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Patenting Insurance Products: Making First-to-Market Really Mean Something

Track: Nontraditional Marketing

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Summary: Recent changes in the way the United States Patent and Trademark Office (USPTO) reviews insurance patent applications has given a boost to the patenting of insurance products. Patenting your insurance idea provides protection against competition and offers an exclusive marketing opportunity. Topics presented include the basics of patent law, the distinction between patents, trademarks and copyrights, the nature of the protection received, examples of actual patented insurance products and concepts and what makes them unique, the value of a patent in marketing insurance products and the practical impact on future development.

MR. TOM BAKOS*:* We have three panelists here, who have various levels of expertise in patents. The first speaker will be Nick Triano. Nick is a senior associate at the law firm of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, PC. His specialty is intellectual property. Nick will start off the discussion with some basics on intellectual property, particularly patents.

Dean Potter is president of Century Management Company, and he is an inventor. His background is underwriting and marketing. Dean will speak from the point of view of the genesis of an idea for a patent, and what made him think that the product that he invented or co-invented I think as actuaries you will probably find

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this a very interesting topic. He's prepared to tell you what is unique about his product.

Steve Cooperstein is an actuary and an inventor. He will give you an actuarial perspective on inventing insurance products. After this session, if you want to learn more about patents, the USPTO.gov Web site has extensive information about patents.

To put this in perspective, as of October 21, 2002, when I last checked, Figure 1 is a list of the number of insurance patents that have been issued by the United States Patent and Trademark Office (USPTO) since 1790. These are patents in class 705, sub class 4, and are called business method insurance patents. You can see from this table the tremendous growth in interest in insurance products and patenting that has occurred in the last six years. The one patent listed there as being issued between 1790 and 1975 was actually issued in 1971. It's a patent for an analog computing device.

Figure 1

Insurance Patents Issued

By Year

1996-2002	142	as of 10/21/2002
1991-1995	18	
1986-1990	12	
1981-1985	1	
1976-1980	0	
1790-1975	1	

There are other categories of patents too, such as written matter. It's a much smaller category for insurance patents, but the earliest patent in that category dates from 1862. You can see that going back over 100 years, there were people thinking about patenting insurance products. That 1862 patent was for a combination train ticket and travel accident policy—all in one. It was, for the day, fairly innovative. With regard to the current state of insurance patent applications, as of Monday, October 21, 2002, patent applications made for the years 2001 and 2002 totaled 162. There were 142 patents issued in the last six years. Currently there are 162 insurance patents pending. With that, I will introduce Nick, who will get us through some of the basics of intellectual property.

MR. NICHOLAS TRIANO: I would like to thank Tom and the Society of Actuaries for the invitation to speak here. It's a great honor and a lot of fun to talk about something that I really like. Some of what I'll be speaking about will be echoed by Dean and by Steve but a good way to start off is to ask what intellectual property is?

It's really just a term that we use to describe areas of the law dealing with the protection of property, which is the work of things that spring from the mind. Examples of this are copyright, trademark, trade secret and unfair competition, and of course, patenting. We're going to focus mostly on patenting today, but at the end we'll do a wrap up, where I'll explain how one of the solutions you might consider to protect an insurance product would be a layered approach.
Now why is intellectual property protection for insurance products important? Obviously, the fact that this presentation is very well attended goes to show that some of you have an idea as to the potential value of patent protection for insurance products. I'll use this to illustrate my next point, but the bottom line for our presentation today is that the opportunity for patent protection is available. The value potential for seeking and obtaining patent protection is very high. It's something you should strongly consider.

Intellectual property protection is important because you need to make sure that the hard work that you do in the development efforts for your products goes as far and for as long as possible. Just like any other technology area, you don't want to be doing work for the competition. Without patent protection, people can reverse engineer or knock off your products freely resulting in a free ride for them.
There has been a new focus on technologically advanced products or technological advancements. The infamous 1-Click patent, from Amazon.com, for ordering items online is an example of this. Your competition will also be looking at this. The number of patent applications is growing, and we envision they will grow every year. The bottom line is that patents are valuable.

Another reason intellectual property protection is important, is the increasing numbers of patent applications that Tom mentioned. I think these are almost directly a result of the establishment in 1982 of a specialized court for patent appeal hearings. It has brought a lot of certainty to the process, and it has also resulted in one of the key decisions that has enabled the acquisition of business-method patents a lot easier, or even just possible.

One of the important things to remember when you're thinking about a patent is that a patent protects the ideas—not just the way that they are expressed. Patentable subject matter covers any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof. This last part is really what most patents are directed toward because there is very rarely something that is brand new under the sun. It's usually a significant improvement on something that's already well known. Patents only last for a short amount of time—20 years in the United States—but they provide absolute

protection against infringement during their life.

I'll touch on some of the other kinds of protections available. Copyrights protect the expression of the idea rather than the underlying idea itself. They cover the artistic aspect of plays, books and software, and the protection that you get prevents the copying of a substantial portion of the work.

Trademarks are another type of intellectual property protection, and they identify the source of goods or the services rather than the goods and services, themselves. The whole essence of trademark is designed to generate goodwill to the supplier of the goods to which the trademark is attached.

The best example of a trade secret is the formula for Coca-Cola. It is zealously guarded. Nobody, except for a very few number of people at Coca-Cola, really know what it is, and they go to great lengths and extents to protect that. There is not necessarily anything new or interesting about the formula, but it is a secret, which gives it value. You can keep a trade secret for as long as you want, as long as you're able to keep it secret. Once it's out, it's gone.

Patents are a blend of business law and technology. The U.S. patent law springs directly from the U.S. Constitution, Article 1. The Constitution grants the power to Congress to promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries. Therefore the basis for the patent laws is in our Constitution.

What is a patent? It's a property right granted by the government, which gives the patent holder the right to exclude others from making, selling or using the invention claimed in the patent. What this means is that it's a lot like a deed to a piece of real property. Anybody can walk on this piece of property, but you have to try to keep them off of it. You have the right to sue people to keep them off your property, and it's the same thing with intellectual property.

There are several types of patents. The type we'll speak about today is called a Utility patent, which covers anything having an actual use and lasts for 20 years from the earliest filing date. A Utility patent covers anything having an actual use—machines, processes, compositions of matter. There are a couple of other types of patents. However, neither Design patents, which cover ornamental product designs, nor Plant patents are terribly interesting from an insurance point of view. There are four requirements for patentability. The invention has to be new; it has to be useful; it has to involve and invent a step or something that's not obvious to anyone skilled in the art; and a patent must describe the best mode for practicing the invention. I'm going to focus mostly on Utility patents, because that's the thing that the patent examiners are focusing on.

I'll breeze through novelty. As with any section of law, there are a number of

different caveats and things that you need to be aware of. To attain a patent, the invention can't already be patented by somebody else. It can't be known or used by others in the United States and it can't be described in a publication anywhere—this is before you've actually invented it. Under U.S. law, we have a grace period, which means that if you decide to bring to market or disclose your invention, you have a year to file a patent application in the United States. That's something to keep in mind because it allows you to test the market for your invention without having to first go to the expense of preparing and filing a patent application.

You cannot, however, abandon the invention. You can't use it and then abandon it and leave it to someone else and afterward get a second bite at the apple.

Utility is something that the patent office has been focusing on, not just in the business methods area but also in areas like biotech, where the invention has to have some useful purpose. It has to do something. If it's a machine, it has to provide some kind of useful output. If it's a method, it has to result in some kind of a useful end product.

The invention must not be obvious to one of ordinary skill in the art to which the invention pertains. In other words, it has to be some kind of advance over what has been done before. As I mentioned, you have to disclose the best mode for carrying out the invention in your patent application. This is part of the bargain that you make with the government. The government grants you the limited right to exclude others from making, using or selling your invention. In return, you must describe your invention in as clear and complete detail as you can and describe the best way of practicing the invention. So it's a contract type of theory that says if you disclose your invention to the public, you will receive, in turn, this limited right.

Now on to the main event: business method patents, which is a general term and includes a number of different things including insurance patents. Business-related patents are not new. Early financial patents were largely paper-related products and methods like the one that combined the train ticket and insurance policy. As technology advanced, the focus became inventing and perfecting the complex machinery needed to carry out data processing and calculations, like punch cards, which formed the basis of the company that later became IBM. As technology and electromechanical technology advanced, the focus became less on the hardware than on the ways to use it, in other words: software.

What is ripe for patenting? You can't patent a mathematical formula or an algorithm or a law of nature. That itself is not statutory subject matter. You can't get a patent on that, but you can get a patent to a claim containing a mathematical formula, in a process that, when considered as a whole, performs a function that the patent laws were designed to protect. There's a Supreme Court case that covers a rubber curing process, which uses a computer to regulate the curing time and the machinery, such that the product is released from the mold at precisely the right time to optimize the curing process. This is a case in which the Supreme Court

determined that even though a computer software program was involved, the whole process was statutory subject matter and, therefore was patentable.

For a number of years there was an exception, which was carved out by the courts, called the business methods exception to getting process claims. It basically said that business methods were not statutory subject matter, even though there was a consensus that they should be. Many insurance patent claims would fall into the category of business method patents. Other patents or claims that don't use a computer might also be labeled a business method.

A case involving State Street Bank eliminated the business methods exception and enabled business methods patents. The case was decided by the specialized patent court, the Court of Appeals of the Federal Circuit, in 1993 and really opened the door to getting these types of patents. It has led to the increases in the number of patent filings s that were mentioned earlier. The court held that claims drawn to a method of doing business should be treated just like any other process claim. So whether you have a new process for synthesizing a chemical compound or manner of conducting a mass mailing, they should be treated the same as long as they meet all the other statutory requirements.

As I pointed out before, it is not required that the invention claim the use of computer, but most of these kinds of patents do require some kind of a computer or data processing equipment.

The State Street case, in particular, involved a data processing system that allows an administrator to monitor or record the financial information flow and make all the calculations necessary for maintaining a partner fund financial services configuration.

Figure 2 shows claim one of the patent at issue. One of the things I want to point out is that if you look at the element (e) of the claim and go to the last bit of the sentence: "and for allocating such data among each fund." That's the utility in this claim. It’s not just a list of things that need to be present in the system. Each element has to actually do something and result in some kind of an end product, such as displaying the end result of a calculation in a user report.

Figure 2

Claim 1 of the patent at issue in the *State Street* case:

- A data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising:

  (a) computer means for processing data;
  (b) storage means for storing data on a storage medium;
  (c) first means for initializing the storage medium;
  (d) second means for processing data regarding assets in the portfolio and each of the funds from a previous day and data regarding increases or decreases in each of the funds, assets and for allocating the percentage share that each fund holds in the portfolio;
  (e) third means for processing data regarding daily incremental income, expenses, and net realized gain or loss for the portfolio and for allocating such data among each fund;
  (f) fourth means for processing data regarding daily net unrealized gain or loss for the portfolio and for allocating such data among each fund; and
  (g) fifth means for processing data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.

So, what happened after State Street? We've seen that patent filings have gone up. Last year, the group responsible for examining these types of patents estimated a 28 percent increase in filings from the previous year. At the same time—and this is the bad news—they also issued about half as many patents that year than in the previous year. It's likely due to two things: A staffing crunch in the patent office and because of a lack of qualified patent examiners; and also, since State Street, people are filing more of these claims. After State Street, the estimated pendency to a first office action was almost two years, which is almost twice the patent office average, but time to disposal was just slightly longer than average. Disposal means either issuance of the patent or abandonment or re-filing.

One thing Let me talk about an example of analyzing and managing a number of specified life insurance policies and annuity contracts on behalf of an insurance carrier.

How does the examination process occur? In a way, a patent application gets two examinations. It's first examined to make sure that the invention is useful. And then the invention is checked for novelty, non-obviousness and best mode.

For a business methods patent, the examiner takes a look to make sure that the claim method produces a useful, concrete and tangible result. If the answer is yes, then the examiner moves on to the rest of the process. One of the things that is important to do when presenting an application to the patent office is to make sure that the application is as complete as possible and that it clearly identifies any practical application for the claimed invention.

So if your claim and the written description of the invention only relate to mathematical operations, without a claim practical application that simply manipulates abstract ideas—without anything else, it won't be judged as suitable subject matter and you'll get a rejection.

This is the threshold determination that's made when going through the patent examination. As I noted before, the first determination to be made is whether the claimed invention has a practical application and is useful. Then the application gets further examined to see if the invention is novel and inventive and not obvious.

One of the things that's interesting about the examining core in Class 705 is that most of the examiners do have data processing and computer education or experience. In fact, they have a significant amount of experience in areas that include insurance and real estate analysis, so they're very highly skilled in what they do and they're good at it.

We've been talking about simply getting patent protection, but one of the other things that you want to do is take a look at the whole package of your invention and the way that that fits within your business plan. A patent is a very important tool. It's probably the most flexible tool that you have in the portfolio. One of the reasons for that is that it's easily licensable. You can license a patent relatively easily. I recommend considering the whole picture. Consider a layered approach to other forms of intellectual property protection, in addition to patenting. You could consider trademark protection for the name to which you attach the product. The name itself may be so catchy that it adds value to the product itself.

You might consider copyright protection for the source code of any software that may be driving a product—also trade secret protection. Trade secret protection is a little more burdensome because you have to go through the effort to keep the trade secrets a secret. But for things that can be kept secret, it's also something that you want to consider as well.

Hopefully I've increased your knowledge. Also, there are other sources of information, in particular, Technology Center 3600 (http://www.uspto.gov/web/menu/pbmethod/) has a lot of very detailed information about business method patenting.

MR. BAKOS: We're fortunate, as I indicated, to have two inventors with us. They will be able to describe their patents in laymen's terms because they understand

them pretty well. You will discover, if you actually look at the way a patent is written, that this will be very helpful, because in my experience you have absolutely no idea what's going on when you read a patent.

MR. DEAN POTTER: I certainly appreciate the opportunity to be invited to address the Society of Actuaries and relate my story and my patent of a very unique life insurance product. First, I feel very passionate about the product—not because of the claim that I might have as an inventor, but because of its significance to the insurance-buying public, especially to the beneficiary by providing greater benefit per premium dollar than can be obtained anywhere else. I'm also very excited about the private label opportunity it has for other life insurance carriers as well, as they do a better job in serving the needs of their clients.

For a new product market share is often gained at the expense of other products, which are less efficient in serving the marketplace. Now if you think about universal life (UL) when it hit the marketplace, I heard that a lot of ordinary life companies that had whole life contracts didn't really like to see UL come along. There was a lot of conversation about that particular issue. Through this non-technical presentation, I want to give you a full understanding of this product—its competitive merits and also included are some case studies at the end. I'll give you an idea about the application that it might have for the buying public. So let's begin.

Should you want to read all about the technical detail, it can be found in the government's Web site as mentioned, and this is the patent number 5,754,980. You'll also notice that it was issued May 24, 1995. So I was one of those 18 that was up there for those particular dates. In the Web site description of the patent, you'll find a general statement saying that the patent involves a method of providing a future benefit, conditioned on the life expectancies of both the insured and the beneficiary.

As it is with most product ideas, this one came to me because of a client's dilemma. In 1992, an agent came to my office, accompanied by his lawyer—and in this case the lawyer was his client. The lawyer's wife was just about to retire from the local school system, and had just been through an insurance “pension maximization” presentation. A UL policy was proposed to provide her husband a lifetime survivor income at her death, as opposed to electing the pension-plan-survivor option. In addition, this agent had also just presented the lawyer with a UL plan to replace the loss of group and term insurance which was up for renewal and conversion.

This client asked a question: Why do I have to pay for something I don't need? My spouse needs the coverage, my children don't. My children have jobs. He then went on to say, "Couldn't you significantly reduce the premium, or increase the benefit if the company only had to pay a death benefit to my spouse and then only if she survives me? Why does an insurance policy have to have a contingent beneficiary?" He continued as proof of his conviction and told me that he would not continue paying premiums just for the kids. They didn't need the coverage, because his

children will receive stocks, bonds, some equity and other personal property, which he assured me was significant. And then he said, "My spouse doesn't need the coverage. My spouse doesn't need cash. She needs lifetime income. I want to guarantee my wife she will never have a time in her life without an adequate income." This last statement hit me. He was talking about me! In fact, for most of us married folks, say 50 and up, our group insurance is going to be gone when we retire. And our term insurance will be gone as well unless we have the opportunity to convert. Real financial security for the spouse is not provided through cash, but through income. I presented this idea to my consulting actuary at the time, and I asked, "Is there ever a chance for a life insurance policy to be designed with only one beneficiary period? No contingents?" And I got the answer back. I was told that life insurance regulation would not permit or allow the elimination of the contingent beneficiary, but that a reversionary annuity would. My question was, "What's a reversionary annuity?" I had never heard of it. In over 40 years in this business, I had never heard of a reversionary annuity. He dusted off the old actuarial manual, and he introduced me to the product. In the actuarial manual, it says it's a life insurance product. This has always interested me. Here I have a thing called reversionary annuity, but the first words of a definition say that it isn't an annuity. It's a life insurance product conditioned by the survival of the beneficiary, beyond the life of the insured. It pays to the beneficiary a stated amount per month, as long as the beneficiary lives, commencing with the death of the insured. I want you to note that the proceeds are conditioned upon the survival of the beneficiary and therefore, when the beneficiary dies, the reversionary annuity terminates.

What that meant to me, as an old home office life underwriter, was the fact that the mortality cost to the insured built into every life insurance product could be reduced in the product pricing of the reversionary annuity by the mortality rate of the beneficiary. And to get it right, we would have to underwrite the beneficiary as well. If the beneficiary were impaired, the offset against the insurance mortality would be greater—because of the greater likelihood that the beneficiary would die before the insured, Therefore, the cost ought to be less. The result was a much lower premium than that of traditional products. We made the decision in 1993 to develop this product.

During that period of time, I read an article about UL in an industry magazine. The article argued that UL was a patentable concept. Boy, what a missed opportunity! I wondered about the reversionary annuity that we just talked about and had asked the actuary to develop. In my view, it was just as revolutionary as was the universal life to our industry.

And, interestingly enough, everyone at that time, and even today, says you can't patent that product—everyone, that is, but the patent attorney. It took some time, 1992 to 1995, and a lot of money, but we got the product patent. I went through the patent claims and I think there are six or seven in the filing. You can read the technical language at the U.S. Patent Office Web site. I won't try to include them here. However, I want you to consider three important issues.

The first issue, which is shown in Figure 3, deals with the methodology used to arrive at the ultimate rate. I know of no other life insurance product today, or yesterday, that underwrites the beneficiary to get to the appropriate rate. Taking into account the beneficiary's mortality offsets the mortality rate of the insured. Underwriting the beneficiary is new.

Figure 3

Patent? Can't be done!

Oh yes, it can! The patent claims

- **Methodology used**
  - *Underwriting the beneficiary*
- **Actuarial formulas used to derive the premium**
  - *Developing mortality and life expectancy statistics for both the insured and be beneficiary*
- **Data processing to generate rates and the proposal**
  - *The software code*

The second issue covers the actuarial formulas that are actually used by the computer to derive the mortality statistics for both the insured and the beneficiary. Before the computer age, the rate calculation for reversionary annuity would have been impractical. I think that's why there haven't been any developed in the past. If you think about it, there are over 750,000 rates in the rate base for the reversionary annuity. The combinations include every age, male and female, smoker, nonsmoker, preferred rates to table 16 for the insured, preferred rates to table 16 and even a decline calculation for the beneficiary. How would you calculate the rates without a computer? That is the third issue. I think this is the reason that the insurance concept remained only in the textbooks for so long.

Baltimore Life purchased control of the patent on June 1, 2001, on the same date an affiliate of Baltimore Life purchased Century Management Company, the company I'm president of. At the time of the patent application, Century Management Company was a third party administrator for four domestic companies and numerous offshore reinsurers.

Now obviously, the patent has direct economic value that it gives the owner or licensee. It gives the owner product control, and because there is no direct competition on price, there's reduced repricing activity and less pressure on the premium, expense assumptions and profit margins in the product.

There's also significant economic value for other life insurance companies and their reinsurers, through the private labeling of the product. Then, of course, there's the turnkey administration, which also has economic value to the private label company because it takes minimal time to get to the states to get the product approved and

to get the product into the marketplace. In addition, the administration systems are in place working, and the company's actual administrative costs and personnel allocated to the product are minimized.

Let's talk about the product's status. We have filed this product in 47 states, and without exception, those states, apparently had no knowledge of any kind of a product like this before, because the response of the states was to ask: What's a reversionary annuity? Now, we introduced this product first to the field in 1992. In 1995, we had an interesting question: How is the income that comes out of this product to the beneficiary going to be taxed? You always miss the obvious, right? I said, "I don't know." And it wasn't a very good answer to the agents that wanted to market the product. So immediately, we filed for an IRS private letter ruling. Now interestingly enough, it also took about three years, or until about 1998 to get the answer.

When the IRS first looked at the filing, they also asked: What's a reversionary annuity? They hadn't seen one either. The IRS had two options. If they could call it an annuity, they would say the premium paid for that annuity becomes the cost basis in the product and anything over that cost basis would be taxable. But if it was a life insurance product, then the present value of the income stream at the date of death, would be excludable from taxation as the cost basis. Now remember, I told you that a life insurance product was in the definition. It took the IRS three years to agree that yes it really is a life insurance product, and therefore it will be taxed as such.

All the state insurance departments were notified in 1995 about the patent. We asked them if there has been any other like it. None were ever acknowledged. Only the state of New Jersey is left. We've got 47 states. We did not file in New York—none of the companies did that marketed the product, nor did we file in Montana. Montana, because of the unisex-rate state would require them to duplicate the proposal costs and have, in effect, two proposal systems. They decided there weren't enough people in Montana to warrant the extra cost at this point in time, so that was excluded.

Earlier I said the product's claim to market share was the fact that the premium buys more income benefit than can be achieved from traditional products. That is its claim to market share—its premium buys more income benefit. The question is how much more benefit? How much could you charge for a product, if in fact, you only had to pay one beneficiary, didn't have to produce any cash value, and its benefit was an income, not a lump sum? The answer varies with the age and health of the insured and the beneficiary, but let's just say 40 percent, plus or minus, of what you would otherwise have to charge.

In 1998, a company, before they agreed to offer the product, asked the opinion of an industry marketing consulting group what their opinion was about the potential market share of the product. The answer was that reversionary potential was

somewhere between 25 percent and 50 percent of the permanent life insurance sales in the United States. However, the marketing consultant hastened to say that there's going to be some impediments that we were going to have to overcome before we could realize that potential. The first impediment had to do with the product benefit, monthly income. A life insurance lump sum death benefit would be viewed by the agent as an easier sale than an equivalent monthly income benefit because of the misperception of value. For example, in spite of the reduced cost to the client, showing a beneficiary a stack of 100 imaginary $1000 bills would be an easier sale to close than its annuitized equivalent of $600 a month.

The second impediment was also concerning the agent. If the agent were a pessimist, he would translate the fact of less premium that buys more benefit means lower commission dollars. And so we needed to find optimistic agents that would use the additional dollars to buy more client benefits. The third impediment was the fact that if the beneficiary died, the reversionary annuity terminated. This impediment was overcome by designing a return-of-premium rider. For a small additional premium, if the beneficiary dies before the insured, the insured receives all of his money back and the net cost is zero.

A reversionary annuity has the best attributes of all traditional products. Think about it. The benefit of term is its affordability. The coverage is limited to the period of need, and in this case, the need period is the lifetime of the beneficiary, not 10 years, not 15. It has the benefits of permanent insurance, because the benefit is guaranteed and the beneficiary cannot outlive the coverage. And it provides a lifetime income, which is obviously a benefit of an annuity in which the company assumes the investment risk.

The reversionary annuity provides the best product answer for the survivor, because it provides a real lifetime income for the agent because it creates a gigantic number of new prospects, and for the life insurance company because of the financial private labeling opportunity that they have. Also, I might add to this last point, the financial safety for mortality fluctuations. I might go into that a little later, in the question and answer period. You might ask me: How does a reversionary annuity safeguard the company offering the coverage for mortality fluctuations?

I mentioned I had a couple of case studies I want to close with. This is the biggest sale. The banker bought $20,000 a month. He said it allowed his wife, age 62, to retire and not rely on the bank dividend to ensure her financial security. They had plenty of life insurance, but here the question was how much income would she have forever?

We have another case study that shows the financial leverage of this product. In this case, this case is now a claim. The retiree replaced a $260,000 UL policy with a reversionary annuity. If you annuitized that $260,000, it would have provided her with $1,618 a month for the rest of her life. With the cash value, which was

significant, she purchased a paid-up reversionary annuity that provided $3,190 per month. Not stopping there, they took the UL annual premium and bought an extra $2,592 of additional income. This retiree died. His spouse is now receiving $5,782 a month for life. Not $1,618. Now I ask you, how many of you want to go home and tell your wife, or spouse, that you would rather have $1,618 as opposed to $5,782?

The last case study that I'll talk about is the farmer. It allows the farmer to keep the family farm in the family, because the number one reason for failure in our neck of the woods is due to death. They move the spouse to town, but here it enables the family to retain the deed in the land.

In conclusion this product provides generations, primarily women, a lifetime of income at a reasonable cost, so they're not solely dependent on Social Security or worse, welfare alone. Every one of us here has a grandmother or mother, most have sisters, wives and daughters. People have a responsibility to make sure their spouse can have a dignified life that is provided by a guaranteed lifetime of income. We think our patented reversionary annuity product provides a very unique benefit. Thank you very much. I look forward to your questions.

MR. STEVE COOPERSTEIN: I'm going to try and bridge the gap between the marketer and the lawyer. I'll give you a little bit of an actuarial perspective on what I call protecting an insurance product by means of a patent. My objective is to provide insight into the process of protecting an insurance product by a patent. You don't patent a product, you patent a process or a method or a means that protects the product that you actually put out on the street. The words in the contract are not in the patent, so you're not patenting the product per se.

My patent protects my product but it does so more through the illustration. As you will see, there are elements of my product that are already on the market.

Then I'll give you my perspective on the risks and rewards of seeking and using a patent. The most interesting part from my perspective is the potential impact of patents on insurance marketing. I think this is an open question that will evolve over time. We're all copycats. Patenting represents a potential paradigm shift as discussed this morning.

How many of you sit around sometimes and an idea comes to you? I know I often come to meetings and I find that I'm somewhere between falling asleep and really hearing what's going on and it gets my mind to freely think. I find when I come to meetings, ideas come to mind. The next aspect is taking that idea and making it a concept by putting some teeth in it, and many ideas fall away really quickly.

Back in the 1970s, I was fascinated by payout annuities. I don't like to call them immediate annuities. I like to call them payout annuities, because immediate annuities is a strange term. I became a little bit more fascinated by the early 1980s when I was focused on seniors and in the early 1990s, I really became specialized

in the senior market.

It seemed to me that there was a huge market for payout annuities, but I considered it a dinosaur product. People don't like to have a loss of money on death. They often talk about how the insurance company profits when they die. That's the way they look at it.

And, we really haven't dealt well with the inflation features in payout annuities.. If you include, say, a 3 percent increase, the initial income benefit is decreased. This doesn't deal well with inflation and the variable annuities don't either. .

Liquidity has been a problem, and. long-term care is a related problem that could be dealt with in the same product. But people who sell long-term care often will not sell payout annuities.

Then there are terminology issues, like ten-year certain. What is ten-year certain? What does that have to do with me? So there were a number of things that I thought made it a dinosaur product. I came up with a bunch of patches in each of the areas: death, liquidity, inflation. But what I had was still just a basic idea. . It didn't feel like it was a full concept yet. Then I had a revelation and the revelation made all the parts start to work. That was the moment that I started to think I needed to concern myself with; how I could secure this particular type of product.

Once you have a product idea you look for a manufacturer, and that's another long story, which I'm not going to get into extensively. I did have a manufacturer. A product using my invention was filed and approved in 38 states several years ago. Then mergers and acquisitions occurred. You know the story. So I have a patented product without a manufacturer that has been looking for a manufacturer for a while.

Once I got my patent, all of a sudden I received in the mail all kinds of solicitations to help me find the manufacturer. These people didn't know anything about insurance companies. Obviously, next to getting a patent, getting a manufacturer is an important ingredient. If you work for an insurance company, you may not have that difficulty. However, as an independent inventor, finding a manufacturer is a difficulty that I have that I share with a lot of other inventors.

I developed a sales guide a while back. It says, "AnnuiSHARE™—offering SHAREways to Success for you and your clients." meaning the salesperson. It's "structured like a deferred," "enhanced beyond deferred," "can outsell deferred in a single interview." (I'm playing off of a Superman theme.) It goes on to say, "but in fact, it's not a deferred, believe it or not, it's a consumer agent friendly payout annuity. Its AnnuiSHARE from ..."

So we talked about universal life and that UL would have been a great thing to patent. This is really an unbundled payout annuity, and it's really UL for payout annuities. It unbundles the product in very much the same way. It has an account value. It has an investment return. I thought those were important to the consumer because they understand what an account value is. They understand what their savings are. They understand making money on it, just like in a deferred annuity. That's why it's like a deferred annuity. but it goes way beyond a deferred annuity. We coined this thing called living credits. For actuaries, you know what that is, right away. It's the payout to those that live, that's received from those people that died.

So immediately it changes the approach that the salesman will take, when the salesman hears: "Well, when I die, I give it back to the insurance company." We turn it around and say, "No, you're in a pool of people. It's an insurance concept,, and everybody has the chance to live beyond the expectations. Some people die earlier and some people die later. You're not giving the profits back to the insurance company, and, not only that, you have the ability to make money today."

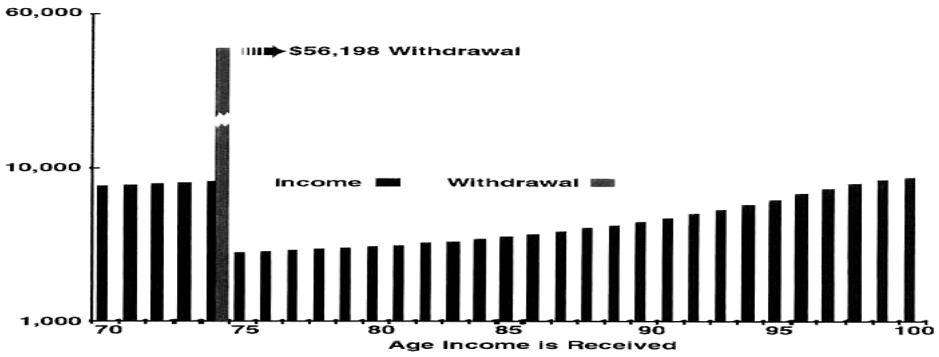
I can see the salesmen going out and saying, "How would you like a contract that not only earns you locked-in returns or bond returns, but every year that you live we're going to credit money to your account?" It changes the whole concept of an immediate annuity into a more consumer-friendly thing.

Figure 4 is from the piece that we put together. It is the guaranteed value illustration. Just to go through it quickly, a 70-year-old male puts $100,000 in and he gets $5,000 of interest at 5 percent at the time we were illustrating this. Living credits were $2,124 for that year—that's on a guaranteed basis in the first year, even though we guarantee interest at the beginning of the year. So it's a little higher credit in the first year, including the interest. The guarantees are only 4 percent.

Figure 4

Guaranteed Return of Principal

- **On Surrender, as well as on death**
- **Ongoing income, even after recovering principal**



As above, this graph shows income levels based on declared rates as of April 1, 1998. All values can increase or decrease above those guaranteed, but the income levels are guaranteed to never decrease, other than for withdrawals, once they are reached.

Then you determine the amount of income on a guaranteed basis that can be paid each year. So the person sees that they put in $100,000. They get the interest. Then they get living credits added to their account. The money is taken out of their account, just like a bank account. They would take it and end up with an account value of $98,277. For each year you do another similar calculation. In the patent, we had an illustration that showed this on one side and showed a bank account on the other side.

So that was a guaranteed type of illustration. We started with that, because it's a little bit easier to show.

It gets more complicated when you consider current interest and mortality. You know, for any interest-sensitive product you would have conservative guaranteed rates subject to reasonable annual current declarations by the company. We indexed the interest, and I have some other ways of working with mortality, so that the person who buys the policy knows that they are buying a long-term contract. We indexed the interest, so that we know that the company will be honest with the insureds, so to speak. The graph shows the increasing payouts. The interest dwindles off of their account value and their living credits are the elements that provide them with an increasing total payout. It's the living credits that really support them. It becomes an interesting way of showing a different sort of payout annuity.

Then we added another feature, which is guaranteed return of principal. The unique

feature with this one is that when they take the money out, they continue to get a payout for life. In this case, the first five years is probably around $45,000. They get a $56,198 withdrawal in the fifth year, and the combination is around $100,000. Even with this withdrawal they're going to get an increasing income for life. So I think the agents are going to push this type of concept eventually.

Now I'm going to get to the patent theme. What I just described is the concept that I wanted to find ways to protect.

After giving consideration to many protection approaches, I determined that a trademark or copyright didn't seem to do it, so I went for a patent.

Now, just like Dean, I had thought about a patent for a while for different types of products. I was thinking of a process. I wasn't thinking of a computer-oriented product. But then I found an entrepreneurial attorney, just as Dean seems to have found, who was pushing the concept. Eventually, because of the insurance company I was involved with, we got a top-notch law firm with whom we developed the process.

As listed in Figure 5, the prerequisites for a patent include the following: new, useful and not obvious. Process, methods and means are different types of patents. I think Nick covered "not exposed." "Prior art" is pretty important from my perspective. I think prior art is going to be a changing element. Prior art is going to depend on the actuary knowing what's happened in the industry. Because when I patented my idea, there weren't that many patents. As the number of patents increase, prior art will become more prevalent. The patent office has a lot of technical people. I don't think the person who reviewed my patent knew insurance because of something I'll get to a little bit later. I think it was a requirement for me to know that I wasn't infringing on prior art.

Figure 5

Prerequisites for a Patent

- New, useful and not obvious
- Process, methods and means
- Not exposed
- "Prior art"
- Not previously patented
- Describe invention in detail

My patent was called an annuity value software patent. It is U.S. Patent number 5,893,071, issued in 1999. I was the inventor, and the full text can be found, as previously mentioned, on the USPTO.gov Web site.

As you can see, Figure 6 makes up the abstract of my patent. As you can see it is

described, "a computer-implemented system." Note that I wanted the patent for both deferred and immediate annuity aspects of the product. The distinguishing feature is a “living contingent and supporting component funding and related data” element. To me that was the essence of how this is different from a life insurance policy.

Figure 6

Annuity Value Software

Abstract (✞♏❒⛆)

A computer-implemented system for determining deferred and immediate annuity contract living contingent and supporting component funding and related data representing tangible annuity contract values across the life period of a potential or existing annuity contract.

Abstract (continued)

The system is comprised of at least a terminal, data storage and a programmed processor. The system provides for the physical transformation of annuity contract purchase value data representing tangible purchase values into annuity contract living contingent and supporting component funding and related data representing tangible deferred and immediate annuity contract values at one or more selected dates during the life period. The system also determines the eligibility for withdrawal of withdrawal values and transacts the payment of such withdrawal values.

Abstract (continued)

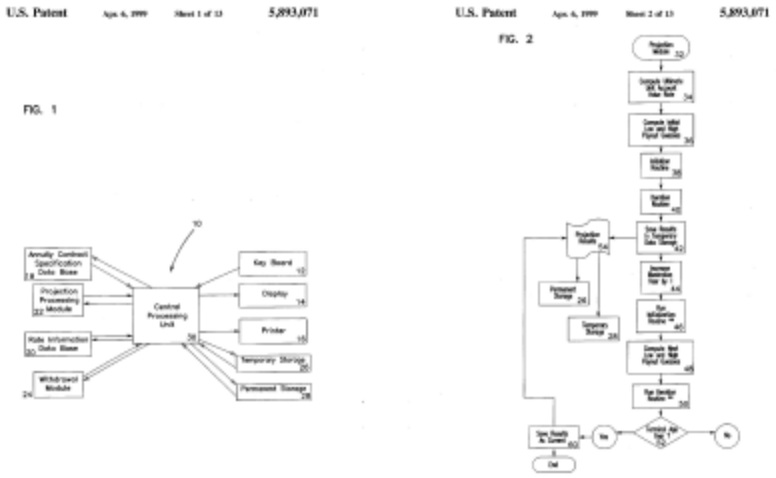
The system demonstrates and explains the underlying mechanisms of life annuities to the public and insurance sales and service people by increasing the level of financial disclosure in connection with how life annuity contracts work. The disclosure includes certain periodic, mainly yearly, financial living contingent and supporting component funding values inherent in how these contracts operate both in general and in the individual case.

So then the patent gets issued, and it's a system for a program processor, which describes a physical transformation of tangible purchase payments and a tangible deferred and immediate annuity contract. It has to do with withdrawals in terms of the eligibility and transacts the payment for a withdrawal. Here's the part about utility: The system demonstrates and explains the underlying mechanism for life and annuities for the public and insurance and sales and service people, by increasing the level of financial disclosure. That is the utility that I think Nick was talking about, which was the reason that we probably got the patents. That is the essence of why this patent had utility.

Figure 7 is one of the 13 drawings. You can see there's a keyboard there and a display, a printer, central processing unit—all things in a regular data processing system. There's nothing unique there. Then it goes on for 10 or 11 pages of flow charts describing how you calculate a factor or approach to an immediate annuity. There's nothing special there that any actuary couldn't relate to.

Figure 7

Drawings



The technical field of the invention is pretty short. I just want to say that the invention pertains generally to the financial field of insurance and is particularly a computer implementation (Figure 8).

Figure 8

Technical Field of the Invention

The present invention pertains generally to the financial field of insurance and more particularly to a computer-implemented system for determining certain values in annuity contracts.

But the background section of the patent is the part where you really describe what it's all about. Here I described what has been done to demonstrate and to explain the underlying mechanism of life annuities and the need for a system.(Figure 9).

Figure 9

Background of the Invention

In the financial field of insurance, individuals are provided with an opportunity to fund their retirement income through the purchase of annuity contracts…

…little has been done to demonstrate and explain the underlying mechanism of life annuities to the public or insurance sales and service people. …

…need for a system that provides more disclosure of the workings of life annuity contracts…

The summary is a brief description of the drawing as you go into describing each of the 13 figures. I also had some illustrations in there. Then there's a general description of it and we get down to the claims. They're kind of interesting (Figure 10).

Figure 10

Summary

> The present invention generally provides a computer-implemented system for determining deferred and immediate annuity contract living contingent and supporting component funding data representing tangible annuity contract values across the life period of a potential or existing annuity contract. The system is comprised of at least a terminal, data storage and a programmed processor. ...

So, what are claims? The claims are what the patent is all about. These are what you're claiming, and this is what you get a patent for. We have, I think, 21 claims. They structure the claims from the most general to the most specific. If you can get away with the general, it covers a lot more. Since this patent was issued, there are other applications that the general claim encompasses, but the specific claims might not. My lawyer pushed for generality. I objected that something was too general, but he said, let's do it and he was obviously right.

Each claim feeds off the previous claim, so the first claim is broad and, the second claim might feed off the first and so on. So now I can have an immediate annuity that might be deferred a couple of years and other variations are possible all part of my patent.

Patent pending status is an important advantage. I spoke to an actuary recently, who said their company had filed a patent in the life area. They just filed something in the long-term-care area, because somebody suggested they go for a patent on it. He's delighted, because now he has a patent pending. He doesn't even care if he gets a patent. As long as the patent is pending, he feels that it's a marketing advantage.

There were the two things that the patent office objected to with respect to my patent application, and you'll notice that the first one is actually Dean's patent. Four of the provisions they said were already covered by Dean's patents. So we removed those four items because we have redundancy in the claims and they weren't essential. We don't have as strong a patent, but I didn't want to argue with the patent office. I said let's just give in, and we adjusted the drawings and we were done.

Now, why get a patent? I think it has, from my perspective, marketing and distribution leverage. You go through a lot of expense, bother and time to innovate and to shape a winner. When you actually come out with something, you want to have time to bring it to the market without worrying about the competition copying it before you can test it.

I want to test a product before I put it on the market, teach agents, do some focus groups, and then show how it works in an agency and at the consumer level. A patent relieves pressure from the distribution, and, for somebody who is a concept creator, it should facilitate the sale of this product to companies.

Why not seek a patent? It is time consuming, and there is an upfront expense. It's a tedious process. A patent isn't assured after you go through the process. Patenting doesn't ensure success with the invention or product. . Patents can be challenged, and there are other ways of protecting concepts like some that I mentioned previously.

For me, I go with one company. I'm not looking to license my patent. I want the strength of one company putting the product out. That's a deficiency because if you only have one company selling your product invention, every agent isn't automatically included.

As I said, you can have single or multi-channel distribution, and it allows you to test the product. Public relations can be very effective in that respect. Variations in the theme become kind of interesting. Add-ons to the product become other ways of enhancing it and the implications for the future—testing its applicability. Eventually, I think there will be an increasing value for innovation because of patents. I think we'll go through a period where they are going to be used more. It doesn't mean that everyone is going to sail through and be a success, but I think the value of innovation will be enhanced by patents.

I think of the immediate annuity market as being hundreds of billions of dollars, but forgetting about my product, if you had a deferred annuity, and you were able to get 85 percent of the market because your patents were so great, not just the 10 percent or 5 percent or 3 percent, you have almost the whole market. That's pretty powerful for the insurance companies. Specialization or affiliations may become the norm if there are a lot of patents. There aren't going to be a lot of companies with a lot of products. Companies may team up and say you have Dean's product and I have Steve Cooperstein's product, let's get together. In fact, Dean and I have talked about doing that, because my product is a payout annuity and his dovetails with it by providing an alternative to pension maximization. The agent would end up getting two sales, a life insurance sale and a single life annuity, and the combination could be very effective in changing the marketplace.

There is the problem of the potential for less competitive pricing pressure. I think Dean alluded to that, but ultimately, you have to deal with the marketplace and whether or not your product will sell for the price it is offered at. How will the consumer fare? Will the consumer get a worse price? Or will consumers get more innovation than they're getting now?

I think of Microsoft. Some people would say that Microsoft is a monopoly and is

putting out a terrible product. But if we didn't have Microsoft, maybe somebody else would have developed a similar product, and we would still be where we are today with computers. So I think, ultimately, patenting and having protected intellectual property can be powerful for an industry and for the consumer.