Bicentennial Celebration

When the First Federal Congress created a system of patent and copyright laws exactly 200 years ago, a wave of invention and intellectual creativity was unleashed that catapulted the United States onto the world stage as an economic power.

Thomas Jefferson said that "the issue of patents for new discoveries has given a spring to invention beyond my conception." Jefferson, an inventor himself, was head of the first Patent Board. And Abraham Lincoln's oft-quoted statement: "The Patent System added the fuel of interest to the fire of genius."

To celebrate the bicentennial of our patent and copyright laws, to focus attention on the contribution of patent and copyright laws to the growth of America and to honor inventors and writers, a series of symposia, banquets, receptions, exhibits, tours, shows and other commemorative events and programs were held.during a four-day international conference (the "Conference of the Century" or "Party of the Century") between May 8 and 11, 1990 in Washington, D.C.

President Bush commemorated the Bicentennial anniversary of the first U.S. patent and copyright laws with a proclamation calling on all Americans "to foster recognition of the importance of our patent and copyright systems through appropriate educational and cultural programs and activities during 1990, the bicentennial year of our nation's first patent and copyright laws."

On April 10, 1790, President George Washington signed the bill which laid the foundations of the modern American Patent System. Three years earlier, at Philadelphia, the Constitutional Convention had given Congress the power "to promote the progress of...useful arts by securing for limited times to... inventors the exclusive right to their...discoveries."

For 200 years the Patent System has encouraged the genius of hundreds of thousands of inventors. It has protected the inventor by giving him an opportunity to profit from his labors, and it has benefited society by systematically recording new inventions and releasing them to the public after the inventors' limited rights have expired.

The Patent and Trademark Office has recorded and protected the telegraph of Morse, the reaper of McCormick, the telephone of Bell, and the incandescent lamp of Edison. It has fostered the genius of Goodyear and Westinghouse, of Whitney and the Wright Brothers, of Mergenthaler and Ives, of Baekeland and Hall.

Under the Patent System, American industry has flourished. New products

have been invented, new uses for old ones discovered, and employment provided for millions. Under our Patent System a small, struggling nation has grown into the greatest industrial power on earth.

The Patent System is one of the strongest bulwarks of democratic government today. It offers the same protection, the same opportunity, the same hope of reward to every individual. For 200 years it has recognized, as it will continue to recognize, the inherent right of an inventor to his government's protection. The American Patent System plays no favorites. It is as democratic as the Constitution which begot it.

Today's Patent System is part and parcel of our constitutionally sanctioned market economy, which recognizes the existence of property and the right to own and alienate such property, and wherein the generation of profits is the major motivating force in the use and manipulation of assets and resources. Under our free enterprise system, the governmental policy has been to foster competition, so that products are made available to the consumer in the marketplace at the lowest possible price.

The statutory intendment was that society would benefit from new and improved products flowing from inventive activities, and from the early publication of inventions, while the inventor would be rewarded with the right to exclude others from the practice of his invention for a limited term. The potential profit to be derived from the period of such exclusivity was intended as an incentive that would be sufficient to insure investment of capital into research and new product development and the continuity of economic growth, that would result from such activities.

More History

When the colonization of what was to become the United States of America took place, the colonial governments enacted legislation providing incentives to establish or stimulate industries by awarding exclusive grants and various other types of benefits such as subsidies, loans, etc. Unlike the English patents of invention, which were royal grants and favors, the American versions were enactments by colonial legislatures of specific grants to individual inventors.

Massachusetts began issuing patents for inventions in the middle of the 17th century and in 1641 adopted what many consider to be the first general patent statute in America.

Most of the other colonial governments issued no patents for invention, exceptions being Maryland and South Carolina. The latter came close to establishing (by legislative enactment) a formal system of granting patents, even to providing for a special procedure for examining applications for

patents. In the 1740's efforts were made in South Carolina to introduce a general statute to protect inventors as an encouragement to their development and disclosure of their novel ideas, but the efforts failed.

It was in the period of the Confederation of the States, commencing in the 1780's, that patents of invention began to be issued with great regularity, apparently due to a strong need to stimulate domestic industry. To Pennsylvania goes the credit for granting what many persons consider to be the first patent in America which contained a written description of the patented invention.

By 1777, when the Articles of Confederation were drafted, Connecticut, Delaware, New Hampshire, and New Jersey joined in granting patents for varying terms and under various conditions.

On August 18, 1787, when the Constitutional Convention met in Philadelphia, it was presented almost simultaneously with separate and independent proposals concerning intellectual property, one by James Madison of Virginia, and the other by Charles Pinckney of South Carolina. Madison's proposals called for a national legislature "to encourage by premiums and provisions the advancement of useful knowledge and discoveries." Pinckney's proposals included the authority "to grant patents for useful inventions." Both proposals were accepted unanimously by the Convention, and referred to a committee charged with incorporating them into a draft of the Constitution. Madison credits Pinckney with the proposal that there be a national patent institution.

Less than three weeks after these proposals were presented (on September 5, 1787), David Brearley of New Jersey offered to the Convention an amendment to the emerging draft of the Constitution which involved the creation of a new federal power, one which had not even been suggested in the Articles of Confederation drafted in 1777. The new power, which was to protect the works of authors and inventors, was unanimously adopted without any recorded debate. It became the eighth clause of Article I, section 8 of the United States Constitution as ultimately adopted.

After the Constitution was ratified in 1788, the First Congress of the new nation convened on March 4, 1789 and almost immediately thereafter it began receiving proposals for statutes implementing the intellectual property clause in the Constitution. President Washington was soon presented with a bill which he signed--the first American patent law--on April 10, 1790.

This patent law was a milestone, not only for America but for all the world. For the first time in history the intrinsic right of an inventor to profit from his invention was recognized by law.

It was 43 years later on July 4, 1836, that Congress enacted a law which established the examination system for granting patents, and the requirement that to be patented the invention must be novel. A patent specification, drawing and model were made requirements of the application for patent. The patent term remained at 14 years, subject to a 7 year extension.

Succeeding statutes made further changes in the patent law. On March 2, 1861, the term of patents was changed to 17 years. Apparently, the 17 year term was a compromise between the basic 14 year term and the total of 21 years that was available when a 7 year extension was granted. In 1952 an Act was passed to codify all the patent laws in one statute.

In 1911 the 1,000,000th, in 1935 the 2,000,000th, in 1961 the 3,000,000th and in 1976 the 4,000,000th patent was issued. And in early 1991, the 5,000,000th patent will be issued.

Trail-Blazing Inventions

As the country grew and the population moved West, inventions and patents blazed the way for progress. John Deere's steel plow helped the pioneers to cultivate new fields, and Cyrus H. McCormick's reaper enabled them to harvest the grain and send some of it East to feed the growing population. Joseph F. Glidden's barbed wire invention made possible effective enclosure of large areas where cattle could graze and be herded for shipment to market.

Transportation, aided by the Conestoga wagon and the stagecoach, was accelerated by John Ruggles' improved locomotive and by better road beds. There came a time when the trains became longer and faster, and a serious problem of stopping them arose. It was then that George Westinghouse's air brake and later Eli H. Janney's automatic car coupler solved the problems by insuring safety. Came then the automobile, the bus, the truck, the airplane to open new ears of transportation.

As with transportation, so with communication. Patents made possible swifter dominion over space and time. These included Samuel F. B. Morse's telegraph, Alexander Graham Bell's telephone, Guglielmo Marconi's wireless telegraphy, Lee de Forest's vacuum tube which made radio possible, and Vladimir K. Zworykin's cathode ray tubes which made television possible.

Further to spur the economy there were patents in the mechanical industries, such as the sewing machine and the linotype; in the metallurgical field, such as aluminum and the Bessemer steel process; in the chemical field, such as plastics and synthetic fibers. In every field of endeavor patents came into

being to widen industrial horizons and to benefit the public at large.

So successful had the U.S. Patent System become even before its first century had ended that it won the attention of other countries. In 1876, a Swiss shoe manufacturer visited the Philadelphia Centennial Exhibition. Upon returning home, he had this to say:

> "I am satisfied that no people has made, in so short a time, so many useful inventions as the American, and if today machinery apparently does all the work, it nevertheless, by no means, reduces the workman to a machine. He uses it as a machine, it is true, but he is always thinking about some improvements to introduce into it, and often his thoughts lead to fine inventions or useful improvements."

So convinced was he that American progress centered on its Patent System that he urged his countrymen to follow suit. And in 1888 Switzerland did adopt a patent system.

At about that time, a Japanese Government delegation visited the United States and upon return to Japan reported, "We have looked about us to see what nations are the greatest, so that we can be like them. We said, What is it that makes the United States such a great nation? And we investigated and found that it was patents, and we will have patents."

Whole Industries Built on Inventions

When we say our Patent System lies at the very heart of the economic progress in our country, what do we offer as evidence?

As indicated above, it is the protection offered by patents that encourages entrepreneurs and private enterprise to invest in new research and product development, and it is on this investment foundation that whole industries are built. Charles F. Kettering, one of the country's leading industrialists and a distinguished inventor, illustrated this point when he said: "Industry has been very largely built up on inventions. Almost all industries, whether they are manufacturing a patentable article or not, have probably got their start by the use of either a patentable article or process for producing an article, or an improvement upon a patented process."

When Chester Carlson, inventor of the Xerography process of electrostatic copying, received the Inventor of the Year Award for 1964 from the George Washington University's Patent, Trademark, and Copyright Research Institute, he commented on the role of research: "I am both grateful and

humble in accepting this extraordinary honor. I am grateful because it signifies that the independent inventor is still recognized as an active force in American industrial life; and humble when I consider the large part, perhaps a major part, that organized research played in bringing my invention to perfection."

Edwin H. Land, an inventor in over 500 U.S. patents, has said, "I must emphasize that the kind of company I believe in cannot come into being and cannot continue its existence except with the full support of the Patent System". On another occasion Dr. Land told Polaroid stockholders, "The only thing that keeps us alive is our brilliance. The only way to protect our brilliance is our patents."

With respect to nylon and the world's first nylon plant, built in Seaford, Delaware about 1940 at a cost of $8 million. former DuPont Chairman Irving Shapiro noted a few years ago, "Now, 40 years later, nylon is made all over the world....More than three million people have jobs in the production of nylon textile and plastic products, and all of this traces back to a handful of key patents behind the invention and development of this one product."

It is manifest then that the industries which our inventors and their patents bring about are responsible for the creation of jobs. Tens of millions of American workers can trace their jobs directly to inventions; almost no jobs can be found that are not due, in some measure, to patented inventions put to use in industry.

The incomes resulting from these many jobs combine to form mass markets. Mass markets make possible mass production. Mass production results in lower prices, and these lower prices, in turn, invite mass consumption, with a continually rising standard of living.

Such then is the evidence that the Patent System lies at the heart of our Nation's economic progress. In speaking at a dinner marking the 175th anniversary of the United States Patent System, Secretary of Commerce John T. Connor gave specific examples to illustrate this point. He said: "Virtually our entire industrial machine has been built under the stimulus that the United States Patent System gives to the creation of intellectual property..."

> "From personal experience I know that the Patent System is responsible for the development of numerous drugs vital to our health and which have contributed materially to our increased life span. Nine out of ten

> prescriptions today call for drugs that did not exist in 1950. In sum, almost the entire history of our scientific and technological society can be written from the files of the U.S. Patent Office."

In an interview, Judge Giles S. Rich of the Court of Appeals for the Federal Circuit answered the question of whether our Patent Laws promote the progress of the useful arts as follows:

> "I think they certainly do. And I think that I might mention the way the incentives of the patent system actually operate. There are four of them. The first one is the incentive to invent, and I think that's the least important because people are going to invent anyway. The second one is that it is an inducement to disclose the invention to the public which is done when you file a patent application and get the patent issued, without which the invention might not be disclosed and be kept as a trade secret. And the third one, which I think is of the most important, is the inducement to invest risk capital to develop and promote the sale or use of the invention. There's a fourth one, which is a sort of backhanded thing, which is known usually as the negative inducement to "invent around" the potential invention. The issuance of a patent causes competitors of the patentee to devise still further ways of doing the same thing and that produces more inventions — more progress in the useful arts. So, in those four ways, I've been convinced all my life as a patent lawyer that the Patent system surely does promote the progress of the useful arts."

Presidential Commissions

In 1965 President Johnson appointed a Commission on the Patent System (consisting of 14 leading businessmen, scientists, engineers, inventors and lawyers) to review the U.S. Patent System, which had remained basically unchanged since a revision of the original system by Congress in 1836. Reporting in December 1966, the Commission said it had agreed unanimously that "a patent system today is capable of continuing to provide an incentive to research, development and innovation." The Commissioners added that they had "discovered no practical substitute for

the unique service" rendered by the system.

"Having satisfied itself as to the worth of a patent system, the Commission then undertook an extensive analysis of the many studies of the U.S. and foreign patent systems...(and) identified the following objectives:

1. To raise the quality and reliability of the U.S. Patent.
2. To shorten the period of pendency of a patent application from filing to final disposition by the Patent Office.
3. To accelerate the public disclosure of technological advances.
4. To reduce the expense of obtaining and litigating a patent.
5. To make U.S. patent practice more compatible with that of other major countries, wherever consistent with the objectives of the U.S. patent system.
6. To prepare the patent system to cope with the exploding technology foreseeable in the decades ahead." ("Report of the President's Commission on the Patent System", Government Printing Office, Washington, DC 1966, pp.2-4)

President Johnson, upon releasing the text of the Commission's Report, stated that "our patent system has been an integral part of America's development — has increased productivity — has stimulated economic growth — has enhanced the standard of living of all our citizens — has strengthened the competitiveness of our products in world markets."

Legislative proposals were introduced in Congress to enact these objectives but it was not until the 1980's that some of these proposals were passed by Congress.

Another President stated in his message to Congress on technology in this country:

> "We know, for instance, that a strong and reliable Patent System is important to technology progress and industrial strength. The process of applying technology to achieve our national goals calls for a tremendous investment of money, energy and talent by our private enterprise system. If we expect industry to support this investment, we must make the most effective use of the incentives which are provided by our Patent System." (Science and Technology Message of President Richard Nixon, March 16, 1972)

In 1978 President Carter also appointed a Presidential Commission and

directed it to review our federal policies as they impact upon innovation in the United States.

This Commission made the following five major recommendations:

1) upgrade the Patent and Trademark Office by increasing its funding,
2) provide for re-examination of patents at the bequest of any person,
3) found a specialized appellate court for patent cases,
4) reduce the cost of patent litigation, and 5) transfer patent rights arising out of government sponsored research to the private sector.

Although no concerted effort was made to embody these recommendations in Congressional bills, as was done under President Johnson, most have been enacted into law by now and have improved and strengthened our Patent System.

"Melman Report"

However, our Patent System did not always stand in high regard. Shortly after I entered the patent field in 1957, the famous (infamous?) "Melman Report" came out and I became concerned about the future of the Patent System and a patent career. Professor Melman had reviewed the Patent System for the U.S. Congress as had Professor Machlup and both came down hard on the Patent System (Both were noted Professors of Economics.)

Professor Melman answered the question whether the Patent System still fulfilled the Constitutional purpose of promoting "the useful arts," in the negative and added that in the future "the main impetus for promotion of science and the useful arts will come, not from the patent system, but from forces and factors that lie outside that system." (S. Melman, "The Impact of the Patent System on Research", U.S. Senate Study No. 11, Washington, Government Printing Office (1958) p.62)

And Professor Machlup's oft-quoted conclusion:

> "If we did not have a patent system, it would be irresponsible, on the basis of our present knowledge of its economic consequences, to recommend instituting one. but since we have had a patent system for a long time, it would be irresponsible, on the basis of our present knowledge, to recommend abolishing it." (F. Machlup, "An Economic Review of the Patent System," U.S. Senate Study No. 15 Washington, Government Printing Office

(1958) p.80)

In fact, Professor Machlup expressed the following extreme anti-patent view that "innovation continues even without patents so why grant monopolies when it isn't necessary?" (F. Machlup, id. p.44)

But the Patent System has survived Professors Machlup and Melman and other like-minded critics and is going strong indeed. Criticism of the Patent System, certainly from economists' quarters in industrialized countries, has essentially subsided.

Edwin Mansfield, Professor of Economics at the University of Pennsylvania and F.M. Scherer, Professor of Economics at Northwestern University, who have studied and written about our Patent System in more recent years, never have and never would have shown such strident anti-patent bias. On the contrary, as will be seen below.

No Better Alternatives

Studies of the proposals for alternatives to patents as incentives were made time and again but again the Patent System survived them as, in the final analysis, the very best and most viable time-honored alternative itself. For instance, another Congressional Study by Giligillan ("Invention and the Patent System", Joint Economic Committee, Washington, Government Printing Office, 1964) which the author ambitiously called a "first appraisal" of the Patent System, identified "15 or so rival institutions" and proposed additional ones, in particular a "new institution" which

> "would avoid almost all the shortcomings of the existing systems, and support invention much better than ever before, with unlimited funds, and guidance for social welfare, yet with direction by businessmen, through licensed, nonmonopolistic, semipublic trade associations, which would acquire universal membership through gaining control of all good patents, through being granted them on better terms than to non-cooperating inventors." (P.9)

But it is noteworthy that even this proposed "new institution" is based on patents and involves patent pools.

Mr. George Frost, an eminent patent lawyer and teacher, also scrutinized the various alternatives and finding them wanting concluded that it is "exceedingly doubtful that...intense research and new product competition would continue in the absence of a patent system" and that "patent system

incentives will have an important place in stimulating business enterprise to create technology and — perhaps more important — to apply." ("Patents & Progress", Richard D. Irwin, Inc., Homewood, Illinois, 1965, p.94) Incidentally, Frost had previously authored Senate Study No. 2 on "The Patent System and the Modern Economy" (Washington, Government Printing Office, 1957) and in it he stated — which is as valid today as it was then— that

> "It ought not to be necessary endlessly to defend the patent system against the stigma of 'monopoly,' when it is in fact a source of competition. It should not be assumed that every time an excuse is found to invalidate a patent, competition somehow necessarily benefits. It ought not to be necessary to indulge in endless argument over whether the patent laws or the antitrust laws ought to prevail when both serve the same end of maintaining competition and we should be looking for ways to make both more effective." (P.77)

More recently, Professor Dr. Carlos Fernandez Novoa of Santiago de Compostela, Spain has dealt with and rejected alternative systems (notably a governmental monetary award system) in his book "Hacia Un Nuevo Sistema de Patentes" (Towards a New Patent System) (Editorial Montecorvo, S.A. 1982). He concluded that "...the Patent System is the best system for promoting technological research that is compatible with a free market system." (P.32)

Economists Have Come Around

In addition to considerable criticism of the Patent System on the part of economists, complaints were the order of the day that the Patent System had really never been studied in depth to answer such questions as to whether the economic benefits derived from the Patent System outweighed its costs. However, in more recent times empirical studies and mathematical models have been made and have provided previously-absent evidence regarding the economic value of patents.

> "There is concordance among American economists and statisticians that patent numbers serve a useful purpose not only in gross terms as barometric indicators of trends, but also in more sophisticated settings to forecast commercial opportunities, evaluate R&D investment and assess the economic value of

> inventions and innovations. These results also support the economic value of patents in certain industries such as pharmaceuticals, where front end costs are high, the time lag between innovation and marketing is extraordinarily long, the Federal regulatory burden is heavy and entry by competitors cannot otherwise be impeded.
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> .....
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> (Thus,) developing techniques as well as increasing interest on the part of economists and statisticians who are skilled in researching and interpreting patent data are providing the wherewithal to demonstrate, on an industrial as well as a legislative basis, that the Patent System is alive and well." (L. Prusak, "Does the Patent System Have Measurable Economic Value?" 10 Quarterly Journal of the American Patent Law Association (APLA QJ) 1982, pp. 33, 34)

"Does more R&D lead to more patents? If so, is the relationship a 'tight' one, or is it quite erratic? Do some industries, or firms within industries, obtain substantially more patents per million dollars of R&D than others? And if so, why?" These are the questions investigated by F.M. Scherer in a study using patent data to help track the relationship between R&D and productivity growth.

His conclusions, drawn from exploiting "extraordinarily rich data" reveal that

> "industrial patenting is strongly associated with research and development. The probability that a business unit will receive any patents in a ten-month period is higher, the more R&D that unit does. The number of patents received varies nearly linearly with the amount of company-financed R&D performed. There are, to be sure, differences between industries and companies in the 'propensity to patent' — that is, in the number of patents received per million dollars of R&D expenditures. These

> differences are mostly industry-specific." (F.M. Scherer, "Research and Development Expenditures and Patenting", 10 APLA QJ 1982, pp. 60, 70)

Accordingly, it can now be stated confidently that patents

1. do have a great impact on research by disseminating information on advances in technology,
2. do promote the innovation process,
3. do encourage high risk investments which lead to industrialization,
4. do facilitate licensing and technology transfer, and
5. do have a significant influence on economic progress.

The Ideal Patent System

What kind of patent protection will provide the greatest incentives for 1.) research and development with the aim to achieve useful innovations; 2.) productive investments and 3.) national and international technology transfer? I submit that it will not be a patent system which is overly restrictive in terms of patentable subject matter and patent duration, on the one hand, and overly liberal in terms of compulsory licenses, forfeitures, and other sanctions for nonworking, on the other hand.

Rather, it will be a patent system that provides patent protection for the widest scope of subject matter categories especially in new and exploding fields of technology including software and in the field of chemistry not only manufacturing processes but also uses and applications, compositions and formulations, living organisms and, most importantly, chemical substances or compounds per se. (According to our Supreme Court "anything under the sun made by man" is patentable (Diamond v. Chakrabarty, 206 USPQ 193, 1980). Patent protection for processes of manufacturing chemicals is inadequate even with the legal safeguard of the reversal of the burden of proof because it is so easily circumvented and because it places emphasis on the development of new processes to make known products rather than synthesis of new substances.

It will also be a patent law that does not envisage sanctions for nonworking, such as compulsory (exclusive) licenses and premature forfeiture or revocation. Such a patent law will also provide for efficient prosecution procedures and for effective and prompt enforcement of patent rights against infringement including also contributory infringement.

Furthermore, a patent system that provides adequate incentives for research and development, investments and technology transfer, is one that is not niggardly when it comes to the duration or life of a patent, that is to say, one

that will provide at least, or ideally much more, than twenty years, from the filing date.

A Golden Age

At the present we live in a golden age for patents and the Patent System where patents are ever so much more valuable and enforceable. It was ushered in by the Court of Appeals of the Federal Circuit (CAFC) which went into operation on October 1, 1982 and is a very special institution in our Patent World. The CAFC is a combination of the former Court of Customs and Patent Appeals (CCPA) and Court of Claims and was formed to assume sole jurisdiction over appeals in patent cases from all federal district courts as well as to retain jurisdiction for appeals in patent and trademark cases from the Patent and Trademark Office. It was intended by this action to harmonize the varying bodies of law developed in the different Circuit Courts and to eliminate forum shopping.

Due to the existence of the CAFC our Patent System has been revitalized. Patents are indeed more valuable and the courts "read the riot act" to infringers. This, of course, is good news to any patent holders be they large or small, and to R&D-minded companies and entrepreneurs alike. And this is proclaimed by such general business periodicals as "Fortune", "Dunn's Business Month", "Chemical Week"and "Business Week" which had articles in recent issues with such titles as "The Surprising New Power of Patents", "Patents: Potent Weapon for High Tech Companies", and "Washington's Pro Patent Court".and "The Battle Raging over Intellectual Property". The "Fortune" article about the surprising new power of patents carried the following interesting byline.

> "Thanks mostly to a new appeals court, patent holders are winning many more suits against infringers. Damage awards have driven some defendants close to bankruptcy. Companies with patents are going on the offensive; infringers had better rethink."

These articles point out in a "then and now" comparison that before 1982 trial courts held patents invalid more often than not, normally assessed only "reasonable-royalty" damages and rarely granted injunctions or double or treble damages so that it literally paid off to infringe.

Now the situation is drastically changed, mostly due to the CAFC but also due to more patent legislation and less antitrust enforcement. Many more patents are upheld and penalties for infringement have become severe. Nowadays, "patents create a formidable defense which may crush patent infringers with actual and even treble damages, post-infringement interest,

attorney's fees, legal costs and a permanent injunction." (Trade Secret Reporter, p.33, June 1986)

Patents and the Public

Even though I have focused on the inventor as he works singly or as a member of an industry, university, research institution, or government team it must be remembered that the successful operation of the Patent System is dependent not alone on the skill and genius of the inventor but also on the capital, that is, the money which makes possible the production and marketing of the patented product or process and the management which has been supplied by the entrepreneurial interest which assumes the financial risks involved.

The coalition of these three basic interests ,namely, skill, money, and management works in our competitive free enterprise system for the benefit of the general public, and because this is true, it is not by accident that the strongest Patent System in the world is located in the strongest Nation in the world. And this has been true since the beginning our our country.

In addition, it should not be overlooked that patent documents provide unique technical information that can be invaluable to both industrial researchers and industrial policymakers. Over 80 percent of all U.S. patents cover technology that is not disclosed or only partially disclosed in the nonpatent literature. This absence of other disclosure makes patents a vital resource of technological information. Such state-of-the-art information is essential to U.S. industrial researchers working to advance the technological frontier or to find alternative solutions to technical problems. Industry policymakers also rely on information about current technological developments. Patents reveal which nations and corporations are developing new technologies and allow U.S. companies to assess international competition and to make better business decisions domestically and abroad.

Rewards of Performance

From a review of the operation of the U.S. Patent System, it becomes manifest that it has brought — and continues to bring — rewards both to the inventor and to the public.

In return for the 17-year protection period which his country affords him, the inventor — or his company — can afford to invest time, labor, equipment, and money in his project because he knows that during this period, no one else, without incurring a liability for infringement of the patent, is free to copy his brainchild. In return for this protection, the inventor discloses his invention in a patent that anyone else may study, gain ideas of his own for

improving upon it or for improving a similar or different inventive concept of his own.

No wise American will boast that our Patent System operates perfectly, but it has achieved much over the past 200 years. Among its many contributions, it has operated to protect the individual and small business concerns during the formative period of a new enterprise. With its encouragement of and reward to American inventiveness, it has produced new products and processes which have placed the U.S. in the forefront in scientific and technological progress. It has aided our national defense, transportation, and communications, and is now encouraging science and technology to solve new problems It has contributed to the improvement of health and the public safety. Finally, the Patent System has helped to bring about the highest standard of living the world has ever known.

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