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## **Intellectual Property and the Internet: A Global View**

**A Presentation by Hon. Bruce A. Lehman**

**Delivered to the Licensing Executive Society**

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The original presenter this morning was to have been Jay S. Walker, Founder and Vice Chairman of Priceline.com and Chairman of the Walker Digital Corporation. Unfortunately, Jay is unable to be with us and he has asked me to fill in for him. Jay's presentation was to have been "Intellectual Property on a Global Scale, Views from the Information Technology Side." I have chosen to edit the title a bit. Because of the obvious differences in my background and Jay's there will be a bit more emphasis on the "global scale" or "global view" in this talk. However, in the year and a half since I left public service I have become involved with a number of information technology companies as advisor and board member and have an intense interest in the business – not just the policy and legal – aspects of intellectual property and the Internet. And, I welcome the opportunity to speak from that perspective as well.

First, I would like to tell you about the unique experiment called The Walker Digital Corporation.

Walker Digital is the reason that I am not one of those now turning off the lights in the Clinton Administration. Back in 1998 Jay Walker asked me to join his company as a part-time advisor. The deal was attractive to me for several reasons. First and foremost was the excitement of one of the cutting edge Internet companies. Second, as a part time advisor I would be free to pursue other interests – of both a policy and entrepreneurial nature. And, a year and a half after I accepted Jay's offer I can say that I am glad I did. It has been a fascinating 18 months. My only regret is that finishing up my responsibilities to the USPTO kept me away from Jay's entrepreneurial world as long as it did.

Some people might ask why Jay Walker and Bruce Lehman would be in business together. Of course, the answer is that intellectual property is at the heart of both of our careers. The Walker Digital Corporation was formed to be a modern day Menlo Park – a laboratory for the creation of new, patented, ways of doing business. Indeed, the company, itself, is an

invention of sorts – an invention born of the unique characteristics of Jay Walker’s life and vision.

Jay Walker was born an entrepreneur. At age 9 he started a newspaper. At 10, he traveled to Europe on his own. At summer camp when he was 13, he would bring candy in bulk and sell it cheaper than it was offered by the camp store. In college at Cornell University, he wrote and marketed a book, *1000 Ways to Win Monopoly Games*. He started a weekly paper and a catalogue company.

With all this extra-curricular, schoolboy experience behind him, Jay took his passion for business into real life after college. In 1992, he hit the big time with an innovative system developed with partner Michael Loeb to offer automatically renewed magazine subscriptions tied to a credit card. The resulting company, NewSub Services, Inc. today has 30 million subscribers and over \$300 million in sales. But the success at NewSub was merely a platform for Jay to pursue his real dream – a Menlo Park for business innovation. Jay had long admired the great American inventor, Thomas Edison. In particular, he was fascinated by Edison’s idea of an invention laboratory which spins out patented ideas. So, after selling one-third of his stake in NewSub services to obtain \$25 million in start-up capital, he founded the Walker Digital Corporation. Walker Digital was conceived as a Menlo Park for the age of electronic business.

When you take a tour of Walker Digital’s headquarters in Stamford, Connecticut you won’t find laboratories with glass beakers and men and women in white coats. Surprisingly, you won’t even find a lot of fancy computer equipment – because Jay Walker’s inventors work on ideas. What you will find are bright people (usually young) who are skilled not only in technology, but also in the world of business. You’ll also find lots and lots of information about business. Walker Digital’s inventors steep themselves in every thing there is to know, virtually every published fact about the business sectors they are studying. And then, they apply their own brainpower to look for new ways to carry on those businesses, usually ways that adopt to modern information technology.

There are two simple criteria for pursuing an idea in Jay Walker’s workshop. The first is, does it have market value? The second is, can we get a proprietary position, i.e., a patent?

Priceline.com was the first of Jay Walker’s inventions to emerge from the laboratory to become a real, functioning business. And it exemplifies an idea that satisfies these two criteria. It was protected initially by patent #5,794,207 and subsequently by several more issued patents. And it most certainly has market value. In its first year of operation Priceline.com sold over \$1billion worth of airline tickets, hotel rooms, cars, home mortgages and groceries. By contrast, I remember my own early days as a computer software lawyer representing a coalition of companies. I was working closely with Microsoft when, after *four years* in business they exceeded \$300 million in revenues.

To my mind the remarkable thing about Jay Walker is that his vision of electronic commerce *preceded* common thinking in both the law and business. But, isn’t that exactly what the patent system was set up to promote? Priceline’s first patent issued *before* the *State Street*

*Bank* decision of the Court of Appeals for the Federal Circuit.<sup>1</sup> Also, that patent had been filed before the dot.com heyday when most people – including Bill Gates – thought that closed networks like the original AOL and CompuServe would be the back bone of electronic commerce.

With mention of the *State Street Bank* case and business method patents, we are getting into the zone where modern business meets public policy. In the year and a half that I have been associated with Walker Digital, the *State Street Bank* decision, the policies of the PTO and the use of business method patents have been much debated in the media. And, in my view much of the commentary has come from people who don't know very much about the law, history or electronic commerce.

It seems that whenever a court decision or PTO policy *appears* to extend traditional notions of patentability, there is an automatic chorus of Chicken Littles chanting that the sky is falling. We saw this with *Diamond v. Charkrabarty*<sup>2</sup> in the area of life forms and in *Diamond v. Diehr*<sup>3</sup> in the area of computer software. And, in neither case did the sky fall. Back in 1994, Professor Pamela Samuelson (now of U.C. Berkeley Law School) – a frequent critic of expanded IP rights – argued in “A Manifesto Concerning the Legal Protection of Computer Programs” – that patenting software would stifle innovation.<sup>4</sup> Well, now that we are safely in the new Millennium it is apparent that these fears were unfounded. In fact, I would assert that the opposite is the case. That patent protection is speeding the rate of innovation in electronic commerce.

Priceline and companies like it need the protection of the Patent system to obtain the investment necessary to bloom and grow. And, a valid patent provides the essential security that cold-blooded investors require before taking a risk. This phenomenon is nothing new. The great entrepreneurs of the 19<sup>th</sup> and early 20<sup>th</sup> centuries used patents in just the same way. And, in many cases, they were pioneers in expanding the patent system to cover new forms of innovation. We sometimes forget that notions of innovation and technology change. One hundred years ago more than a third of all patent applications dealt with bicycle technology.

Today patents are routinely issued on gene fragments, Internet business methods and bio-informatics. The Chicken Littles may respond that at least bicycles involved mechanical *technology*. But, what they overlook is that even back in the early days we were patenting business processes. Let me give you a few examples. Patent # 63889 describing a hotel register was issued in 1857. Patent #1,406,561 describing a business form was issued in 1922, and Patent # 395,782 on the “art of compiling statistics” was issued in 1889. A recent USPTO White Paper lists even more examples.<sup>5</sup>

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<sup>1</sup> *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368 (Fed. Cir. 1998).

<sup>2</sup> 447 U.S. 303 (1980).

<sup>3</sup> 450 U.S. 175 (1981)

<sup>4</sup> Source, Remarks of Q. Todd Dickinson, Undersecretary of Commerce for Intellectual Property & Director of the U.S. Patent & Trademark Office before the Congressional Economic Leadership Institute, Washington, D.C. April 5, 2000, p.9.

<sup>5</sup> See, *White Paper – Automated Financial or Management Data Processing Methods (Business Methods)* at the USPTO web site, <http://www.uspto.gov/web/menu/busmethp/index.html>.

The Supreme Court was clear when it said that “anything made by the hand of man” may be patented. The real question – regardless of the subject matter – is, does the claimed invention actually meet the statutory tests of novelty and non-obviousness? If it does, no one should be harmed by the issuance of a patent because there is no person in the world using or imminently likely to use the patented idea who could be harmed by it. In fact, the only effect of the patent is to enable the inventor to obtain the financing or other resources to bring something otherwise unavailable to the marketplace.

This brings me to the “global” perspective promised in the publicity about this talk. Having spent the past eight years traveling the globe – often to developing countries – I have become more convinced than ever that an economy like that we now enjoy in America doesn’t just happen. It is the specific product of policy choices. In general the developing and developed world are separated by vastly different systems of commercial law. Developed countries uniformly protect all kinds of property, including intellectual property, and provide efficient civil law mechanisms for enforcing those property rights. This, in turn, supports investment in innovation and economic growth. Any comparison of statistics on national wealth and the number of patents issued in a given country shows a direct correlation.

A few years ago, the late Edwin Mansfield, an economist at the University of Pennsylvania, surveyed 100 U.S. corporations chosen randomly in six industries.<sup>6</sup> In each case, he asked senior management if strong intellectual property laws were a significant consideration for different kinds of investment the corporation would make in another country. When corporate executives were asked if IPR is important for investment in sales and distribution outlets (the sector having the least impact on national wealth creation), they generally said “no” – although even then between 15 and 30% said it was an important consideration.

But when corporate executives were asked if they would invest in final product manufacturing facilities, about 60% said that IPR has a “strong effect” on whether direct investment will be made. If a country is looking for investment in chemical, pharmaceutical, or electrical equipment manufacturing, the percentages are much higher: between 74 and 87%. Even more telling, when executives were asked if they would invest in research and development facilities (the top end of wealth creation in an economy), 80% said that the strength or weakness of IPR in a country will have a strong effect on whether the company invests there. This research has been supported by other work endorsing the view that weaker IP laws in developing countries tend to suppress the transfer of technology while stronger IP laws reduce imports relative to local production of licensed goods.<sup>7</sup>

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<sup>6</sup> Edwin Mansfield, *Intellectual Property Protection, Foreign Direct Investment and Technology Transfer*, International Finance Corporation Discussion Paper 19, The World Bank (1994).

<sup>7</sup> Michael J. Ferrantino, *The Effects of Intellectual Property Rights on International Trade and Investment*, 129 *Weltwirtschaftliches Archiv* 300, pp. 321-326 (1993); *see also* J.Y. Lee and Edwin Mansfield, *Intellectual Property Protection and U.S. Foreign Direct Investment*, 78 *The Review of Economics and Statistics*, No. 2, pp. 181-186 (1996).

The lesson could not be clearer. Any country that wants high end, high technology investments – any country that wants to catch up economically – needs a strong intellectual property system that instills confidence for investments.

Such investments produce jobs and generate wealth for a national economy. One of my favorite examples is that involving Texas Instruments, a leading U.S. Semiconductor manufacturer. In the early 1980s, Texas Instruments entered into joint ventures for the production of D-RAM chips with Acer of Taiwan and Goldstar of Korea. In return for supplying the technology through patent licenses, Texas Instruments received part ownership of the joint ventures. The combination of U.S. technology and Asian manufacturing know-how resulted in more than a billion dollars of investment in new factories in Asia. The result is that today the combined sales of these joint ventures account for a significant percentage – estimated by some as 40 percent – of the entire global market for D-RAM semiconductor chips. The result is a win-win situation. Texas Instruments receives over half of its annual revenue – more than \$2 billion U.S. – from licensing royalties. Acer and Goldstar pump billions more in to local economies in Asia from their manufacturing facilities, producing jobs and wealth for these nations.

And as economist Armando Caceres said, this is not just *foreign* investment. An Argentine banker, a Senegalese entrepreneur, a Taiwanese corporation – all can decide to put their energies and their funds anywhere in the world.

In other words, what people call “international location tournaments”<sup>8</sup> don’t just happen when a multinational corporation looks to different possible sites for a new factory. Every time a scientist emigrates, every time a wealthy person invests in some country beside his own, it’s an “location tournament.” And for a country to win more of those “tournaments,” for the country to keep its best nationals committed to investing their lives and resources at home, that country needs a credible intellectual property system.

In the past 20 years, India has developed a burgeoning software industry. Consider how important intellectual property laws are *and will be* to that industry’s growth. Today there are about 750,000 software professionals employed in India -- far more than in Germany [550,000] or Italy [375,000].<sup>9</sup> According to Harvi Sachar, the publisher of the journal, *Silicon India*, the revenues of the Indian software industry now exceed \$2 billion U.S. annually and constitute one of the fastest growing export markets for that country. He notes that credible intellectual property laws are essential to support and maintain that growth.<sup>9</sup>

Let me illustrate this by referring to the very successful system in the United States and, in particular, to an aspect of that system well known to members of this Society. This concerns the role of pure intellectual property when it is licensed. The largest university system in the United States is the University of California with over 7,000 faculty members among its 9

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<sup>8</sup> Carlos A. Primo Braga and Carsten Fink, *International Transactions in Intellectual Property and Developing Countries*, Draft October 6, 1997 at pp. 10.

<sup>9</sup> 61 % of India’s software exports are application software. Of total exports, 58% goes to the US, 20% to the EU, and 3% to Japan. 43% of India’s software companies have less than 20 employees. Statistics from various issues of *Silicon India*, provided by Editor Yogesh Sharma. October 14, 1998

<sup>9</sup> Harvi Sachar. An unpublished, videotaped interview in 1998.

campuses. In 1997, the University held patents on 2,943 inventions. Licensing income from those patents totaled US \$74.7 million in 1997. The University of California's experience is not unique. Royalties paid universities represents two things: first, money from intellectual property being brought back to support the educational system and, second, knowledge going out from academia to build factories, create jobs, and produce wealth.

Obviously, the revenue generated from patent licenses is beneficial to the universities themselves, but from a policy point of view, that is of minor importance compared to the impact of this technology transfer on the general economy. Together, the University of California and Stanford University generated about \$125 million in patent licensing revenue in 1997. While that is an impressive sum of money, it pales in comparison with the economic impact on the region where these universities are located. If one assumes a royalty of 4% of gross sales on the finished product embodying a patent – and this may be low – the total amount of economic activity generated by these university patents was \$3.125 billion in 1997.

Interestingly, the 80-kilometer corridor lying between Berkley, the principal campus of the University of California, and Stanford is the area known as Silicon Valley. This is the geographic heart of America's information economy. These university patents form the technological foundation on which many private companies build to create additional technological advancements which are represented by additional patents. The United States Patent and Trademark Office receives more patent applications from this region than any other in the country. Silicon Valley alone accounts for more U.S. patent filings than almost any other country except Japan.

This policy of encouraging the patenting of academic research and its transfer to the private sector did not come out of thin air. It was the specific result of U.S. government policy and a 1980 law enacted by our Congress. The system used by universities in the U.S. also is used by our government research laboratories, such as those in the National Institutes of Health and those in the Department of Energy and the Department of Defense.

It is my personal belief that the licensing industry – whether from the public to the private sector – or within the private sector is still in its infancy. Until recently there has been no effective, centralized mechanism for trading patents and other intellectual property rights. Therefore, I am delighted, as a member of its board, to be a part of the efforts of the Patent & License Exchange (pl-x.com) to establish a secure, Internet-based market place for trading intellectual property rights.

I believe that other countries would benefit by following this model.

However, if any country, including the United States is to benefit from the patent system it must have a modern patent office capable of examining patents in a timely manner and it must be able to issue patents or produce searches which will stand the test of litigation. In this regard the current world picture looks very bleak.

Consider the current situation at the USPTO. While it may not have entered into the consciousness of most patent professionals and members of the public at large, the patent system

is entering into a period of crisis. This crisis arises from four phenomena: (1) several years of larger than anticipated increases in patent filings at the USPTO, (2) the inadequacy of the PTO's data-base of non-patent prior art, (3) the absence of a global structure for search and examination of patent applications, and (3) diversion of PTO fee revenue by the Congress.

Computer projections by PTO management show that within five years the pendency of patent applications will rise to the highest levels in history. In the fast moving field of computer and software technology the average patent application will issue 44 months after filing. Given the very short product cycles linked to the rapid pace of innovation in the information technology industry, an average pendency approaching four years could have an extremely negative effect on investment. And, of course, a 44 month *average* pendency means that many of the most complex and, therefore important, inventions will take much longer to examine.

Of even greater consequence is the long range impact on the USPTO. The PTO's revenue stream is back-ended – meaning that the system is disproportionately financed by issuance and maintenance fees paid *after* the examination process is completed. This increase in pendency will create a “death spiral” for the PTO. As examination backlogs increase, the money needed to hire the examiners and pay for the technology and equipment to process patent applications, will decrease.

Because issued patents are a major incentive to investors in new technology, the health of the American economy will be affected negatively as the PTO becomes unable to issue patents within the time period required by increasingly shorter cycles of change in innovation.

Clearly, Congress will have to increase the funding of the PTO to deal with the coming crisis. But, that will not be enough. The PTO will have to develop new ways of doing business and employ search and examination technology much faster and more effectively than in the past.

Finally, the problems of the PTO are compounded on an international level. With the coming into force of the TRIPS Agreement (the intellectual property provisions of the WTO treaty) all countries in the world must have the capacity to accept and process patent applications and to grant effective patent protection. Infrastructure capable of complying with TRIPS obligations exists today only in a handful of developed countries – and even the patent bureaucracies of those countries face problems similar to those of the USPTO. A vivid illustration of the even greater problem in countries new to the patent system was a devastatingly critical front page article which appeared in the July 30 edition of The Washington Post. The article, entitled “Patent Claim Ferments Russian Controversy”, described the Russian patent office's issuance of a patent covering the design of glass bottles – a technique known for millennia.<sup>10</sup> The problems of Russia mirror similar problems in other large countries representing important markets for technology like India, Brazil, Indonesia, and Argentina.

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<sup>10</sup> Daniel Williams, The Washington Post, July 30, 2000 at page 1.

The problems facing all countries are similar to that of the USPTO: how to acquire the technology and resources to deal with an ever increasing volume of complex patent applications and examine them in the light of an exploding volume of global patent and non-patent prior art.

The business of most of those in this room involves in one way or other the licensing of patents or other forms of intellectual property. If The USPTO, its sister offices in Europe and Japan, and the emerging patent systems of big developing countries cannot deliver reliable patents in a timely manner, the entire foundation on which licensing exists will crumble.

Getting back to Walker Digital. Jay and all of us associated with the company are acutely aware that the USPTO and the patent system globally needs the help of its constituents. That is why, even though it is still a small company, Walker Digital has given a very high priority to lobbying Congress to staunch the diversion of PTO fee revenue. The company has been urging Congress to redirect those financial resources to meeting the challenges of bringing down pendency, improving the quality of searches and issuing solid patents. I hope that members of the Licensing Executives Society will join in that effort.

Thank you for your attention.