

# **The United States Patent System, an American Tragedy**

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The primary function of the United States Patent Office is specified in the United States Constitution, Article 1, Section 8, as “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;” It is my opinion that the patent office has not been able to live up to this mandate due to various negative forces, governmental and non-governmental.

The primary purpose of my talk is to describe some of these negative forces and influences. I speak from the standpoint of the independent inventor and not from the viewpoint of inventors employed by large corporations, government agencies, or universities. Some may suspect I speak as a frustrated or “sour grapes” type inventor. May I point out much of what I will say is based on my observations as a member of a local non-profit group known as the Inventors Connection of Greater Cleveland. I have been a member for 15 years and have served as president for 2 years.

The small independent inventor has played a tremendous role in the progress of this nation. Some may think due to the complexity of modern technology that the independent inventor is no longer able to play a significant role in innovation. This is not true. Hewlett Packard delights in showing their public relations film that begins by showing the very garage the firm was born in. Note how poorly some large, long established American corporations are performing in many fields as compared to firms in India, Japan, and Europe. A recent newspaper article noted that Toyota is licensing the Ford Motor Company to use Toyota hybrid car patents. Another article called attention to General Motors totally abandoning their original electric car product. Some may suspect that the very large owners of stock in Ford and GM are also very large investors in the petroleum industry. In a morbid sort of way, I hope this is true, for otherwise we must conjecture Ford and GM management have totally ossified and fossilized as far as creativity is concerned.

For many years, independent inventors have had a great difficulty in submitting inventions to large corporations due to the NIH factor, or “not invented here” factor. The company attitude is “if our people didn’t invent it, it can’t be any good.” In recent years, this wall against outside ideas has grown even higher due to the possible lawsuits by some inventors claiming their invention was looked at, rejected, but then utilized by the corporation. Therefore, very many corporations will not even discuss outside suggestions without the submitter signing an agreement totally protecting the corporation from possible future lawsuits. Many inventors feel such agreements do not protect the inventor.

Another negative force experienced particularly by first time inventors is the existence of fraudulent “invention marketing” firms. You may have heard their spot commercials on radio or have seen their spot commercials on TV. By the patent office’s own estimate, these fraudulent firms scam independent inventors of 100 million dollars a year. Some have estimated it may be as large as 500 million dollars a year. First time inventors are probably the most optimistic people on earth and when told by these con men that their invention is “the greatest thing since sliced bread” they pay \$500 to \$12,000 for worthless marketing services. The Federal Trade Commission, the FBI, and the patent office know who they are. Yet it goes on year after year. One can only wonder how many creative people have been discouraged from trying again after being financially fleeced by these scum from the underside of rocks. I also cannot help but wonder if something is not radically wrong with our legal system when legal technicalities can continue to triumph over justice. Does the mailing of computer generated form letters to possible manufacturers of your invention comply with the laws regarding services performed?

Another great scam is performed by Congress itself. May I point out to you that the patent office is totally financed by inventor’s fees and not by American taxpayers. In the last few years, Congress has “diverted” 750 million dollars from patent office income for use by other functions of the government. The patent office makes up this loss of income by increasing its fees. It is true that the independent inventor as a “small entity” (less than 500 employees) pays fees that are one half that of “large entities” (500 or more employees). In addition, inventors pay fees to patent attorneys, patent agents, and draftsmen. Also, add to this the costs of building models, prototypes and testing. Many young inventors, perhaps in the prime of their creative life, also face home mortgage payments, car payments and the need to set aside funds for their children’s college education.

Much of the general public assumes the invention road is paved with gold bricks. In fact, it is estimated only one in two hundred patents by independent inventors makes more money than the cost of patenting. Tooling and marketing costs are giant hurdles. When a product shows signs of being a successful product, imitations spring up like mushrooms in season. Now the inventor must sue patent infringers. The current rule of thumb is that the inventor must come up with at least 250,000 dollars to begin the legal battle in federal court. The federal patent may be the brick in the wall that protects the inventor, but the mortar that holds the brick in place is made from the blood, sweat, tears, and the hard earned money provided by the inventor.

The few words in our Constitution mandating a patent system has had a massive affect on the entire world. To me it is always interesting how a few simple words can capture a significant moment in history. An example: In 1908 Miss Henrietta Leavett of Harvard University wrote “It is worthy of notice, the brighter variable have longer periods.” She had made the discovery of a space measuring tool that enables us to determine the distance to a star literally 100 light years away. (A light year is about 6 trillion miles and thanks to George W. Bush’s budgets, a trillion is no longer a strange number.) If she had been a man, her name would be as familiar today as that of Hubble. Incidentally, if you have not read George Johnson’s book *Miss Leavitt’s Stars: The untold story of the woman who discovered how to measure the universe*, I urge you to do so, it is short and very readable. Another much more familiar example is in the famous 1953 paper of Watson and Crick that noted: “It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying method for genetic material.” I mention these

two examples to contrast with the contents of many U.S. patents. Many inventors have said they could not recognize their own invention when their patent attorney or patent agent finished describing their invention in the legalese of the patent application.

An example of a massive industry started by one individual's insight is the Xerox machine conceived by Chester Carlson. Note that Kodak, General Electric and many others did not express any interest in his process. Another example is the aviation industry built upon the work of two bicycle shop owners. However, today some investors in airline stock may wish the brothers had stuck to building bicycles. Yet another example is that of Philo Farnsworth, an Iowa farm boy whose patents are the basis of the television industry. His interlace scanning principle is said to have been inspired by how farmers plow their rows!

It is amazing how much of what we see day in and day out we assume to have always been there, when, in fact, someone saw a need and found a solution and today it is a standard item. When you next park your car, notice the vinyl strips that protect many doors from scrapes and dents. Some years ago a car salesman named Alex Kunevicius had a car sold provided he removed a door dent and repainted the car. He found a solution by applying an adhesive vinyl strip to the side of cars. To make a long story short, he wound up patenting his solution and became a major supplier of this item to Ford, GM, and Chrysler. He lives, fittingly, in Independence, Ohio. Both of his sons have become inventors. He delights in pointing out that in the beginning he knew nothing about extruding vinyl and even less about adhesives. He asked questions and ran tests. It is an inspiring story for new inventors.

The independent inventor often suffers from the deadly virus known as near-bankruptcy-itis. This condition will only become more common as the income gap in the U.S. continues to increase. David Brooks in the Sept. 22, 2005 New York Times noted a typical white family's assets are 10 times those of a typical Hispanic family and 13 times that of a typical African-American family. Quite often the low income inventors are the victims of fraudulent invention marketing firms. They have their hopes raised by reading newspaper accounts of successful inventions. The media seldom details the stories of unsuccessful inventions. Why should we worry about the low income sector when the U.S. has 17 out of the 20 top universities in the world? (Economist magazine, Sept. 10, 2005.) We should be concerned because inventions are created by people and we need everyone, including low income inventors, to be able to compete in a world now awash with engineers and scientists. When people become convinced that the U.S. is no longer a meritocracy they will cease to dream the big dream. A tragic waste of minds will take place. For a detailed examination the factors currently affecting America's creative people see Richard Florida's book *The Flight of the Creative Class*.

Despite the independent inventor's contributions to changing the world's way of life, inventors suffer from an image problem. Hollywood insists on portraying the lone inventor as a crazy, eccentric, a world conquering monster, or just as a lovable goof. Some may argue Hollywood merely reflects the views of the general public. There is a positive side to Hollywood's image of inventors in that the public and investors will often readily believe claims made for a radical new invention. Unfortunately this also includes believing in the endless supply of perpetual motion machines that violate basic physics or chemistry laws.

The Bayh-Dole Act of 1980 gave colleges and universities the right to patent discoveries made when utilizing taxpayer money is given as federal research grants. Some schools have

profited greatly by this right to patent and some professors have become wealthy. The overall benefit to the nation may justify this act, but some independent inventors struggling to raise funds, indeed struggling to survive, wonder if Congress will ever provide some form of grants to independent inventors.

Incidentally, if at some time in the future you develop an insane desire to play the inventing game, I highly recommend reading David Pressman's book *Patent It Yourself*. Although there are only a select few people that are capable of writing a good patent themselves, reading this book will give you a practical insight into the inventing and patenting process. He is that rare type of writer who can explain intricate legal matters in a manner that the average intelligent person can understand. It is currently in the 11th edition.

In recent years, there has been a great deal of discussion and questioning of the patent office's issuing patents on software, medical procedures, and pharmaceutical formulations. I will not comment on these areas due to my almost complete ignorance of the areas involved. Some nations feel many of these patents are not justifiable. Some of the general public is getting a negative image of our patent system due to newspaper accounts of the heated discussions that are reported. One writer, Robert X. Cringely has suggested, that at least in the computer and software industries, that the term "innovation" has come to mean "creative theft of ideas by big companies."

Among the "reforms" being currently considered by Congress is one what would change our patent system from a first-to-invent system to a first-to-file system. Almost all other nations use the first-to-file system. Many independent inventors feel the first person to invent a device, process, or chemical composition is the true inventor and to change this system to conform to the practices of other nations is unfair and unwise. Some feel it will lead to rushing to patent and that will lead to a decrease in the quality of patents.

There is a school of thought that inventions are simply a product of the times and if one person did not produce the idea or concept others soon would. However, consider the lowly button and button hole method of attaching one section of cloth to another. The Chinese came up with the compass, gunpowder, and paper, but they did not invent the button to button hole method. Nor did the Greeks or Romans invent this method. An examination of old oil paintings indicate the method suddenly appeared in Western Europe around 1200 AD. How many amazingly simple devices, processes, compositions of matter are invisible to us today until someone has a brilliant insight?

What then of the future? I sincerely believe the lone independent inventor will not disappear. In fact, I believe he or she must not be allowed to fade away. If you have read Ray Kurzweil's new book *The Singularity is Near* you may have come to believe that in 30 years, or so, that by the creation of billions upon billions of nanobots, that is robots a thousandth of the size of a micro-robot, we will be capable of giving ourselves eternal life, glowing health, and an intelligence so great as to defy description. Incidentally, the word robot was created for a stage play, R.U.R., in 1920 by the Czech writer Karel Capek.

If by 2050, we have instantly available all the written knowledge since the beginning of the world's history, will our computer or modified-humans, not be able to crank out invention after invention? Perhaps I am a dinosaur living in the computer age, but I have a strong gut feeling that no matter how many permutations or combinations a computer is capable of, will a computer look

at a meadow and see that if a burr can stick to a man's sweater can that fact be used to create something like Velcro? Can a super computer have dreams of the future world?

What of the future of the United States patent system? In spite of being an eternal optimist, I foresee no improvements beneficial to the independent inventor until our current anti-science administration receives a mandate to depart from Washington, D.C. However Americans, if nothing else, are resourceful and as Charles Darwin noted: "The race belongs not to the swift, not to the most intelligent, but to those who adapt." A few years back, some of our inventors at the Invention Connection of Greater Cleveland said, out of patriotism, they would never consider having the tools, dies, or molds required to manufacture their product made outside of the United States. Today the buyers at Wal-Mart or Sears first ask in what country is your product being made, because if it is made in the USA it will be quickly copied by competitors who will make their product in China or India at half the cost.

This reminds me a fellow I worked with years ago. He had just paid 48 cents for a gallon of gasoline and he stormed in and announced he would never, ever, pay 50 cents for a gallon of gas. The next week he announced he had lived up to his promise—he had just paid 52 cents for a gallon of gasoline.

The adaptive American inventor may begin to ask why patent? The fees are ever increasing, the building and testing of models ever more costly, and the defending it against patent infringers is extremely expensive for the lone inventor. Will inventors just give up or will they find ways around their problems? Trade secrets can be sold, but find a trustworthy go-between is a problem. If the outsourcing to other nations of manufacturing and services is now acceptable, why not consider the outsourcing of inventions. This solution is not without precedent. Theodore Roosevelt was highly indignant when told the Wright brothers were offering to license the French to use their patents. The Wright brothers politely suggested he check with the War Department, now called the Department of Defense. They had offered their patents over and over, but the War Department had come to the conclusion that the only use for airplanes was for observation purposes and that they already had balloons that had proved themselves in the Civil War and that observations could be telegraphed directly to the troops!

The failure of a country to recognize your contribution or your view of the future is not new. Check the Christian Bible and you will find in the Book of Matthew, Chapter 13, Verse 57: "A prophet is not without honor, except in his own country and in his own house."

Literally anyone can improve their lot in life by creating something new and useful and can obtain a patent. Children have patented devices. Under U.S. patent law even a person on death row can obtain a patent. Unfortunately this opportunity is undergoing attack by certain vested interests and by acts of Congress. Currently a "Patent Reform Act" is vending its way through Congress. Portions of it seem to be written by certain large corporations. Some inventors have referred to it as "the Patent Deform Act." It is no secret that some patent attorneys in large corporations refer to inventors suing their firms for infringement as "patent trolls."

In 1997, eight MIT Nobelists signed a protest letter sent to the U.S. Senate expressing concern about certain proposed patent law changes. However, Congress and the patent office have continued to cater to the wishes of large multinational corporations by promoting the idea that U.S. patent laws should match the laws of other countries that have laws that favor large corporations. Why we should change our laws to match that of other nations is open to question.

Standardization to many seems fundamentally desirable, such as changing to the metric system which has strong scientific support. However, by analogy, should we agree that the armies of the world should be using identical tanks and aircraft?

For many years, those advising inventors about how to market their inventions have urged them to never approach the engineering departments with their invention. The resistance to new ideas is so strong that inventors are advised not to offer “a new invention,” but “a new design” and to offer it to the VP of sales and not to product development departments of large firms. A story I once heard at a nearby inventor’s club related how one of their inventors who had worked on improving the Stirling engine (invented 1816 by a Scottish minister) learned that NASA had received a grant to improve the Stirling engine. He approached NASA with his new concept and was politely but firmly shown the door. He found out later the grant would end in 3 years and the head of the team in charge was also scheduled to retire in 3 years. The inventor conjectured they were not open to any breakthroughs for at least 3 years. Perhaps this whole story is just another urban legend, but similar stories pop up continually, leading one to suspect they many contain more truth than fiction.

At this point, someone may say that it is fine to rant and rave, like a newspaper columnist, about the ills and injustices inventors face, but what about some suggestions for improving the inventor’s world. I would suggest that the commissioner of patents position should not be filled by a political crony but by an inventor. Would not a medical association insist on a doctor being the head? Granted, finding an inventor who is also a good administrator would be difficult. Inventors are a small minority group, in fact, a micro-minority group. He or she must be able to deal with a Congress composed of over 30 per cent with a legal background and only 0.8 per cent that have an engineering background..

Another suggestion is something must be done to remove the financial barriers that prevent low income inventors from obtaining a patent. In 1960, the fees for obtaining and keeping a patent totaled \$60. Now they are \$4,160. That is almost a 7,000 per cent increase and almost a 10 per cent per year increase. Note that in 1960 the federal minimum wage rate was \$1.00 per hour, today it is \$5.15. This is almost a 500 per cent increase since 1960. Yet the patenting fees have increased 13 times more than the increase of the minimum wage rate. The low income inventor has for all practical purposes been priced out of the patent system. Also note that Congress has not raised the minimum wage rate in 8 years. Some in Congress claim this is to protect the low wage earners job. Calvin Wight of the Inventors Connection and others have suggested a much lower fee schedule, a “very small entity” schedule should be created. Congress grants enormous subsidies to sugar producers and others while insisting the patent office must be self supporting and, indeed, has diverted hundreds of millions of dollars of patent office fee income to other functions of the government. Talk about killing the goose that lays golden eggs.

Over and over you will read in the newspapers the calls made for research in ways to meet our long term energy problems. I hate to play the role of a pessimist, but I suggest as long as we have a president and vice-president with deep ties to the petroleum industry we will see no meaningful progress in creating non-oil energy sources. The basic anti-science nature of this administration also precludes any true effort to fund such research. The recent significant rise in the cost of oil and natural gas should be fueling, no pun intended, a clamor for new processes for the extraction of oil and for the conversion of coal into natural gas. The Nazi war machine in

World War II derived 90 per cent of its oil from a coal-to-oil process. A similar process exists for a coal-to-methane. They are costly methods. Why not offer a hundred one-million-dollar grants or awards to independent inventors for new low cost conversion processes? If 99 per cent are failures, but one succeeds, it would be well worth the hundred million dollars.

Large grants are continually made to academic institutions and in the overall are regarded as good investments. However, bringing in the lone, attic, garage, or basement inventor should also be considered. Academic institutions are, of course, are often better qualified, but the lone maverick has one priceless asset – he is often unaware that it cannot be done. In World War II a poster with the picture of a bumblebee was seen in many engineering departments with the text reading: “A bumblebee’s wings are far too small for his weight, so therefore he cannot fly. However, the bumblebee is not aware of this law of aeronautics, so he flies anyway.”

Some may feel we are already surrounded with too many inventions, particularly with the seemingly endless supply of new ‘electronic toys’. On the other hand, perhaps what we need are inventions that, for example, make computers truly user friendly and wrist watches that do not require the mind of a rocket scientist to be able to set the time. I hesitate to mention some of the new digital cameras, as I hate to see grown men cry. Recently, it took me two hours to set the time display feature on my daughter’s new digital camera.

As I indicated in the title of this talk, I consider the current United States patent system “an American tragedy.” If I were asked for a list of specific suggestions for improving our patent system, I would offer this list:

1. The federal government must undertake to aggressively prosecute the numerous fraudulent “invention marketing” firms. I realize the patent office is part of the Department of Commerce and not in the law enforcement business. However, they do receive and record inventor complaints and should refer them to the Federal Trade commission and the FBI. I also suggest the FBI should look in to the relationship of some of these firms with the Mafia based on the fact that some patent attorneys and patent agents who have given some of these firms negative publicity have received threats and in one case a bomb was found under a car.

2. A fee schedule for “very small entities”, should be devised. No one can predict when or where the next great discovery will be made. Excluding low income inventors in this new globalization era, when the world is awash with engineers and scientists, is foolhardy.

3. Many more contests for solutions to current problems, such as the energy crisis, should be created by industry and by government. They should offer awards of meaningful amounts of money. They should be open to everyone.

4. The media, including Hollywood, should make an effort to avoid adding to the stereotype image of the “crazy” inventor. Children pickup on this image at an early age and hold on to it for the rest of their lives. How many children dream of becoming a great baseball or basketball star as compared to those who dream of becoming a great inventor?

5. Reform the patent format. It is no secret some patent titles are intended to mislead patent searchers. Patents should be readily readable. Granted some patents are descriptions of highly technical products, however, deliberate complexity of wording should be discouraged by patent examiners so that those “skilled in the art” can readily duplicate the invention. The crux of many patents is often quite simple but the length of the text is often far in excess of necessity.

6. All patents copies should be available on the Internet so that searches can be made even

at home at midnight. The patent copies are owned by the public and should be available to them. If the patent office cannot do this, perhaps Google can. At the moment Google has some 8 billion pages almost instantly available. Some will note that many cities have a main library designated as a "Patent Depository Library." Here one can conduct patent searches and make photo copies of patents. I suggest the Internet has obsoleted this service. Most of these main libraries are in effect actually book museums. Ample free parking for patrons and staff is not available. Evening hours are not available for working men and women. Professional searchers in Washington will no doubt oppose altering the status quo.

7. The indexing of patents should be dramatically improved. Patents are grouped by class and subclass but attempting to find into which subclass your invention falls can be frustrating. Translating common English into patent office language can also be very frustrating. For example a semi (ten wheel truck) may be found under "articulated land vehicle." Patent examiners and professional patent searchers are familiar with the terminology of their specialized areas but the average person will be unfamiliar with the history of a subclass that resulted in the terms used.

8. The president appoints patent commissioners. They should not be cronies totally ignorant of inventing, science, and modern technologies.

9. The long term effect of business monopolies should be intensely studied. Such monopolies are sometimes justified as lowering product costs by "economy of size." However, they often resist change due to new technologies. Ford and GM have completely failed to produce high mileage vehicles. In today's world we cannot tolerate the inertia of monopolies.

10. The patent office examiners should be more customer friendly. Inventors find some examiners are very helpful and others are not. Some inventors have complained about not understanding examiners with heavy foreign accents

Our history books are filled with the descriptions of the rise and fall of great nations. As they rise, magnificent art and wonderful innovations appear and then they fade away as the nations fall. We must not discourage innovations or we too will soon become a falling nation.

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