

Chapter 1

THE ORIGIN AND DEVELOPMENT OF THE AMERICAN PATENT SYSTEM

This chapter presents a survey of the historical background of the American patent system and, at its conclusion, raises serious questions as to whether that system is currently either performing effectively the original historical purposes or meeting the needs of the present.

"Oysters stuffed with honey" may sound like a gastronomic nightmare. To the authorities of the Greek colony of Sybaris [1], some five hundred years before Christ, however, it may well have been "an unusual and peculiar dish" that no one had the right to prepare and serve for a one-year period but the cook who originated it.

This official invitation to indigestion is one of the earliest recorded instances of a grant paralleling somewhat our concept of a patent granted for an invention. The policy of grants of numerous different kinds by the state to individuals who had deserved well at its hands was inherited by medieval Europe from early times. Rome, for example, had rewarded her military heroes with triumphal processions, and had parceled out to them her conquered lands, upon which they might levy taxes. English monarchs exercised the prerogative of granting a right, franchise, charter, commission, office, monopoly, or the like—for example, a title of nobility or permission to explore the New World. They did so in each case through the medium of a document addressed "To all to whom these presents shall come," an open document termed "Litterae Patentes" or Letters Patent—letters openly recorded in the Patent Rolls.

That the English king had good reason for granting at least some kinds of letters patent, under proper circumstances, can be understood from the following considerations. Medieval Europe was a barbarous or semibarbarous territory, not far removed from savagery. Industry and trade were in a precarious condition. The nobles, not only in England but also on the Continent, as rulers supreme in their particular domains, demanded tolls from all who passed through their territories. They could do this, uncontrolled by their supposedly superior monarchs, by fortifying themselves on hillsides and other places of advantage. Not

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until the invention of gunpowder were these monarchs able to bring their nobles under subjection.

The trade of those days was conducted by merchants who traveled from country to country through the domains of various nobles. Because the merchants were subjected to great expense and risk in the carrying on of their business, they were compelled to charge very high prices for the goods that they introduced for sale in Europe. Many articles were expensive luxuries beyond the reach of all but the very wealthiest.

The Crusades, beginning in the eleventh century A. D. and continuing for several centuries more, brought the Europeans into contact with the Saracens, at that time a comparatively highly cultured people. They had developed the arts and were skilled in such sciences as algebra and astronomy, the very word "algebra" coming from the Arabic.

Upon returning to their homes, the Crusaders carried with them much that they had found in the East, including knowledge of various arts and industries. Italian city-states, such as Genoa and Venice, the most powerful groups of their day, developed as a direct result of their proximity to the East. They prospered because of the trade that they had built up between the East and the West. In order to have something to sell, in return for the goods they obtained in the East, they stimulated new arts and industries by granting monopolies to favored individuals who were willing to take the risks involved. Early grants are reported for grain mills, and in 1474 the Venetian Senate voted the first of all patent laws applying to all classes of invention. This law forbade infringement for a term of ten years, but gave free access to the government, provided that the latter dealt with the inventor and did not permit others to employ the invention in the government's behalf [2].

To protect their trade and the industries they had established, European merchants banded together for common defense and organized their own armies and navies. During the late Middle Ages they became quite powerful, as the Hanseatic League attests. Not until several centuries later, when new trade routes were opened up after the discovery of the New World, were the Italian city-states reduced to their present status as subdivisions of a larger nation.

But the Italian cities were not the only communities thus benefited. The goods and skills germinated by this trade with the East gradually spread over the whole of Europe. Because England was the farthest west and physically separated from the continent, it was not in the most favored position to secure these advantages, which the other states often guarded jealously. To overcome these disadvantages the English monarchs adopted the continental practice of granting patents, usually to foreigners, giving them

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for limited periods of time the exclusive right to carry on such new industries as, in consideration of the grant, they agreed to import into the realm.

In this way the cloth industry was introduced into England. In 1331, Edward III granted a patent to John Kempe of Flanders, weaver of woolen cloth, and in 1336 to Brabant weavers. In 1440, one was issued to John of Shiedame to enable him to import a newly invented process of manufacturing salt [3]. The Tudors, successors of Edward IV, attracted skilled foreign artisans by negotiations—German armorers, Italian shipwrights, Normandy glassmakers, and French iron workers [4].

Patents were also given to individuals and companies for other services to the state, to induce them to embark upon commercial or other ventures involving risk. Among these were the East India Trading Company, chartered by Queen Elizabeth I, and the Hudson's Bay Company, still very much a commercial force in Canada, chartered by her immediate successor.

In the then relatively undeveloped state of industry and commerce, patents of this nature were undoubtedly necessary for the good of the realm and the well-being of its subjects. The objects sought thereby were: first, domestic supply of foreign, high-priced goods which would reduce their cost and consequently encourage their wider use; and, secondly, employment for English workmen in the new industries thus established. Some of the patents, indeed, specifically provided that English apprentices be employed.

Gomme, late librarian of the British Patent Office [5], for example, quotes from the 1449 patent granted by Henry VI to John of Utynam. "... to instruct divers lieges of the crown in the art of making colored glass." It is reported [6] that the precipitating cause of this patent grant was the requirement for colored windows at Eton College.

Much later, the Court of the King's Bench clearly enunciated the rationale of such patents:

But if a man hath brought in a new invention and a new trade within the Kingdom, in peril of his life, and consumption of his estate or stock . . . or if a man hath made a new discovery of anything, in such cases the King . . . in recompense of his costs and travail, may grant by charter unto him, that he only shall use such a trade or trafique for a certain time, because at first the people of the Kingdom are ignorant, and have not the knowledge or skill to use it [7].

But beneficent measures are frequently attended by abuses. In granting their patents, the English kings did not always consider whether or not these conferred benefits upon their subjects.

The latter's revolt against King John at Runnymede, in 1215, resulted in the famous Magna Carta. The monarch there had to

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agree that merchants were not to be prohibited from engaging in trade, "if they were not openly prohibited before." This suggests no upsetting of current patents in trade, but restrictions on the monarch's power to grant further patents in existing trades.

The Magna Carta was not the only contract that the English kings made with their subjects. History shows, however, that the monarchs regarded these agreements much as some nations today regard treaties. When, under force of circumstances, kings were compelled to submit to greater force, as in the case of John at Runnymede, they signed anything that was put before them; but, as soon as the danger was over, they forgot their promises and acted as though they had never given them.

In their endeavors to raise money, to reward favorites, and for other reasons, succeeding English monarchs thus granted many patents that became burdensome to the people. One person would be given the exclusive right to engage in a certain industry, such as tanning; another to trade in soap, salt, starch, saltpeter, leather, paper, or glass; another to buy and sell iron or steel; and still another to import certain articles; and so on. Sometimes the monopoly covered trade in all England; at other times, the sale of a particular article in a particular region. As the activities so monopolized had previously been free to the public, the only result was to raise prices which must be paid by the many, that the favored patentees might be enriched.

In the fall of 1601, in response to protests, Queen Elizabeth I proclaimed that if any of her subjects felt aggrieved or wronged by reason of any of these patent grants, he could test the validity of the patent in the Court of Queen's Bench. The very next spring, 1602, one Edward D'Arcy brought suit for infringement of his patent grant for making and importing playing cards. The justification for the patent grant had been based upon grounds of public policy, that unless the grant existed subjects who might better "go to plow did employ themselves in the art of making cards [8]." This is the famous Case of Monopolies. Though the court held the monopoly on playing cards to be invalid, the case has come down the ages as recognizing the existence of something most important, namely the line of division between what is proper and what is improper subject matter for a patent "monopoly." To quote from the decision,

Where any man by his own charge and industry or by his own wit or invention doth bring any new trade into the Realm or any Engine tending to the furtherence of a trade that never was used before; And that for the good of the Realm; That in such cases the King may grant to him a monopoly patent for some reasonable time until the subjects may learn the same, in consideration of the good that he doth bring by his Invention to the Commonwealth; otherwise not.

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This has been the law in England up to the present time. One can still obtain a patent in Great Britain, not merely for an invention that he has made, but also for a new article or idea imported from outside the realm.

Notwithstanding the D'Arcy decision, the very next monarch, James I, who ascended the throne in 1603, granted more monopolies than ever, including some for silk and even inns. The cry against harmful monopolies in Great Britain accordingly grew in vigor, until, finally, by the Statute of Monopolies in 1623, Parliament deprived the sovereign completely of this prerogative.

The Statute of Monopolies made an exception, however, in favor of patents for inventions—the very same exception that the judges had indicated in the D'Arcy case, and which was really, in effect, declaratory of the common law, i. e., that no special privilege would be granted except for "... any letters patent and grants of privilege for the term of fourteen years or under hereafter to be made of the sole working or making of any manner of new manufacture within this Realm to the true and first inventor and inventors of such manufactures which others at the time of making of such letters patent and grants shall not use so as also they be not contrary to the law nor mischievous to the State by raising prices of commodities at home or hurt of trade or generally inconvenient [9]."

Both the English and the American laws of patents [10] come directly from this special exception for inventions, and the very provision quoted above still exists as Section 5 of the present British Statute of Monopolies.

The American colonists were fully acquainted with patents, and knew their value under certain circumstances, as set forth in the Statute of Monopolies. Like the mother country, several of the colonies, prior to the Constitutional Convention, had granted patents in the endeavor to introduce industries. The patents were not necessarily for new inventions, but sometimes for old industries, if brought in from abroad, and also for fostering those struggling for survival. The encouragement of industries was achieved not only by the grant of monopolies in special enactments of the local legislature, corresponding to the English grants from the Crown, but also through the medium of premiums, bounties, and the like.

Fully aware, when granting these perquisites, of the monopolistic evils in the country whence they had come, the colonists took precautions against a repetition of those evils. For example, the Massachusetts General Court (the colonial legislature) in 1641 enacted that "There shall be no monopolies granted or allowed among us, but of such new inventions as are profitable to the country, and that for a short time." Connecticut had a similar provision. Massachusetts, Connecticut, Virginia, South Carolina, New York, and other colonies granted a number of patents covering different methods of making salt, some invented and others

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imported, and sometimes on condition that saltworks be established within a limited time. Similar patents covering the exclusive manufacture of other articles, and often on similar conditions, were granted by the colonists. These included the manufacture of iron and of machinery, a sawmill, a grain mill, and a tobacco pipe factory.

The first patent granted by the Massachusetts General Court, pursuant to the enactment of 1641, was one to Samuel Winslow (1641) for a novel method of making salt. The first machinery patent granted by the same body was to Joseph Jenkes, in 1646, for a scythe-manufacturing mill. In 1667, Massachusetts offered a fifteen-year monopoly to anyone who would build a dry dock, and, the offer apparently not proving sufficiently attractive, the term of years was increased in the following year to twenty-one. Several of the colonies continued to grant patents, even after they became states upon the adoption of the Constitution. New York, for example, issued one to Livingston and Fulton covering the exclusive right to operate steamboats in New York waters, a patent later annulled by Chief Justice Marshall as being in violation of the interstate-commerce clause of the Constitution.

The delegates to the Constitutional Convention in 1787, fully familiar with all the circumstances, desired to provide the new nation with the benefits of a patent system. Both James Madison of Virginia and Charles Pinckney of South Carolina, therefore, proposed that Congress be given certain powers in that direction. Madison's proposal was that it should have power: "To secure to literary authors their copyrights for a limited time. To encourage by premiums and provisions, the advance of useful knowledge and discoveries."

Parenthetically, the Atomic Energy Commission is doing the very thing today that Madison suggested so long ago [11]. Certain types of inventions dealing with the production of fissionable material and atomic weapons cannot be patented under the exclusion provisions of the Atomic Energy Act. An inventor may, however, make a claim for remuneration for his contribution, and, under certain standards that have been set up, may be awarded a sum of money by the Commission. From a study of the unclassified awards and experience with the AEC, some authorities believe that the Constitutional founders were most wise in rejecting Madison's proposal. They are convinced that the failure of the nuclear program to get off the ground more rapidly and extensively, in the way and to the same degree that our free-enterprise inventive efforts with other nongovernment-controlled programs have historically blossomed for the common good, may be due, in part, to the inadequacy of this kind of so-called incentive.

Charles Pinckney disliked Madison's proposal that the government should evaluate and pay out sums of money for inventions. His own proposal was that Congress should have the power "to

grant patents for useful inventions. To secure to authors exclusive rights for a certain time." (*Italics mine.*) Under this concept, the competitive industrial marketplace would determine the value of an invention.

As it emerged from committee and as adopted by the Convention, the Constitution provided, and still provides, in Article I, Section 8, that Congress shall have power: "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."

Pursuant to this provision, Congress could have granted to a person who makes a scientific discovery the exclusive right to his own discovery. The Constitution uses the words "Science," "exclusive right," "discoveries [12]." As will be made evident, however, Congress has provided for exclusive rights only in cases of certain kinds of advances and not for scientific discoveries per se.

This provision is the only one in the whole Constitution which relates to the creation of private property rights and was intended to promote the progress of science and the useful arts. It rested on the great tradition and philosophy of our capitalistic system—the granting of limited protection to the individual in developing ideas for the benefit of the many.

Nothing, it will be noted, is said in this provision about granting patents as such. The word "securing" is used instead. Madison later explained, in the Federalist papers, that, though the word "securing" was appropriate only in connection with copyrights, which had been recognized as a natural property right at common law, there was no reason why the same principles should not apply to inventions: "The right to useful inventions seems with equal reason to belong to the inventors. The public good fully coincides in both cases with the claims of individuals."

Jefferson, however, declined to accept the view that inventions belonged to inventors as a natural right. He felt that they were for the benefit of the whole society.

After the adoption of the Constitution, President Washington recommended legislation in furtherance of this constitutional provision, and a statute was enacted by the very first Congress, in 1790. The founders of the Union thought the matter so important that they provided therein that the Secretary of State (Thomas Jefferson), in collaboration with the Secretary of War (Henry Knox of Massachusetts) and the Attorney General (Edmund Randolph of Virginia), should examine all patent applications, and that the President and the Secretary of State should personally sign the patent grant. That body of three eminent men, Jefferson, Knox, and Randolph, in effect constituted the first Patent Office of this country, with Jefferson the first patent examiner, commissioner, and lawyer. Washington, Jefferson, and Randolph signed the first patents.



To all to whom

Whereas several Applicants of Letters of Patents, in the making of Acts and new Inventions, in a former Year, by signing or writing letters which they considered as Letters of Patents, have been a long time, for a quantity of years. These are therefore, in the said Administration, to obtain the said Letters of Patents, of the said Government, in the Year of 1790.

City of New York July 30th 1790.
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The United States.

To all whom these Presents shall come, greeting.

Whereas Samuel Hopkins of the City of Philadelphia and State of Pennsylvania hath discovered an improvement, which he claims as his own, in the making of Pot ash and Soda ash by a new process and Method, that was first in the making of Pot ash 1st by having the new Ashes on a Furnace 2^d by distilling and boiling them in a certain Manner, 3^d by drawing off and washing the ley, and 4th by boiling the ley into salts which show on the face of the Pot ash, and also in the making of Pot ash by having the Pot ash as made as aforesaid, which Operation being therein advised a Taxman, propounding to them Questions, and being in answer, as now, hereunto Answered, and producing a new and good way of doing the said Operation, he has administered and taken, for the Term of fourteen Years, Months and sixteen Days, and being of the age and maturity of the said Operation. In Testimony whereof, He has caused these Letters to be made, passed, and the Seal of the United States to be hereunto affixed, Given under my hand at the City of New York the thirty first Day of July in the third of our said most Excellent Majesty.

J. Washington

City of New York July 31st 1790.

I do hereby certify that the foregoing Letters patent were delivered to me in pursuance of the Act entitled "An Act to regulate the Privilege of useful Arts": that I have examined the same and find them conformable to the said Act.

Edm. Randolph Attorney General for the United States.

Delivered to the author named Samuel Hopkins the thirty first
of August 1790

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Figure 1. The first United States Patent Grant, July 31, 1790. (Reproduced from the original in the collection of the Chicago Historical Society.)

Jefferson, though opposed to all forms of monopoly, and at first including patents in this category, was compelled as a result of his experience to state that the patent law gave "a spring to invention beyond my conception," and that, therefore, "nobody wishes more than I that ingenuity should receive a liberal encouragement [13]."

Before a patent could be issued under the law of 1790, it was necessary that the application be carefully examined to determine whether the purported invention, in the terms of the statute, was "before known or used" and whether it was really "sufficiently useful and important" to warrant the dignity of a patent grant. Before three years had elapsed, however, the "sufficiently useful and important" condition was removed from the statute, and

patents were issued by mere registration and not by examination; but the matter was still under the auspices of the State Department. Chaos followed—frauds, vexatious litigations, multiple conflicting patents, and so on.

At the urging of Senator John Ruggles of Maine, some forty-odd years later, the "American" system of granting patents only after examination was reinstated by the Patent Act of 1836, and the Patent Office was reorganized and established as a separate bureau of the State Department, with the bureau chief formally titled commissioner of patents. The Patent Office was subsequently transferred to the Department of the Interior, upon the latter's establishment in 1849; and later, in 1926, it was given its present status in the Department of Commerce. There has long been, and still is, agitation for making the Patent Office an entirely separate executive branch [14], perhaps with expanded functions more suited to current national needs. But such expanded and modernized functions still seem to fit in the responsibilities of the Department of Commerce.

Conclusion

It is important to note that the historical purposes that lay behind our patent system were primarily concerned with the matter of innovation and not bald invention alone.

The object was not merely to grant patents; rather it was to encourage the few inventive minds among us to take the risks inherent in introducing new products and arts or processes into the stream of commerce, for the ultimate benefit of the many. This encouragement took the form of a contract: the sovereign offering the inventor limited protection against copying in return for the publication of the details of his invention; and it rested upon the theory, now ironically applied more effectively by the Soviets than by us, that rewards to the individual benefit the public at large.

An additional purpose was to prevent, through the publication of inventions in patents, a recurrence of loss of arts such as had happened formerly when knowledge was handed down from father to son secretly.

But whether today's patent system in America, its administration and its treatment by the judiciary, is an effective stimulus to innovation, has become a question of the utmost importance and urgency.

Does the system offer that kind of security to the inventor and his backers that stimulates ready embarkation upon the risky road of innovation?

Do its rewards stimulate the myriad engineers who, as a condition of their employment in much of industry and government, have assigned to their employers all their rights to any inventions they may make?

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Has its use in certain large corporate quarters been reduced largely to defensive and cross-licensing needs, as distinguished from protecting an exclusive position as a stimulus to innovation?

Are we today really worried about "lost arts"?

Does the system promote the progress of useful military, nuclear, and space arts?

In short, has our patent system been largely reduced in many fields to the granting of papers with red seals—mostly form and little substance?

Footnotes

1. Athenaeus; The Deipnosophists, (3 Vols.), C. D. Yonge, Ed., Bohn's Classical Library, 1854, p. 835.
2. This statement is based on information given me by some British patent lawyers who remembered hearing a paper entitled, "The Early History of Patents for Invention," given by M. Frumian before the Chartered Institute of Patent Agents in England sometime in the 1930's.
3. A. A. Gomme, Patents of Invention, Longmans Green and Co., 1946, p. 12.
4. Journal of the Patent Office Society, Vol. 18, pp. 21ff. (1936).
5. A. A. Gomme, Patents of Invention, p. 12.
6. H. Hardin, Patent Office Centenary, Her Majesty's Stationery Office, 1953, pp. 21, 34.
7. 78 Eng. Rep. 148 (Clothworkers of Ipswich, King's Bench, 1615).
8. D'Arcy v. Allen, 11 Coke 86 (1602), known as the Case of Monopolies.
9. Statute of Monopolies, 21 Jac. I, C. 3 (1623).
10. Kendall v. Winsor, 21 How. 322, 327, 328; Motion Picture Co. v. Universal Film Co., 243 U.S. 502, 510, 511.
11. 42 U.S.C. 2187 (Sec. 157). (The abbreviation U.S.C. refers to the United States Code—a collected body of federal law.)
12. There is great doubt whether this word "Science" as used in the Constitution, meant what we mean today. My own study leads me to the conviction that the term "science" in the constitutional sense, was used, rather, with philosophical and literary concepts primarily in mind.
13. In a letter to Oliver Evans, May 2, 1807, as given in The Writings of Thomas Jefferson, A. E. Bergh, Ed., 1907, Vol. 5, p. 74.
14. Journal of the Patent Office Society, Vol. 40, pp. 10-17 (1958).

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