson's patents invalidated. "It's a tax on every consumer," he says angrily.

whelm them with our patents, they should comply and take a license."

March 1972: Triax, increasingly uncomfortable with Lemelson's demands, demurs: "We cannot ethically file an infringement action against a defendant unless we have a pretty good idea as to which claims of which patents are infringed," writes Armington. This answer infuriates Lemelson. "Apparently you and your attorneys have failed to realize ... that the only language most of our great leaders [of] industry recognize ... is that resulting from a legal action," he counters.

August 1973: "The INDUSTRY MUST RESPECT OUR PATENTS AND THE ONLY WAY WE WILL GET THAT RESPECT IS TO SHOW THEM WE MEAN BUSINESS," Lemelson writes—and then adds parenthetically, "I didn't intentionally capitalize the above, the typewriter stuct [*sic*] at the right moment."

Finally, after decades of frustration, Lemelson began to hit pay dirt in the early 1970s. First came Sony, which agreed to license an audiocassette mechanism that became a standard part of cassette players—a deal that earned Lemelson some \$2 million over a 14-year span. For Sony this was petty cash, but for

Lemelson, it represented a first: steady income that derived from one his patents. Why did Sony agree to this deal? The company didn't actually rely on his invention, says Lewis Eslinger, an attorney who represented Sony. "Very clearly," he says, "they paid him because he had an issued patent."

Then, in 1981, came a much bigger payday: IBM agreed to pay Lemelson \$5 million for a group of his patents, including at least one relating to the basic concept of the personal computer. Lemelson celebrated his windfall by earmarking every penny for new lawyers and legal action. "He upped the ante," recalls Lieberman, who signed on as Lemelson's primary counsel soon after the IBM deal. "He became more aggressive. He became more convinced he was right."

This new IBM-financed round of litigation reaped, by Lieberman's estimate, more than \$10 million in license fees, mostly from Asian computer and electronics companies. It also reaped a flurry of new suits. But Lieberman eventually became disenchanted with his client. "I couldn't believe how far he'd go," the lawyer says now, "how aggressive he could be." For instance, after those Asian companies agreed to pay for Lemelson's computer patents, he wanted Lieberman to go

back to them and extract new payments on the grounds that those same patents covered fax machines too.

"I said, 'It's unethical,'" Lieberman recalls. "And he said, 'It's not illegal.'" Lieberman continues: "I just was no longer comfortable representing him. I was tired of being called a lawyer for a parasite." (In a 1993 *American Lawyer* article, Lemelson blamed the rift on a fee dispute.) No matter. By then Lemelson had finally found a lawyer whose approach to litigation mirrored his own.

When Gerald Hosier first began doing work for Jerry Lemelson, he was already a successful patent attorney running a small firm in Chicago. A little more than a decade later, Hosier, 60, lives on a mountain overlooking Aspen, Colo., in a 15,000-square-foot home that includes a giant exercise room, a sauna, a wine cellar, and a lavish underground screening room with a built-in flight simulator. He's got five planes, including a Cold War-era Czechoslovakian fighter plane that he snapped up in a fire sale.

If Hosier made Lemelson tremendously wealthy—and he did—the reverse is also true. When he first took on Lemelson as a

client in the late 1980s, Hosier was one of the few patent lawyers willing to work on contingency. Since then he has generated \$1.5 billion in licensing fees—and has reportedly taken a third for himself. (Hosier declines to comment on his fee.)

Not that he wants you to focus on the money. "When I first met Jerry Lemelson," recalls Hosier, sitting in an office that offers sweeping views of the Rocky Mountains, "I had some concerns because I'd heard he was a gadfly suing people.... So I took the time to learn about the man. And, frankly, someday I think he will go down as one of the great geniuses of our time. If he'd had the resources, he would have had 1,500 patents. He would have surpassed Thomas Edison easily. He was the lone ranger. He had no legal team. He had no company. He had no resources other than [his patents]. He was the classic inventor."

Indeed, one thing Hosier always understood was that Lemelson was in it for more than the money. Hosier gave Lemelson the respect he craved. As a result, perhaps, Hosier was able to inspire trust from the wary Lemelson, who had hired and fired dozens of lawyers over the years.

Hosier, for his part, was practical in a way that Lemelson never was. Lemelson, for instance, always wanted to extract the maximum amount from the licensing fees; Hosier persuaded him to accept less money per license and make it up in volume. Unlike Lemelson, Hosier had no interest in carrying on legal brawls just to make a point; he was interested in only those avenues that would lead to concrete results. Jerry Hosier wasn't about to waste his time on any case that wasn't going to generate cold, hard cash.

When Hosier started looking through Lemelson's patents, he was struck by the tremendous amount of untapped potential. "I was stunned," he says. "There was a surfeit of riches." That was particularly true of Lemelson's machine-vision patents, which were among Hosier's first assignments. It dawned on Hosier that the concepts in the machine-vision applications cover another key modern technology—the bar-code process. "Bar code is machine vision," he says today. So in September 1989, Hosier set about filing new bar-code claims to Lemelson's pending patent applications.

Then came the legal strategy. Normally, a patent holder sues the manufacturer of

the product that is allegedly infringing the patent. Hosier, however, realized that the manufacturers of machine-vision technology and bar-code equipment were comparatively small potatoes. The big score lay in getting licensing fees from the users of those products—which is to say, just about every company on the planet. And because Lemelson's patents covered not only the products themselves but their method of use as well, Hosier was legally entitled to sue them. This was his masterstroke.

In November 1989, Hosier sent a letter to every company in the electronics, semiconductor, and auto industries worldwide, informing them that they were infringing on Lemelson's patents. Not surprisingly, the companies disagreed with Hosier's assessment. But Hosier persisted, focusing especially on the Japa-

At the Patent Office some called Lemelson "Black Box Jerry" because his sweeping patents offered few technical details.

nese companies, knowing that they were skittish about confronting the U.S. legal system. His letters pointed out that Lemelson had, at that point, more than 150 patents, with another 50 applications still in the hopper. As he wrote, typically, to Sanyo in December 1991, "the claims of the pending applications are all being carefully drawn to cover practices in widespread commercial use." In other words, there was no escape.

By the summer of 1992 the entire Japanese auto industry was poised to fall into line. When the companies wavered at the last second, Hosier filed suit. Without even bothering to respond, the companies capitulated, agreeing to collectively pay Lemelson \$100 million. Within months, some 30 other European and Japanese companies, including Volkswagen, BMW, Mercedes, Saab, Volvo, NEC, Philips, and Samsung, all folded. They handed Lemelson and Hosier another \$350 million.

With this war chest, Hosier turned his sights on a far tougher prey—the U.S. auto industry. After some brief maneu-

vering, the parties agreed that Lemelson would fight it out with Ford first, while GM and Chrysler waited on the sidelines. This was a true battle of the titans—Hosier, by now, had the means for a protracted campaign, but Ford was a hard-line patent litigant with decades of experience; its longtime patent firm, Fish & Neave, had once represented none other than Thomas Edison.

At moments the currents seemed to be moving against Lemelson. In June 1995, for instance, the U.S. patent laws changed in ways that would seem to put a crimp on Lemelson's tried-and-true techniques. No longer would patents be valid for 17 years from the date of issue; now they would run 20 years from the date of first application. No longer could inventors profit by filing endless continuations. But though companies like Ford had lobbied for this change to prevent the emergence of another Lemelson, the rule was grandfathered in and thus had no effect on Lemelson himself.

That same month, though, Lemelson suffered a much more immediate blow. A magistrate, deputized by the trial judge to handle pretrial motions, granted summary judgment to Ford. The magistrate found that Lemelson's patents couldn't be enforced because of his unreasonable delays in the application process. "Lemelson's use of continuation applications has been abusive," the magistrate concluded.

The magistrate's opinion was technically only a recommendation. Still, judges almost always endorse such findings. Sure enough, in April 1996, Judge Lloyd George adopted the magistrate's report. George then took another 12 months before submitting his written opinion. When it was announced in April 1997, Ford was stunned. Judge George had reversed himself.

He did so, it appears, because in the interim another court had issued a contrary ruling in a similar case. That court concluded that as long as the law permitted delay, a patent-applicant can't be punished for taking advantage of the rules. As Judge George wrote, "While Lemelson's use of the continuation applications process may have exploited an open area of patent practice, the court should not intervene ... to regulate what Congress has not."

Jerry Lemelson, however, wouldn't have long to revel in his triumph: He was dying of liver cancer. By late summer 1997 the disease had worsened, and Lemelson

THE PATENT KING

found himself in the cancer unit at Cedars-Sinai hospital in Los Angeles. He was in his bed when word came that an appeals court had declined to hear Ford's appeal of Judge George's ruling. Weakened by the disease, Lemelson managed a haggard smile and lifted his bony hand in a "V" for victory. A few weeks later, on Oct. 1, he passed away at age 74.

The great irony of the Lemelson story is that most of the money from his patents has been collected in the three years since he died. Or maybe that's not so ironic: After all, Gerry Hosier is now fully in charge, without his bellicose client whispering in his ear. The Ford case turned out to be pivotal: After Ford settled on June 1, 1998—with GM and Chrysler caving on the same day—Hosier sent out letters to some 1,200 companies demanding licensing fees. Hundreds of them fell into line; Hosier was signing up licenses at a rate of one a day.

Why would companies settle if they didn't believe—and most don't—that Lemelson's patents were valid? Beyond the obvious desire to avoid costly litigation, they found themselves trapped in the web of patent claims that Lemelson had woven during his life. Lemelson's machine-vision claims, for example, number in the hundreds and are spread among 16 different patents. Knock out one claim, and dozens more would rise to take its place. And Hosier had proved over time that he knew how to play hardball. From 1998 to 2000, for instance, he filed seven massive suits against a total of 632 companies.

On the other hand, like a resourceful salesman, Hosier knew how to ease companies into a settlement they could feel good about. For starters, he offered what amounted to package deals—one license covering the entire Lemelson portfolio. And you couldn't beat his prices. "I think Jerry is very masterful in coming to the right number, so people lose their incentive to litigate," says Robert Krupka of Kirkland & Ellis, who has represented GM and two dozen other clients in Lemelson-related matters.

And yet for all the talk about the iron-clad nature of his patents—and the money they've generated—a crucial question has been obscured: Did Jerome Lemelson

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ever actually invent the products that generated such riches? When it comes to bar-code technology—just as with machine vision—the answer is clear (though, naturally, Lemelson's expert disagrees). "His patents have nothing to do with bar codes as they are commonly used," says George Laurer, the (unchallenged) inventor of the universal product code. "That is so far out in left field, it makes me sick." Last year Laurer was asked to testify on behalf of Lemelson; he not only declined but also offered to testify free on behalf of any company sued by Lemelson.

Which is why it is all the more fitting that corporate America's last stand against the Lemelson litigation machine is being waged by the very companies that he and Hosier never sued: the makers of bar-code equipment and machine-vision technology.

After the Big Three settled, Hosier sent out letters to 1,200 companies demanding licensing fees. Hundreds quickly fell in line.

Their leader is a man named Robert Shillman, the co-founder of Cognex, a \$250 million machine-vision manufacturer just outside of Boston. Shillman wrote his MIT doctoral thesis on optical character recognition—a technology employed in many machine-vision systems. His company has 105 patents on various machine-vision technologies and certainly doesn't use Lemelson technology.

Shillman is a passionate man. Ask him about Lemelson, and he starts bouncing up and down in his chair, his white hair providing a vivid contrast to the florid red that soon flushes his face. "I take it personally," Shillman says. "It's a tax on every consumer in America.... What was produced by this man that is worth a billion dollars?" Shillman was outraged that his customers were being asked to pay a license on a product that was developed completely independently of Lemelson's ideas. It wasn't just a theoretical issue either. Customers had begun to approach Cognex, asking to be reimbursed for the money they'd paid to Lemelson.

In the fall of 1998, Cognex sued the for-profit Lemelson foundation. To Hosier, this was a mystifying step—he couldn't fathom why the company would insert itself into litigation that, in his view, did not concern them. But for Shillman, it has become a matter of principle. He's not looking for money; he has a much grander dream. He wants Lemelson's patents invalidated. As he sees it, he is carrying on this battle on behalf of his customers. Soon seven manufacturers of bar-code equipment reached a conclusion similar to Cognex's: They were also going to stand up to the Lemelson foundation and sue on behalf of their customers. The two cases have been combined.

Like Ford before them, Cognex and the bar-code companies have accused Lemelson of excessive delay—and a judge has ruled against them. But this time the Federal Circuit Court of Appeals is permitting an unusual mid-case appeal. The two sides have submitted briefs and a hearing is expected sometime later this year. Meanwhile, the rest of the Cognex case is moving forward simultaneously. Here, too, a crucial hearing is anticipated this year: The judge will rule on the scope of the Lemelson patents. The remaining Lemelson litigation has been stayed in anticipation of these decisions.

Despite all the litigation, no court has ever made a substantive ruling on the validity of Lemelson's machine-vision and bar-code patents. It's likely that the Lemelson machine-vision and bar-code patents will rise or fall based on what happens in the Cognex suit. If Cognex wins the mid-case appeal—or wins a favorable ruling on the scope of the patents—the Lemelson patent-licensing program will effectively be dead. If Lemelson prevails, however, his patents will have the imprimatur of a court, and the 400 companies still in litigation with him will have to contemplate settlement.

Hosier says he isn't worried. Despite the \$1.5 billion generated so far, he has no plans to wrap up the litigation. Besides, even if Cognex is able to deal a deathblow to the bar-code and machine-vision patents, it may not be enough to slay the hydra-headed monster. According to Hosier, there are still a few dozen patents that will be issuing in the next few years. He plans to enforce them. **F**