

# INSURANCE IP BULLETIN

An Information Bulletin on Intellectual Property activities in the insurance industry

A Publication of - Tom Bakos Consulting, Inc. with Markets, Patents and Alliances, LLC

## **Introduction**

Welcome to the inaugural issue of the Insurance IP Bulletin.

Our mission is to provide our readers with useful information on how intellectual property in the insurance industry can be and is being protected – primarily through the use of patents. We will provide a forum in which insurance IP leaders can share the challenges they have faced and the solutions they have developed for incorporating patents into their corporate culture.

We intend to publish six issues per year on the 15th in even numbered months.

In this issue Frank Cuypers of Swiss Re will discuss his take on the insurance industry's innovative qualities. Frank is head of Swiss Re's Group Intellectual Property Department in Zurich. Frank is a nuclear engineer, theoretical physicist, and an actuary.

Please use the FEEDBACK link above to provide us with your comments or suggestions. Use QUESTIONS for any inquiries. To be added to the Insurance IP Bulletin e-mail distribution click on ADD ME. To be removed from our distribution click on REMOVE ME.

Thanks,  
Tom Bakos & Mark Nowotarski

## **Feature Article**

### ***Which Came First: the Chicken or the Patent?***

By: Frank Cuypers, IP Head, Group Intellectual Property, Swiss Re, Zurich  
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A recent Best's Review article concluded with the sentence: "There are relatively few insurance companies that are product innovators – most are content to go along copying those few companies." Is this harsh judgment justified?

From time to time, I'm asked to speak about reinsurance to a non-insurance audience. In the course of the lecture I often provocatively ask the audience whether or not they consider insurance to be an innovative industry. Invariably the answer is a stupefied "No!" How could it occur to me to ask such a dumb question? Indeed, it appears that the public perceives our industry as one of the most traditional, dull trades.

Is the public to blame? Are the advancements in other sciences or technologies flashier than those in our field? Or, is it that no truly substantial (re)insurance innovation has seen the light of day since the Renaissance?

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We all know bright and imaginative colleagues in our firms. Actually, many of us are even proud of the severe recruitment criteria applied by our companies or of the tough examinations required by some of our professional organizations. But does this technical excellence of personnel suffice to guarantee innovation? I rather believe (re)insurance doesn't live up to its innovative potential ... not by a long shot!

From the statistics I've seen and from my personal experience with various reinsurers, I estimate that about 20% of a typical reinsurer's staff are natural scientists. Their specializations are diverse and range from engineering and computer science to medicine, biology and geology with an increasing population of physicists. Probably, some direct insurers can claim similar figures. In any other industry, the innovative output of such a group of scientists or quants\* would be invention which their companies would not hesitate to file patents on. But when an insurer hires these technicians it seems to place no value on their innovative talent. Is this because it assumes they are no longer capable of inventing?

As a nuclear physicist turned actuary I have this story to tell. What struck me first when I changed fields was that, although the inputs (risk) and outputs (premium) of my calculations were very different from what I was used to, all the calculations leading from risk to premium were very familiar. There was no difference in my use of the scientific method and of mathematical tools. But no one ever seriously considered patenting the new methods I designed to compute risk premiums, despite their value being confirmed by extensive use by my colleagues.

The number of patents is often used as a measure of the rate of innovation in an industry or an industrial field. According to this gauge the emerging realms of creativity are bio- and nanotechnologies and also, software and services. As a matter of fact, an increasing number of traditional mechanical or chemical companies file patents in the area of business methods. The rationale is that the way they differentiate themselves from their competitors has shifted to the way they service their clients.

Now, if we use the patent gauge to compare insurance with other trades, we probably rank among the least innovative industries. So, is it true that we don't patent because we don't innovate?

To answer this question, let's return to the Best's Review statement cited at the beginning. It is probably correct to say that in the insurance industry it is not the first movers but the second movers who have the advantage. How often have each of us lived through a situation where an idea is recognized by senior management to be bright, but is nevertheless rejected? It is rejected because experience has taught that it's cheaper to wait and let a competitor develop the product, let the competitor introduce the concept in the market, let the competitor make its mistakes, and only then offer the same finished product at a cheaper price without the R&D expenses. That is not a particularly fertile ground for pioneering.

This is the immobility curse on front-office creativity in the (re)insurance industry. Other industries don't know this curse, because they patent their new products.

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We don't have that problem with our back-office innovations. Indeed, it is easy enough to ensure that our competitors cannot copy the inventions we use behind the scene, such as our pricing or reserving techniques, our natural catastrophe or epidemics simulation methods or our electronic accounting systems. But it turns out that we're so good at hiding these R&D achievements, that others must reinvent the wheel. More than often even within the same company! That is also not a particularly fertile ground for pioneering.

This is the trade secrecy plague on back-office creativity in the (re)insurance industry. Other industries don't know this plague, because they patent their new achievements.

How can patents encourage innovation in the insurance industry? Just the same way they fostered and still foster innovation in other industries! In essence a patent is a contract between an inventor and society, a contract that yields protection to the inventor in return for the disclosure of her or his invention. It is this element of contractual obligation that makes patents so valuable both to innovators and to society at large: The protection associated with patents encourages exploration and discovery, while the resulting contributions to the state of the art are widely disseminated.

Insurance, a mechanism for sharing the risks of economic failure and catastrophic loss, made the development of new ideas less risky and was one of the historic enablers of innovation in science and engineering. Isn't it ironic that the very industry that through its risk sharing products enabled innovative risk takers to make their discoveries never itself embraced innovation?

Perhaps the issue is not that we don't patent because we don't innovate, but rather that we don't innovate because we don't patent.

Frank Cuypers can be reached via e-mail at: [Frank\\_Cuypers@swissre.com](mailto:Frank_Cuypers@swissre.com)

(\***Editors Note:** For those not familiar with the term, a "quant" is a person who has strong skills in mathematics, engineering, or computer science, and who applies those skills to the securities business. For example, a pension fund may employ a quant to put together an optimal portfolio of bonds to meet the fund's future liabilities. A "quant" might also be referred to as a "rocket scientist".)

## **Patent Watch**

### ***Don't Count on Copying Your Competitor's Great New Product Idea***

Vigilance is becoming a necessity in the insurance industry. It is becoming more common for inventors of significant new insurance product solutions to seek patent protection for their research and development efforts. As a result, the successful, innovative insurance product solutions invented by your competitors may no longer be freely shared with you.

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The insurance industry has long been one in which new product ideas and concepts, policy illustration approaches, and underwriting processes were freely shared either by exposure in the marketplace or at industry and professional meetings. There were a few front runners who recognized that the insurance business methods they invented which enabled new product designs could be patented. And then in July, 1998 the Federal Circuit Court of Appeals in its *State Street Bank vs. Signature Financial* decision clearly made the statement that *business methods* are patentable. In fact the court emphasized that they always have been.

With this decision interest in *business method* patents surged. So, even though there were notable insurance oriented business method patents issued prior to the decision, their numbers have increased. And, although business method patents in the insurance industry make up a very small part of the total patents applied for or issued, they can still have a significant impact because they change the way innovation and invention in the insurance industry is now viewed. You may find the neighborhood to be no longer as friendly as it once was.

Every insurer would be well advised to establish a "patent watch". A patent watch is a program through which insurers monitor new patents and patent applications as they are published. The relevance of these to the insurer's current products and new products on the drawing board ought to be determined. This is particularly important in an industry where the successful new product introductions of others were routinely copied. One purpose of a patent watch is to provide information useful in formulating new product designs so they don't infringe on the protected intellectual property of others.

Alternatively, of course, discovery of new ideas through a patent watch program may result in useful new product ideas that your company can license and easily implement because product design, development, pricing, legal, regulatory, and marketing ground work has already been done. Also, since patents are meant to stimulate additional invention, your company may be inspired to find different or better solutions to the problems addressed by the patents found.

For example, so far in 2004 (through 5/25/04) in the U. S. ten patents have been issued in patent class 705/4, a class used by the USPTO to designate insurance business methods inventions. During the same period (approximately the first five months of 2004) 70 patent applications have been published in that class. However, since patent applications are not published until 18 months after they are filed, there is an 18 month backlog of patent applications which are not yet public. Given the rate at which patent applications are filed in class 705/4, this means that there are currently, approximately, 130 yet to be published in 2004. Currently there are 392 published patent applications pending. We estimate that there are currently close to 500 published plus unpublished insurance business method patents pending in class 705/4.

These patents and patent applications cover innovations in all insurance lines of business: life, annuity, health, and property & casualty. Some are broad, some are narrow in focus. Other patent classes may contain patented innovations applicable in the insurance industry so one

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should not limit a search to just class 705/4. Issued patents covering areas in which you are currently practicing would be an immediate concern. However, pending applications are important only if a patent is actually issued.

## Patents in Action

### *Story of a Reversionary Annuity Patent*

Patent #5,754,980 was issued on May 19, 1998 for a *Method of providing for a future benefit conditioned on life expectancies of both an insured and a beneficiary*. Essentially, this patent described a method of providing benefit payments on the death of an insured to a named beneficiary - but only if the beneficiary survived the insured. In other words, this is a reversionary annuity. A product based on this patent, called the Stewardship Annuity, is now available from Baltimore Life.

The concept of a reversionary annuity, a payment made to life x after the death of life y contingent on life x being alive at that time, is well known in actuarial circles. Chapter 13 in Life Contingencies by C. W. Jordan is devoted to it. So, how can a reversionary annuity be patented if it is not new?

Well, when examining a patent or patent application one must look very closely. Often the invention is not what it appears to be. Since inventors must describe their invention in a patent so that others of average skill in the art can understand it, it is reasonable to expect that once disclosed an invention will appear to be obvious. In order to discover exactly what the invention is one must look for the *inventive step*, that is the leap or insight displayed by the inventor, which is a requirement of all invention.

In this patent the inventive step was the new concept for deriving a premium which required underwriting to be done not only on the insured life (which is common) but also on the beneficiary life. Therefore, the premium calculation relies on life expectancies (mortality) for both the insured life and the beneficiary life. The issuance of a life insurance policy and the premium rate charged never before had depended on the mortality of the beneficiary.

This insurance invention is in a category of insurance invention that relies on a *tailoring of benefits* concept in order to achieve a more *efficient* use of premium dollars. By eliminating presumably unnecessary benefits, premium dollars can be focused on delivering needed or desired benefits with the result being a more affordable product.

So, how have things worked out for the inventor? Well, Dean Potter, one of the inventors, has reported that the invention was sold to Baltimore Life Insurance Company (BLIC) in June, 2001. He became an employee responsible for marketing and administration from his office in Oklahoma City. BLIC developed a product based on the patent and was having improving success in marketing until January, 2003 when they were down graded (A- to B+) by A. M. Best.

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In an attempt to bring their rating back up, BLIC brought the TPA administration in house and closed down the Oklahoma City office through which Dean had been providing administration. Dean now found himself unemployed but with an opportunity to continue promotion of the product as through an independent national marketing organization which he formed, Potter Marketing.

Again Dean found success through developing a market that did not require an "A" rated insurer. However, BLIC is reluctant to expand participation in the market due to the impact the potential volume could have on surplus.

The lesson - a great idea doesn't guarantee success but a great idea plus hard work might. Dean continues to work hard. You can contact Dean Potter at [dpotter@pottermarketing.com](mailto:dpotter@pottermarketing.com). He would be interested in hearing from you if you are a carrier with an interest in a reversionary annuity product.

## **Patent Tech**

### ***Sources of Information***

The USPTO.gov web site (see link in **Resources**) is an excellent source for information regarding the patent process and is set up to help inventors. It is also a significant resource for information on patents issued and pending in the United States. Patents are published on the web site when they are issued. Patent applications are published every Thursday 18 months after the date they are filed.

The World Intellectual Property Organization maintains a web site with information on patents filed under the Patent Cooperation Treaty (see link in **Resources**).

### ***Patent Classification***

Business method patents are found in USPTO class 705. Class 705 is the generic class reserved for "apparatus and corresponding methods for performing data processing operations, in which there is a significant change in the data or for performing calculation operations wherein the apparatus or method is uniquely designed for or utilized in the practice, administration, or management of an enterprise, or in the processing of financial data." Sub-class 4 is for **Insurance** - meaning computer implemented systems or methods for writing insurance policies, processing insurance claim, etc. So, class 705/4 is the class for insurance business method patents.

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It is possible to have insurance related business method patents classified other ways, e.g. class 705/35 or 705/36 may contain patents of interest. Since each claim made in a patent defines a novel disclosure and is assigned a classification a patent may have multiple classifications associated with it. Often 705/4 is not the primary or original classification so an invention with a claim in class 705/4 may have a very narrow insurance application.

However, looking at the activity in class 705/4 gives a general idea of the level of activity with respect to insurance business method invention.

## **Finding Innovation**

### ***How Do You Know You've Invented Something?***

Invention is a solution to a problem. The solution may come easily or as the result of a long, arduous, and expensive research and development effort. Either way, if it solves a significant and important problem it has value.

The key to finding innovation is looking for the insightful or inventive step which must exist in every business process for it to satisfy the criteria of non-obviousness. This would be the jump or quantum leap made to get from point A in the solution to point B. It is not something that was taught or learned from any "prior art".

## **Ignore/License/Fight**

### ***Lessons from Bancorp vs. Hartford***

The Bancorp Services LLC vs. Hartford Life lawsuit decided in March, 2002 awarded Bancorp \$118 million for misappropriation of a Trade Secret was the fifth largest award during the period 1990 - 2002. On appeal, Bancorp's patent was upheld and Hartford eventually settled for \$80 million in 2004.

The fact that Bancorp's patent was upheld on appeal restarts lawsuits with MetLife and Sun Life on the patent infringement issue.

## **Statistics**

### ***An Update on Current Patent Activity***

Patent activity in USPTO class 705/4 provides a measure of invention in the insurance industry.

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Patent applications have been published 18 months after their filing date only since March 15, 2001. Therefore, there are many pending applications not yet published. A conservative assumption might be that there are about 125 applications filed in the last 18 months. Therefore, there are, probably, about 500 class 705/4 patent applications currently pending.

Insurance Patents Issued by Year as of 6/8/04	
Class 705/4	
YEAR	#
2004	11
2003	23
2002	16
2001	21
2000	33
1999	38
1998	20
1978-1997	47
<b>TOTAL</b>	<b>209</b>

Insurance Patents Pending by Year Published as of 6/3/04	
Class 705/4	
YEAR	#
2004	71
2003	128
2002	164
2001	30
<b>TOTAL</b>	<b>393</b>

## Resources

These are links to web sites which contain information helpful to understanding intellectual property.

United States Patent and Trademark Office (USPTO) - <http://www.uspto.gov>

World Intellectual Property Organization (WIPO) - <http://www.wipo.org/pct/en>

Patent Law and Regulation - <http://www.uspto.gov/web/patents/legis.htm>