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INTRODUCTION.

**OF THE ORIGIN AND NATURE OF THE MONOPOLY SECURED
TO INVENTORS BY THEIR LETTERS PATENT,**

AND OF

**THE HISTORY AND DEVELOPMENT OF THE PATENT SYSTEM
OF THE UNITED STATES.**

VOL. 1. — 1

TREATISE

ON

THE LAW OF PATENTS.

INTRODUCTION.

CHAPTER I.

OF THE ORIGIN OF THE MONOPOLY SECURED TO AN INVENTOR BY LETTERS-PATENT.

§ 1. Monopolies in General.

Historically, the patent systems both of England and America had their origin in those royal grants by which monopolies in trade or manufacture were conferred on a few favored subjects of the British crown. A monopoly is a franchise created by the Government, and vesting in an individual or corporation the exclusive privilege of practising a certain art, or of making, using, or selling a certain article, which, but for such monopoly, all other individuals and corporations would be at liberty to practise, or to make and use and sell.¹ In the infancy of European commerce, when all mercantile enterprises were attended with great hazard either of life or capital, these exclusive privileges were bestowed by different

§ 1. ¹ "Monopoly" (from the Greek *μόνος*, *alone*, and *πωλέομαι*, *to sell*) signifies "the exclusive right to sell." Such rights were claimed and exercised both among the Greek and Roman merchants, but without the authority of their governments (Godson, 2). Under the English kings these rights were granted by public letters, authenticated by the Great Seal, addressed to the people at large. From the Latin name of these letters,

"*literæ patentēs*," is derived the word "patent;" a title now applied to many other forms of public grant, as well as to that of the exclusive right to practise an invention. The bestowal of a monopoly by the government, under this system, not merely creates an exclusive privilege, but enables its possessor to protect and defend the rights which it confers. Phillips, 1; 2 Bl. Com. 346.

monarchs upon particular cities in order to induce them to embark in those important undertakings. When trade increased, other monopolies were obtained by the same cities as rewards for service rendered or money furnished to the State; and in this manner nearly all commercial operations eventually became restricted to these incorporated bodies, and were carried on under the protection of these exclusive grants. Associations of trading cities, for their mutual advancement and defence, were also formed, in some instances assuming such proportions and exercising such political authority as to become formidable rivals of the sovereign power.²

§ 2. Continental Monopolies : The Hanseatic League.

The most famous of these ancient civic combinations was that of the Hanse towns, now generally known as the Hanseatic League.¹ This association was organized about the middle of the thirteenth century, by the trading towns of Northern Germany, for the protection of their commerce from the rapacity of princes and from the depredations of marauders, whether on land or sea. At one period it embraced eighty-five cities, grouped in four great societies, whose respective heads were Lubec, Dantzic, Brunswick, and Cologne. It possessed a regularly constituted government, and an established system of finance and administration. Its affairs were managed by a diet, in which each town was represented by its deputies, and which assembled once in every three years. Such were its resources that in A. D. 1428 it equipped a fleet of two hundred and forty-eight ships, carrying a force of twelve thousand soldiers, against Eric of Denmark. It maintained factories at London, Bruges, Novogorod, and Bergen, and was allied by treaty with the principal trading cities of Holland, France, Italy, and Spain. It created centres of industry and civilization in various parts of Northern Europe, opened new channels of communication by its highways and canals, and often rendered signal services to the monarchs in whose realms its agencies had been established. In return

² Godson, 2-5.

§ 2. ¹ Hallam, Middle Ages, chap. ix. part ii. ; Encyclopædias, *in loc.*

for these services its factories were endowed, by royal grant, with special privileges, in which every merchant belonging to a Hanseatic town participated. During the fifteenth century, however, it became involved in controversies with different sovereigns, by whom the privileges theretofore enjoyed by it were transferred to the trading cities in their several dominions; and its merchants were compelled to reside within their native towns in order that their own governments might receive the benefit accruing from their capital and skill. From this time its importance gradually declined, until in A. D. 1630 the greater number of the cities withdrew from its allegiance.

§ 3. Early English Monopolies: the Guilds.

In England trade became an object of royal solicitude at a very early period. By a law of Athelstan (925-941) every merchant who had made three voyages beyond sea was entitled to the dignity of "thane." The formation and development of towns, as the centres of domestic traffic, were encouraged by the grant of special privileges; and from the time of William Rufus there was no reign in which political immunities or commercial franchises were not bestowed upon them.¹ The guilds, which had originally been clubs for religious, charitable, or social purposes, and were common throughout the kingdom, allied themselves together in the towns, and forming a body, known as the "merchant guild," applied themselves to commerce, procured numerous monopolies from the crown by purchase or otherwise, and finally engrossed the local trade. As this "merchant guild" increased in wealth and influence, it devoted itself to the more extensive and lucrative enterprises, while the lesser tradesmen associated themselves in "craft guilds," and obtained royal charters conferring upon them the power to regulate apprenticeships, to fix the hours of labor and the rate of wages, to exclude competition, and to confine to their own bodies certain industrial pursuits as well as the minor branches of commerce. In the struggle which sprang up between the merchant guilds and

§ 3. ¹ Hallam, Middle Ages, chap. viii., part iii.

craft guilds, and which continued during several centuries, the latter slowly encroached upon the privileges of the former, and becoming larger partakers of the royal favor gradually secured the control of trade.²

§ 4. **English Monopolies from A. D. 1261 to A. D. 1551.**

Until the reign of Edward VI. (A. D. 1551) the foreign commerce of England was almost entirely in the hands of strangers. These were principally citizens of the Hanse towns, who had been encouraged to settle in London by Henry III. (A. D. 1261), and had by him been erected into a corporation, endowed with many privileges, and exempted from various obligations imposed on other aliens. During three centuries these "merchants of the Steel-Yard," by loans of money and other services, maintained themselves under the favor and protection of the crown, and virtually monopolized the maritime trade of the whole country. In A. D. 1551 their privileges began to be recalled, and from thenceforward foreign commerce came more and more under the control of the English merchant companies, on whom monopolies of the same character were liberally bestowed.¹

§ 5. **English Monopolies : the Growth of Abuses.**

At the same period a change appears to have taken place in the terms on which, and the purposes for which, these monopolies were granted. Anciently, a monopoly was conferred directly on the merchant or trading corporation by whom it was to be enjoyed ; and the motive of the grant, in theory at least, was to induce the grantee to engage in trade. This theory of the motive of the grant soon became so far modified as to permit the consideration of the franchise to consist, wholly or in part, of money paid or service rendered to the sovereign. But now monopolies were given by the crown to individuals, who had no intention to employ them otherwise than by selling them to others at as high a price as possible. Rulers rewarded their favorites with these gifts, which, though costing

² Green's History of the English People, bk. iii., chap. i.

§ 4. ¹ Hume, chap. xxxv.

the giver nothing, were of great value in the market, and bestowed on their purchaser the power to impose the severest burdens on his fellow-subjects. By this process the last remains of free competition, both in domestic and foreign commerce, were speedily destroyed, and English trade, in almost all commodities, was confined to a few citizens, who fixed whatever price they pleased upon the exports and imports of the nation.

§ 6. Monopolies under Elizabeth: Resistance against Abuses.

This evil reached its height under the reign of Elizabeth. It was the policy of that illustrious monarch never to call upon her people for supplies unless necessity compelled it; and as a means of raising money for herself, as well as of bestowing favors on her courtiers and servants, these exclusive privileges were multiplied by her until the most common articles of consumption, such as salt, iron, powder, vinegar, bottles, saltpetre, oil, starch, and paper, were brought under the control of the monopolists. The advance in the prices of all these commodities was enormous, — salt, for instance, which had sold at sixteen pence a bushel, being held at fourteen or fifteen shillings. At the same time, to protect monopolists in the enjoyment of their privileges, they were endowed with arbitrary powers of searching the stores and habitations of those who were suspected of infringing upon their rights, and of collecting heavy penalties from them when found guilty. Against these grievous burdens Parliament rebelled in A. D. 1601, and a bill abolishing monopolies was introduced and advocated in the House of Commons. In the midst of the discussion a message was received from the queen, in which she promised to withdraw the most oppressive of these privileges, and the proposed legislation on the subject was abandoned.¹

**§ 7. Monopolies under James I.: their Abolition in A. D. 1623
by Stat. 21 Jac. I.**

The slight relief thus extorted from Elizabeth was followed in the reign of James I. by the complete deliverance of the

§ 6. ¹ Hume, chap. xlv.

English people from this tyrannical dominion of monopolists. Upon his accession in A. D. 1603 this prince had voluntarily rescinded all the exclusive privileges by which his predecessor had attempted to restrict domestic commerce. The foreign trade, however, still remained under the control of the great merchant companies, comprising in all about two hundred citizens of London, who by combining among themselves raised or lowered the prices of all exported and imported articles at their pleasure. From time to time, during the ensuing twenty years, efforts were made to remedy these remaining evils by legislative action, but without success until, in A. D. 1623, the famous Statute ~~against~~ ^{against} Monopolies (21 Jac. I. ch. 3) was enacted by Parliament and received the sanction of the king.¹ By this statute all past monopolies were abolished, and the power of the crown to grant them in the future was explicitly denied, except in cases where such grants had been or should be made to the inventors of new manufactures, conferring upon them the exclusive privilege of practising such inventions for a limited period of time.²

§ 8. English Monopolies since the Stat. 21 Jac. I.

Notwithstanding this statute, the English sovereigns did not immediately relinquish their claim to the free exercise of this branch of their prerogative. In A. D. 1631 Charles I. under the pressure of financial difficulties again asserted the ancient powers of the crown, and granted monopolies as a means of replenishing the royal treasury. But such was the effect of the victories already gained, and such the temper of the people, that the exclusive privileges thus conferred were generally disregarded, and all endeavors to enforce them failed. The pecuniary result to the king was also most discouraging, and from that time onward all pretence of any right in the crown to erect monopolies, contrary to the provisions of this statute, has been practically abandoned.¹

§ 7. ¹ Hume, chaps. xlv., xlix.

² For succinct accounts of the history of monopolies in England prior to

the passage of this statute, see Coryton, 1-9; Godson, 5-15; Collier, chap. ii.

§ 8. ¹ Hume, chap. lii.

§ 9. Two Classes of Monopolies, Legal and Illegal.

The monopolies created by the British crown before the statute of James I. may be divided into two great classes, which differ from each other both in their legal and in their intrinsic character. To the first class belong all those which were conferred on the inventors of a new manufacture or the introducers of a new trade into the realm, and which secured to them the exclusive privilege of carrying on such trade or manufacture for a certain period of time. The second class embraces those by which the exercise of some well-known branch of industry or commerce was restricted to particular individuals or corporations, and the liberty of other subjects to employ themselves in these pursuits was correspondingly abridged.¹ The earliest monopolies were of the former class, and were bestowed as a reward and an encouragement on those who, at their own expense or by their personal efforts, were engaged in advancing the mechanical knowledge or the commercial resources of the public.² Such monopolies were always sustained by the courts, and their creation was regarded as a legitimate exercise of royal power. The crown was properly considered as the patron of deserving artisans

§ 9. ¹ The various definitions of monopoly given by different writers are to be reconciled only by remembering that some have endeavored to define monopoly in general, while others have confined themselves to a description of illegal or criminal monopolies. Thus Comyn (Dig. Tit. Trade D. 4), "A monopoly is when the sale of any merchandise or commodity is restrained to one or a certain number."

Bouvier, "A monopoly is also an institution or allowance by a grant from the sovereign power of a State by commission, letters-patent, or otherwise, to any person or corporation, by which the exclusive right of buying, selling, making, working, or using anything is given."

On the other hand, Blackstone (4 Com. 159) defines monopoly as "a

license or privilege allowed by the king, for the sole buying and selling, making, working, or using of anything whatsoever; whereby the subject in general is restrained from that liberty of manufacturing or trading *which he had before.*"

Hawkins (P. C. chap. 79, § 1), "A monopoly is an allowance by the king, to any person or persons, of the sole buying, selling, making, working, or using of anything whereby any person is sought to be restrained from any freedom *which he had before or hindered from his lawful trade.*"

To the same effect are other authorities, both earlier and later, whose statements that monopolies are unlawful, void, or oppressive are to be understood as referring only to monopolies of the second class.

² Coryton, 1, 5.

and merchants; and the development of trade and commerce, through their enterprises and inventions, was recognized as a sufficient reason for temporarily restricting the freedom of the people.³ But as monopolies became more numerous, and were bestowed as a return for service or pecuniary aid rather than as a recompense for benefits conferred upon the public, the character of the monopoly itself was less and less regarded, and the oppressive privileges of the second class were freely granted. These were, however, always treated by the courts as contrary to common right and void at common law; but since no power existed by which the king could be prevented from creating them, the judges could apply no remedy except by punishing the monopolist for procuring and asserting them.⁴ In one case under Elizabeth in A. D. 1602, and another under James I. in A. D. 1614, this difference in the character and legality of these two classes of monopolies was clearly stated, and the nature of the controversy on this subject, between the courts and people upon one side and the crown upon the other, was accurately defined.⁵ The statute of James I. simply enacted into a law,

³ Hawkins (P. C. chap. 79, § 6), "It seemeth clear that the king may, for a reasonable time, make a good grant to any one of the sole use of any art invented or first brought into the realm by the grantee."

Bac. Abr. (Tit. Prerogative, F. 4), "It is agreed that the king may, for a reasonable time, grant to a person the sole use of any art first invented by him, and this it seems the king might do at common law."

See also Godson, 10.

⁴ Bac. Abr. (Tit. Prerogative, F. 4), "The king's grant of a monopoly, as of the sole buying, selling, working, making, or using of any commodity, is not only void by the common law, but the persons procuring such grants are said to be punishable by fine and imprisonment."

Comyn (Dig. Tit. Trade, D. 4), "All monopolies are contrary to Magna Charta."

See also Godson, 12, citing case of John Peachie, who was convicted and punished, in the reign of Edward III., for obtaining a monopoly of the trade in sweet wines.

⁵ Darcy v. Allin, Noy, Rep. 173. This was an action on the case brought by Edward Darcy against Thomas Allin for the infringement of a patent granted in the 30 Eliz., to one Ralph Bowes and his assigns, for the exclusive making and importing and sale of playing-cards during twelve years, and renewed for an additional twelve years to the plaintiff, evidently an assignee of Bowes.

The defendant pleaded that, as a citizen of London, he had a free right to trade in all merchantable things; and to this plea the plaintiff demurred. The argument against the validity of the patent, given at length in the report, is interesting and very forcible.

which bound the sovereign, the doctrines that the courts had always maintained, and reiterated those principles of Magna

It insists that the crown has no power to grant such a patent, and refers to cases in which monopolies of office, toll, etc., had been held void by the courts. It also denounces the patent as contrary to common right, destroying trade and labor, raising prices, and filling the market with inferior goods. It then states the distinction between lawful and unlawful monopolies, and gives instances thereof as follows: (182) "Now, therefore, I will show you how the judges have heretofore allowed of monopoly patents; which is, that 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 furtherance 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.

"In the 9th Eliz. there was a patent granted to Mr. Hastings of the court: That in consideration that he brought in the skill of making of Frisadoes as they were made in Harlem and Amsterdam beyond the seas, being not used in England, — that, therefore, he should have the sole trade of the making and selling thereof for divers years; charging all other subjects not to make any Frisadoes in England during that time, upon pain to forfeit the same Frisadoes by them made, and to forfeit also £100, the one moiety thereof to the Queen's Majesty, the other to Mr. Hastings; upon which patent Mr. Hastings, about 20 years past, exhibited an information in the Exchequer against

certain clothiers of Coxall for making of Frisadoes, contrary to the intent of this patent. To which information, for that it was against law to have such penalties of the goods and £100 to be forfeited by force of a letter-patent, therefore did demur upon the information, and moved the court, and the opinion of the court being clear against him, he never went further in his information, but exhibited his English bill in the Exchequer chamber against them, where, upon the examination of the cause, it appeared that the same clothiers did make baize very like to Mr. Hastings's Frisadoes, and that they used to make them before Mr. Hastings's patent, for which cause they were neither punished nor restrained from making their baize like to his Frisadoes.

"Another monopoly patent was granted to Mr. Matthey, a cutler at Fleetbridge, in the beginning of this Queen's time, which I have here in court to show, by which patent it was granted unto him the sole making of knives with bone hafts and plates of lattan; because, as the patent suggested, he brought the first use thereof from beyond seas; yet, nevertheless, when the wardens of the company of cutlers did show, before some of the counsel and some learned in the law, that they did use to make knives before, though not with such hafts, that such a light difference or invention should be no cause to restrain them; whereupon he could never have benefit of this patent, although he labored very greatly therein.

"Lastly, the monopoly patent granted to one Humphrey of the Tower, for the sole and only use of a sieve, or instrument for melting of lead, supposing that it was of his own

Charta which declared that the liberties of the citizen were to remain forever unrestrained by royal usurpation.⁶

invention, and therefore prohibited all others to use the same for a time; and because others used the like instrument in Darbyshire, contrary to the intent of his patent, therefore he did sue them in the Exchequer chamber by English bill; in which court the question was whether it was newly invented by him, whereby he might have the sole privilege, or else used before at Mendiff in the West Country, which if it were there before used, then the court was of opinion he should not have the sole use thereof."

The same case, but without the argument of counsel, is reported in 11 Coke, R. 84 b., Trinity Term, 44 Eliz., where it appears that the cause itself was decided in favor of the defendant. 1 Abb. P. C. 1.

In the case of "The Clothworkers of Ipswich," Godbolt, 252, decided at Easter Term, 12 James I., in which similar questions were presented: (253) "it was agreed by the court that the king might make corporations, and grant to them that they may make ordinances for the ordering and government of any trade; but thereby they cannot make a monopoly, for that is to take away free trade which is the birth-right of every subject. . . . (254) 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, etc., or if a man hath made a new discovery of anything; in such cases the king, of his grace and favor, in recompense of his costs and travail, may grant by charter unto him, that he only shall use such a trade or traffic for a certain time, because at first the

people of the kingdom are ignorant and have not the knowledge or skill to use it. But when that patent is expired, the king cannot make a new grant thereof; for when the trade is become common, and others have been bound apprentices to the same trade, there is no reason that such should be forbidden to use it." 1 Abb. P. C. 6.

⁶ Magna Charta, 9 Henry III., chap. xxxvii. A. D. 1225, "Escuage from henceforth shall be taken like as it was wont to be in the time of King Henry our grandfather; reserving to all Archbishops, Bishops, Abbots, Priors, Templars, Hospitallers, Earls, Barons, and all persons as well spiritual as temporal, all their free liberties and free customs which they have had in time passed. And all these customs and liberties aforesaid, which we have granted to be holden within this our realm, as much as appertaineth to us and our heirs we shall observe; and all men of this our realm, as well spiritual as temporal (as much as in them is), shall observe the same against all persons in like wise. And for this our gift and grant of these liberties and of other contained in our Charter of Liberties of our Forest, the Archbishops, Bishops, Abbots, Priors, Earls, Barons, Knights, Freeholders, and other our subjects have given unto us the fifteenth part of all their moveables. And we have granted unto them, on the other part, that neither we nor our heirs shall procure or do anything whereby the liberties in this charter contained shall be infringed or broken; and if anything be procured by any person contrary to the premises it shall be had of no force nor effect." 1 Stat. at Large, 13.

§ 10. Relation of the Stat. 21 Jac. I. to English and American Patent Law.

The statute of James I. was thus declaratory of the common law.¹ It created no new right either in the crown or

§ 10. ¹ The statute 21 James I., chap. 3, was, in substance, as follows, the passages in quotation marks being in the language of the act itself:—

“An Act concerning monopolies and dispensations of penal laws and the forfeiture thereof.”

I. Whereas your majesty, in the year 1610, published a book declaring that all grants of monopolies, and of the benefit of penal laws, and of the power of dispensing with law, and of compounding penalties, are contrary to law; and whereas your majesty then expressly commanded that no suitor should ever apply for such grants; and whereas, nevertheless, such grants have been applied for and allowed: Therefore to make void all these, and to prevent the like in time to come, may it please your majesty that it be declared and enacted by authority of this present parliament “that all monopolies, and all commissions, grants, licenses, charters, and letters-patent, heretofore made or granted, or hereafter to be made or granted, to any person or persons, bodies politic or corporate whatsoever, of or for the sole buying, selling, making, working, or using of anything, within this realm or the dominion of Wales, or of any other monopolies,” and all licenses to do anything contrary to law, or to confer authority on others so to do, and all grants of the power to compound or receive the benefit of any penalty before judgment thereon had, and all warrants or other process for the erection or promotion of the same “are altogether contrary to the laws of this realm, and so are and shall be utterly void, and of none effect, and in no wise to be put in use or execution.”

II. “That all monopolies and all such commissions, grants, licenses, charters, letters-patent,” and all other matters and things tending as aforesaid, “and the force and validity of them and of every of them, ought to be and shall be forever hereafter examined, heard, tried, and determined by and according to the common laws of this realm and not otherwise.”

III. “That all person and persons, bodies politic and corporate whatsoever, which now are or hereafter shall be, shall stand and be disabled and incapable to have, use, exercise, or put in use any monopoly or any such commission, grant, license, charter, letters-patent,” or other matter or thing tending as aforesaid, or any power grounded or pretended to be grounded on them.

IV. That at the end of forty days after this present session of parliament, any person who may be aggrieved “by occasion or pretext of any monopoly,” or other matter or thing tending as aforesaid, may recover in the king's courts, in an action on this statute, treble damages; and such suits shall not be hindered or delayed by any order or injunction issuing out of any other court than that before which such suit is pending, except a writ of error, under penalty of a *premunire*.

V. “Provided, nevertheless, and be it declared and enacted: That any declaration before mentioned shall not extend to any letters-patent and grants of privilege, for the term of one and twenty years or under, heretofore made of the sole working or making of any manner of new manufacture, within this realm, to the first and true inventor or inventors of such manufactures, which others,

in the people. It limited the royal prerogative to certain definite channels and specified the boundaries within which

at the time of the making of such letters-patent and grants did not use, so they be not contrary to the law, nor mischievous to the state, by raising of the price of commodities at home, or hurt of trade, or generally inconvenient, but that the same shall be of such force as they were, or should be, if this act had not been made and of none other. And if the same were made for more than one and twenty years, that then the same, for the term of one and twenty years only, to be accounted from the date of the first letters-patent and grants thereof made, shall be of such force as they were, or should have been, if the same had been made but for the term of one and twenty years only, and as if this act had never been had or made, and of none other."

VI. "Provided also, and be it declared and enacted: That any declaration before mentioned shall not extend to 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 manufactures, within this realm, to the true and first inventor and inventors of such manufactures, which others, at the time of making such letters-patent and grant, 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: The said fourteen years to be accounted from the date of the first letters-patent or grant of such privilege, hereafter to be made; but that the same shall be of such force as they should be, if this act had never been made and of none other."

VII. Provided, that this act shall not extend to or interfere with any

grant heretofore made or confirmed by act of parliament.

VIII. Provided, that this act shall not affect any warrant directed to any justice of the king's courts.

IX. Provided, that this act shall not prejudice any cities, boroughs, or incorporated towns, in the right to any customs heretofore used by them; or any company or corporation or fellowship of any trade, or society of merchants, in any of their immunities or privileges.

X. Provided, that this act shall not affect any patent heretofore made, or hereafter to be made, concerning printing, or the making of saltpetre or of gunpowder, or of ordnance or shot for ordnance, nor any grant of any office.

XI. Provided, that this act shall not affect any privilege heretofore granted, or hereafter to be granted, concerning the making of alum or the working of alum mines.

XII. Provided, that this act shall not prejudice any usage or privilege heretofore claimed and enjoyed by the guild of hoast-men of Newcastle-upon-Tyne, concerning the carrying or trading in coal; nor any grant of any licenses to taverners and retail dealers in wine to be drank on their own premises, where the fees for such licenses accrue directly to the use of the king.

XIII. Provided, that this act shall not affect the patent granted in A. D. 1623 to Sir Robert Mansel for the making of glass; or the patent granted in A. D. 1615 to James Maxwell for the transportation of calves' skins.

XIV. Provided, that this act shall not interfere with the patent granted in A. D. 1618 to Abraham Baker for the making of smalt; nor that granted in A. D. 1621 to Edward, Lord Dudley, for

it might lawfully be exercised. The grant of a monopoly still remained a voluntary concession on the part of the sovereign, to be bestowed by him according to his pleasure and on such terms as he might deem appropriate.² It became subject to judicial criticism only upon the questions whether the monopolist himself had complied with the conditions of the grant and was entitled, under the provisions of the statute, to receive it. If he were the true and first inventor of any manner of new manufacture within the realm, which others at the date of his grant did not use, and which was neither contrary to law nor hurtful to the state; if his monopoly, as granted, consisted only in the exclusive privilege of making or using such invention for the proper period of time; and if he had fulfilled the duties imposed on him by the crown,—his grant was valid, but otherwise was void. The decisions of the courts upon these provisions of the statute constitute the body of the present English Patent Law; while in the same statute, thus interpreted, are found the sources of the Patent Law of the United States.³

melting iron ore and making the same into bars with coal.

² Godson, 47; Attorney-General, *ex rel.* Hecker *v.* Rumford Chemical Works (1876), 9 O. G. 1062.

³ The disposition to regard the rights and remedies of inventors as resting entirely upon the Constitution and the Acts of Congress, which is apparent in the narrow construction given to the statutes in some recent cases, and is specifically expressed in *United States v. American Bell Telephone Co.* (1887), 41 O. G. 123, is thus evidently improper. These rights and remedies were recognized by the common law before the Stat. Jac. I. was enacted. They were acknowledged and enforced by the individual states before the adoption of

the Federal Constitution. Our patent acts have always depended upon common-law principles for their construction, and until recently have been uniformly treated as a part of that great body of theoretical and practical jurisprudence. Patent law is as truly, though not so extensively, a matter of historical development as the law of real property, and can no more be beneficially administered as a mere statutory system, inoperative except where verbally declared, than any other of those ancient branches of the law which we have inherited from our Anglo-Saxon ancestors. See Appendix to 3 Wheat. note 2: Briefs of counsel in *United States v. American Bell Telephone Co.* (1887), 32 Fed. Rep. 591.

CHAPTER II.

OF THE NATURE OF THE MONOPOLY SECURED TO AN INVENTOR
BY LETTERS-PATENT.

§ 11. Patent Privilege a Monopoly : Diversity of Opinions.

Certain modern writers upon Patent Law have asserted that the exclusive privilege conferred on an inventor is not a monopoly. Certain judges of the courts of the United States, in their decisions upon patent cases, have expressed the same opinion.¹ Other authors and jurists have declared

§ 11. ¹ To this effect is Curtis on Patents, Prelim. Obs. xix. : "A patent for a useful invention is not under our law, or the law of England, a grant of a monopoly, in the sense of the old common law." Also, xxii., "A patent right, under the modern law of England and America, differs essentially from one of the old English Monopolies. In those grants of the crown, the subject-matter of the exclusive privilege was quite as often a commodity of which the public were and long had been in possession, as it was anything invented, discovered, or even imported by the patentee."

There is no uniformity in the language used in reference to this matter by the American courts. Thus, for example, in *Brooks v. Jenkins* (1844), 3 McLean, 437, the judge remarks: "This law gives a monopoly, but not in an odious sense. It takes nothing from the community at large, but secures to them the greatest benefits." In *Parker v. Haworth* (1848), 4 McLean, 372; 2 Robb. 725, the same court declares: "It is not a monopoly the inventor receives. Instead of taking anything from the

public, he confers on it the greatest benefits." In *Bloomer v. Stolly* (1850), 5 McLean, 162, he states: "It is said monopolies are odious; but a patent right that shall compensate the inventor is not a monopoly in the general sense of that term. The inventor takes nothing from society." And in *Allen v. Hunter* (1855), 6 McLean, 305, he says: "Patentees are not monopolists. This objection is often made and it has its effect upon society. The imputation is unjust and impolitic. A monopolist is one who by the exercise of the sovereign power takes from the public that which belongs to it and gives to the grantee and his assigns an exclusive use. On this ground monopolies are justly odious. It enables a favored individual to tax the community for his exclusive benefit, for the use of that to which every other person in the community, abstractly, has an equal right with himself. Under the patent law this can never be done. No exclusive right can be granted for anything which the patentee has not invented or discovered. If he claims anything which was before

that the exclusive right of the inventor is not only a true monopoly, but, as is apparent from the historical sketch already given, that it is the primeval and ideal monopoly, out of the abuse of which all odious and illegal monopolies have grown.² The latter is the view taken of the subject by the earlier writers, and is the doctrine generally adhered to by the British courts.³

known his patent is void. So that the law repudiates a monopoly. The right of the patentee entirely rests on his invention or discovery of that which is useful and which was not known before. And the law gives him the exclusive use of the thing invented or discovered for a few years as a compensation for his ingenuity, labor, and expense in producing it. This, then, in no sense partakes of the character of a monopoly." Thus within a period of eleven years the same court declares of a patent privilege that it "is a monopoly but not in an odious sense;" that "it is not a monopoly," and that "it is not a monopoly in the general sense of that term."

² Stat. James I., § 1: "Be it declared and enacted, by authority of this present parliament; That all Monopolies, and all Commissions, Grants, Licences, Charters, and Letters Patent, heretofore made or granted, or hereafter to be made or granted, to any person or persons, bodies politic or corporate whatsoever, of or for the sole buying, selling, making, working, or using of anything within this realm, or the dominion of Wales, or of any other Monopolies," &c. Out of these the 6th section excepts the privileges granted to first inventors, thereby showing that the patent privilege was then regarded as one form of monopoly. Says Coryton: (5) "The earliest form of these privileges was that of conducting exclusively new trades, or dealing exclusively in objects of commerce hitherto unknown, as a reward and encouragement to the parties introducing them.

By degrees, however, the powers confided to the executive were perverted from their proper purpose; and under the pretence of the better government of trade, the prerogative of the crown was employed in sanctioning, in return for pecuniary aid, individuals and corporations in very oppressive monopolies."

³ To this effect is Godson: (43) "One species of monopolies, it has been shown, are those, which, although founded on grants, are allowed by statute law. From that source the Law of Patents for Inventions springs. . . . For although they are monopolies, yet they are very limited ones."

So also Phillips: (2) "A patent is a grant by the state of the exclusive privilege of making, using, and vending, and authorizing others to make, use, and vend an invention. It is a monopoly of the invention. The monopoly may be unrestricted in geographical extent, and so be coextensive with the authority of the state or government granting it, or may be confined to a certain territory; so in respect to duration, it may be for an indefinite or a limited period; and again in its nature or character it may be either absolute, or subject to certain qualifications and conditions. . . . (23) Patent rights are a surviving branch of the great system of monopolies," &c.

In Coryton: (2) "The exclusive use of new inventions, although the origin and the supporting principle of the whole, plays but an insignificant part in the great system of monopolies," &c.

Other writers applying the same term

§ 12. Patent Privilege a Monopoly: Effect of this Doctrine on Legislatures and Courts.

The question whether a patent privilege is a monopoly is not a mere question of words. It is the point of departure for

to the patent privilege are Norman, 2; 1 Web. 5, n.

The language of the English courts from the earliest period has been of the same character. Thus, in *Darcy v. Allin* (1602), Noy, 173 : (182) "Now, therefore, I will show you how the judges have heretofore allowed of monopoly patents; which is, that 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 furtherance 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," &c.

In *Liardlet v. Johnson* (1778), 1 Web. 53, Lord Mansfield says : (54, note c) "The law relative to patents requires, as a price the individual should pay the people for his monopoly," &c. Bull. N. P. 76.

In *Rex v. Arkwright* (1785), 1 Web. 64, Buller, J. : (66) "It is clearly settled at law that a man, to entitle himself to the benefit of a patent for a monopoly, must disclose his secret," &c. 1 Abb. P. C. 29 (31).

In *Turner v. Winter* (1787), 1 Web. 77, Ashhurst, J. : (80) "As every patent is calculated to give a monopoly to the patentee, it is so far against the principles of law," &c. 1 Abb. P. C. 43(47).

In *Huddart v. Grimshaw* (1803), 1 Web. 85, Lord Ellenborough : (86) "A patent entitling the plaintiff, for a limited period of time, to the monopoly of an invention," &c. 1 Abb. P. C. 128 (145).

In *Crossley v. Beverly* (1830), 1 Web. 112, Lord Tenterden : (116) "That would have been less beneficial to the public, because it would have prolonged

the time of the monopoly." 1 Abb. P. C. 437 (442).

In *Morgan v. Seaward* (1836), 1 Web. 170, Alderson, B. : (173) "That is the fair premium which the patentee pays for the monopoly he receives." Parke, B. : (194) "If the inventor could sell his invention, keeping the secret to himself, and when it was likely to be discovered by another, take out a patent, he might have, practically, a monopoly for a much longer period than fourteen years. . . . (197) A grant of a monopoly for an invention which is altogether useless," &c. 2 Abb. P. C., 262 (319), 419 (428, 431).

In *Crane v. Price* (1842), 1 Web. 393, Tindal, C. J. : (411) "The king may grant him a monopoly of a patent for a reasonable time."

In *Walton v. Bateman* (1842), 1 Web. 613, Cresswell, J., speaking of the statute of James I., says it was passed (614) "to enact that all parties should be disabled from using monopolies, except in certain instances."

In *Househill Co. v. Neilson* (1843), 1 Web. 673, Lord Brougham : (712) "The patent act contains two exceptions—the proviso under which the monopoly is allowed to be granted. . . . In cases of inventions, the patent right, or monopoly, may be granted," &c.

In *re Morgan's Patent* (1843), 1 Web. 737, Lord Brougham : (737) "a patent term, that is to say, a monopoly."

In *re Porter's Patent* (1855), 2 Web. 201, the Privy Council, in describing the object of the confirmation of a void patent, say that it is (211) "to give force and validity, by a quasi legislative authority, to a grant of monopoly actually void," &c.

In *Smith v. Davidson* (1857), 19 C. S.

two distinct theories, under whose influence courts and legislatures may be led to widely different conclusions as to the dividing line between the rights to be conceded to inventors and those to be reserved to the public. Every grant of a monopoly is, in appearance at least, in derogation of the common right.¹ The bestowal of an exclusive privilege on one man forbids its exercise by any other, and thus appropriates to him the benefits which otherwise would have remained, or might have become, the property of all. Like other apparent restrictions upon common right, the law regards such grants with disfavor, and so construes them as to permit no further limitation of the liberties of others than the language of the grant itself requires.² In legislative bodies, which recognize a patent-right as a monopoly, the interests of the public will naturally be preferred to those of the inventor; legislation on the subject will be cautious and conservative; and the powers conferred upon the patentee will be subordinated to the free enjoyment by all other citizens of every privilege that is not inconsistent with the protection to which his inventive skill and genius are entitled. In courts where the same theory prevails such rules will be followed as

697, the Lord President: "A monopoly of it is given to him as being his invention, because he is the party who has given to the public that invention. He has given it to the public under the condition that he shall obtain a monopoly. . . . The consequence is that his monopoly must be protected," &c.

In re Hill's Patent (1863), 1 Moore, P. C. C., N. S. 258, Coleridge, J.: (264) "A monopoly limited to a certain time is properly the reward which the law assigns to the patentee for the invention and disclosure to the public of his mode of proceeding." These authorities show the uniformity with which the English courts regard the inventor's privilege as a true monopoly.

§ 12. ¹ Any grant to have the sole right to exercise a trade is "against the common law and the benefit and liberty of the subject." 11 Coke Rep. 86.

Coryton: (4) "Freedom of trade, in so far as regards the employment of industry and skill was a jealously guarded maxim of common law, . . . (4) By the common law, however, the crown . . . had power to grant many privileges, 'although prima facie,' as it was said, 'they appear to be against common right.' The consideration was the invention of a new manufacture or the introduction of a new trade."

² 2 Bl. Com. 347.

"Crown grants have at all times been construed most favorably for the king," &c. Chitty, Prerog. 391-2.

"The taking away of rights is not favored by the law. Therefore statutes in derogation of common right are in the construction kept within their express provisions." Bishop on Written Laws, § 119.

tend to limit the monopoly of the inventor to the exact letter of his grant, and hold him to a strict compliance with all its conditions as an essential requisite to its validity.

§ 13. Patent Privilege a Monopoly: Effect of Departure from this Doctrine on Legislatures and Courts.

Upon the other hand, a grant, not made in derogation of the common right, is favored by the law. Being intended principally, if not entirely, for the benefit of the grantee, and conflicting with no public interest either actual or possible, the law construes it liberally in order to secure to the grantee all the advantage which the grantor might have purposed to bestow upon him.¹ And hence, where legislatures and the courts adopt this theory of the exclusive privilege created by a patent, and lose sight of its true character as a monopoly, legislative acts in favor of the inventor will be sweeping and extravagant, and the decisions of the courts will sustain him in claims which seriously abridge the rights of others, and will afford him a protection and redress far beyond that which justice and the public interest demand.

§ 14. Patent Privilege a Monopoly: Effect of this Doctrine upon earlier English Law.

The truth, as well as the importance, of this distinction will become apparent on an examination of the changes in the attitude of courts and legislatures toward inventors since the passage of the statute of James I. This statute was enacted at a period when the English people were suffering under grievous burdens, resulting from the multiplication of odious monopolies. The temper of the judges and of Parliament was hostile to exclusive privileges of every kind. In the two cases previously cited,¹ the former had cautiously allowed that a monopoly of a new trade or manufacture might lawfully be conferred on the inventor until the public had become accustomed to its use; and in this statute Parliament, with equal jealousy for the common right, confined this privilege to a

§ 13. ¹ Bishop on Written Laws, 173; 1 Abb. P. C. 1; Clothworkers of § 192: Bac. Abr. (Statutes, I. 7, 9). Ipswich (1615), Godbolt, 252; 1 Abb.

§ 14. ¹ Darcy v. Allin (1602), Noy. P. C. 6.

small class of individuals, and permitted it to them during no longer time than was considered necessary for the learning of the new trade and teaching it to others. The decisions under this statute within the next one hundred and eighty years were for the most part characterized by the same spirit. The inventor was looked upon as a monopolist, dependent for his exclusive rights upon the royal bounty; and his privileges were rigidly confined within the literal meaning of the words by which they were described in his patent.² If these were capable of two constructions, that was adopted which would enure most fully to the public benefit. Even where one of two constructions would defeat the grant while the other would support it, the latter was followed chiefly on the ground that the king's honor was more to be regarded than his profit, and that it, therefore, could not be admitted that the patent was intended to be void.³ With equal strictness was

² Coryton: (38) "Previously to the time of Lord Eldon, the patentee was as purely a creature of royal bounty as the monopolist of the Elizabethan age, and language was employed by judges in the application of the doctrine which would at the present day be considered highly unconstitutional. . . . The nature of the patentee's privileges drove him frequently into courts of law, and during this early period almost constantly to his disadvantage. To him alone no margin was conceded for possible error. . . . (39) Judges either covertly evaded or openly overruled such portions of the statute as opposed their opinions, and patent trials by degrees degenerated into dialectic discussions and verbal criticism."

⁸ Norman: (4) "It is laid down that the king's letters-patent are records of a high nature; they have in all times been construed most favorably for the king, contrary to the grants of common persons, which are construed in favor of the grantee and most strongly against the grantor. If they can be taken to enure to a double intent, they shall be

taken to the intent that makes most to the king's benefit. . . . But where it is capable of two constructions, by the one of which it will be valid and by the other void, that construction shall be put on it which shall make it valid, for that will be more for the benefit of the subject and the honor of the king, which ought to be more regarded than his profit, for it was not the king's intent to make a void grant."

See also *Bac. Abr.* (Prerogative, F.); *Comyn* (Dig. Grant. G. 12); *Bewley's Case*, 9 Rep. 131 *a.*; *Churchwardens of St. Saviour's*, 10 Rep. 67 *a.*

In *Rex v. Mussary* (1738), 1 Web. 41, the following general rules were laid down respecting patents by Lee, C. J.:

"1. Every false recital, in a thing not material, will not vitiate the grant, if the king's intention is manifest and apparent;

"2. If the king is not deceived in his grant by the false suggestion of the party, but from his own mistake upon the surmise and information of the party, it shall not vitiate or avoid the grant;

it required that the patentee should have fulfilled all the conditions of his grant. Any mistake in the description of his invention, any excess in his claims as to its novelty or usefulness, any disclosure of his secret to others before the issue of the patent, was treated as a fraud upon the crown, and on proof of any one of these his patent was declared to be invalid.⁴

“3. Although the king is mistaken in point of law or matter of fact, if that is not part of the consideration of the grant it will not avoid it ;

“4. Where the king grants *ex certa scientia et mero motu* those words occasion the grant to be taken in the most liberal and beneficial sense, according to the king's intent and meaning expressed in his grant ;

“5. Although in some cases the general words of a grant may be qualified by the recital, yet if the king's intent is plainly expressed in the body of the grant the intent shall prevail and take place.” 1 Abb. P. C. 8 (9).

These rules have been recognized in many patent cases. The distinction between a false suggestion of the patentee and a mistake of the king was very important ; the former avoiding a patent, the latter not. But as almost any excess or deficiency in the description of the invention was held to constitute a false suggestion, and as every mistake of the king in reference to the same matter went to the consideration of the grant, the consequences to the patentee were equally disastrous. Under these rules, which appear to have been intended for the benefit of the patentee, it was therefore held that a patent which suggests that certain inventions are improvements when one of them was not so, or which covers two or more inventions when one is not new, or which describes something as a necessary part of the invention that in reality is not so, or which calls the invention by one name when another is more appropriate, or which claims for the invention cer-

tain uses to one of which it is not applicable, was void. Moreover, according to these rules, if the king's grant did not contain the phrase, *ex certa scientia et mero motu*, it was still subject to the strict construction which formerly prevailed. *Feather v. Reg.* (1865), 6 B. & S. 257.

⁴ Coryton: (38) “An unapt title to his invention, an ill-judged word in its description, an incautious experiment, the least disclosure of his secret before letters sealed, and his privileges were at an end. Technical rules, framed with other objects and unsuited to the case, were rigorously applied by those who saw in it only the relation between the sovereign and the subject, and adjudicated on the maxims of the common law as applicable to royal franchises and grants, while the merits of the invention, or its effect on public policy, rarely engaged attention.”

In *Turner v. Winter* (1787), 1 Web. 77, Buller, J. : (81) “Many cases upon patents have arisen within our memory, most of which have been decided against the patentees upon the ground of their not having made a full and fair discovery of their inventions.” 1 Abb. P. C. 43 (48).

In *Liardet v. Johnson* (1778), 1 Web. 53, Lord Mansfield is said to have ruled (54, note *c*) that “the law relative to patents requires, as a price the individual should pay the people for his monopoly, that he should enroll, to the very best of his knowledge and judgment, the fullest and most sufficient description of all the particulars on which the effect depended that he was, at the time,

It was not until the generations which had suffered from the ancient grievances had passed away, and the traditions of those grievances themselves grew dim, that the judges, yielding to the pressure of industrial enterprise, laid aside the extreme doctrines and the rigid rules with which their predecessors had fought the battle of the people against odious monopolies, and began to recognize inventors as public benefactors, whose personal services and sacrifices merited the privileges which they received, and demanded for them a liberal consideration from the courts. In the latter part of the last century this change in judicial sentiment manifested itself in several notable expressions, in which, for the first time, the grant of letters-patent to an inventor was held to be a matter of right and not of favor, and the patentee was declared to be entitled to the approval and enforcement of his privilege whenever he had fairly given to the public the knowledge of the discovery that he had made.⁵

§ 15. Patent Privilege a Monopoly: Contract Theory Introduced: Effect on Later English Law.

During the present century the development of this liberal spirit in Great Britain has been marked and rapid. The right of the inventor to his exclusive privilege, in return for the benefit conferred by him upon the public, being once conceded, the idea that his letters-patent created a contract between him and the people naturally followed. This idea

able to do, . . . that no omission or defect in this instrument (specification) could admit of an apology while it was in the power of the patentee to have avoided it," &c.

Even as late as *Hornblower v. Boulton* (1799), 8 T. R. 95, Lord Kenyon observed: (98) "I am not one of those who greatly favor patents; for though, in many instances, . . . the public are benefited by them, yet on striking the balance upon this subject, I think that great oppression is practised on inferior mechanics by those who are more opulent." 1 Abb. P. C. 98 (99).

⁵ In *Arkwright v. Nightingale*

(1785), 1 Web. 60, Lord Loughborough: (61) "There is no matter of favor can enter into consideration in a question of this nature. The law has established the right of patents for new inventions; that law is extremely wise and just." 1 Abb. P. C. 24 (25).

In *Turner v. Winter* (1787), 1 Web. 77, Buller, J.: (81) "Whenever it appears that the patentee has made a fair disclosure, I have always had a strong bias in his favor, because, in that case, he is entitled to the protection which the law gives him." 1 Abb. P. C. 43 (48).

seems to have been first suggested by Lord Eldon who, in a case decided in A. D. 1800, stated that a patent was a bargain with the public and was to be construed on the same principles of good faith by which all other contracts were controlled.¹ Under the influence of this idea the attitude of the courts toward the patentee has gradually become more favorable, and the strictness of the old rules has relaxed, until he is now treated as if he were a party to a contract, and when he has substantially fulfilled his duty he is protected in the enjoyment of those benefits which his patent, liberally and reasonably construed, bestows upon him.²

§ 15. ¹ In *Cartwright v. Arnott*, Easter Term, 1800, cited in *Harmer v. Playne*, (1809), 11 East, 101, Lord Eldon: (107) "That they were to be considered as bargains between the inventors and the public, to be judged of on the principle of keeping good faith, by making a fair disclosure of the invention, and to be construed as other bargains." 1 Abb. P. C. 171 (174).

In *Harmer v. Playne* (1807), 14 Vesey, 130, Lord Eldon: (132) "Where the crown, on behalf of the public, grants letters-patent, the grantee entering into a contract with the crown, the benefit of which contract the public are to have," &c. 1 Abb. P. C. 166 (167).

In *Neilson v. Harford* (1841), 1 Web. 331, Alderson, B.: (341) "Lord Eldon lays down the principle so long ago as 1800. He says patents are to be considered as bargains between the inventor and the public, to be judged of on the principles of good faith, by making a fair disclosure of the invention, and to be construed as other bargains. That is the principle which must be taken to be the sound principle."

² In *Morgan v. Seaward* (1836), 1 Web. 170, Alderson, B.: (173) "It is the duty of a party who takes out a patent to specify what his invention really is, and although it is the bounden duty of a jury to protect him in the fair exer-

cise of his patent right, it is of great importance to the public, and by law it is absolutely necessary, that the patentee should state in his specification, not only the nature of his invention, but how that invention may be carried into effect. . . . That is the fair premium which the patentee pays for the monopoly he receives." 2 Abb. P. C. 262 (318.)

In *Walton v. Potter* (1841), 1 Web. 585, Tindal, C. J.: (595) "The object of the specification is, that it is the price which the party who obtains the patent pays for it," &c.

In *Gibson v. Campbell* (1841), 1 Web. 627, Tindal, C. J.: (629) "The specification . . . is the price that the man who takes out his patent pays to the public. . . . Therefore, every man who is an honest man, is bound to pay that price justly and fairly," &c.

In *Stevens v. Keating* (1847), 2 Web. 181, Pollock, C. B.: (187) "I take the rule to be that you are not to intend anything in favor of a specification or patent, and certainly not to intend anything against it; you are to deal with it just as you find it; you are to put the true and right and fair construction upon every allegation and every fact connected with it, and you are to find what is the true and fair and just result. You are not to lean in favor of the pub-

§ 16. Patent Privilege a Monopoly : Effect of Departure from this Doctrine on Later English Law : Amendments of Patents.

A similar alteration is exhibited in the spirit of the people, as it has been expressed in parliamentary enactments. Notwithstanding the disposition of the judges to construe a patent liberally in favor of the inventor, they had no power, under the statute of James I., to change its terms. However inaccurately it described the real invention, this description was the measure of his privilege, and by his patent, as originally granted, he must stand or fall.¹ Clerical errors might indeed be corrected upon application to the crown.² But a material defect, whether arising from inadvertence or design, could not be remedied; and as the contract created by the patent was entire and indivisible, such a defect rendered the patent void. Thus if a patentee mistakenly embraced within his privilege anything that was not new, or claimed two or more inventions one of which was not entitled to protection, or attributed to his invention a wider sphere of usefulness than actual experience would justify, the whole patent was invalid.³ In this condition the law remained until

lic against the patent, which, it is to be regretted, was many years ago rather the fashion of courts of justice, under the notion that it was a monopoly, that all monopolies were odious, and that, therefore, you were to intend everything against them; although, on the other hand, in modern times, it is said the leaning is the other way, I do not think there ought to be any leaning one way or the other."

But in *Feather v. Reg.* (1865), 6 B. & S. 257, Cockburn, C. J., holds that a patent is not truly a contract by the crown with the patentee on valuable consideration, and so entitled to the most liberal construction, but is a prerogative grant upon condition that full publication be made.

§ 16. ¹ Godson : (159) "The patent and specification must, in fact, stand or

fall by themselves; and no extraneous matter can be introduced to explain them and establish their legality. If they are bad in themselves nothing whatever can make them legal instruments."

² Norman, 107; Coryton, 180. *In re Sharp's Patent* (1840), 1 Web. 641.

³ In *Turner v. Winter* (1787), 1 Web. 77, Buller, J. : (82) "If the patentee says that by one process he can produce three things, and he fails in any one, the consideration of his merit, and for which the patent was granted, fails, and the crown has been deceived in the grant. Slight defects in the specification will be sufficient to vacate the patent." 1 Abb. P. C. 43 (50).

In *Bainbridge v. Wigley* (1810), 1 Carp. 270, the patent claimed improvements by which new notes could be sounded on a musical instrument. The

A. D. 1835. In that year Parliament bestowed upon inventors the right to amend the claims and descriptions in their patents, subject only to the limitation that no such amendment should extend the exclusive rights already granted.⁴ The power thus conferred was practically of the most important character. It enabled the patentee, at any time, to disclaim any matter whose presence in his patent would have made it void. It permitted him to change the published description of his invention by adding new words or excluding old. Under this act he might, at the first issue of his patent, claim anything he chose and enjoy its exclusive use, as if it were his own invention, until the public ascertained that he had claimed too much, and then, by this disclaimer, make his patent good. He might communicate his secret in imperfect language, never admitting the public into full possession of the invention unless his patent were attacked on that account, and when attacked might save himself from the consequences of his own ignorance or carelessness, by properly correcting it.⁵ Or if the progress of the art disclosed to him that advantages could be obtained by broadening his privilege, he might by skilful alterations in his claims embrace within

evidence showed that only *one* new note could be produced. *Ellenborough, C. J.*, held the patent void. 1 Abb. P. C. 181.

In *Rex v. Metcalf* (1817), 1 Web. 141 (note *a*), the patent was for making a "tapering" brush. The specification described it as a brush having bristles of unequal lengths. Lord Ellenborough held this patent invalid on account of the discrepancy. 1 Abb. P. C. 297.

In *Campion v. Benyon* (1821), 6 Moore, 71, Dallas, C. J.: (81) "If, therefore, there be any ambiguity, either in the patent itself, or in the specification, in any material point, it is of itself a ground for rendering the patent absolutely void." 1 Abb. P. C. 345 (355); see also *Rex v. Arkwright* (1785), 1 Web. 64; 1 Abb. P. C. 29; *Huddart v. Grimshaw* (1803), 1 Web. 85; 1 Abb. P. C. 128; *Bovill v. Moore* (1816), Dav. P. C. 361; 1 Abb. P. C. 231; *Hill v. Thomp-*

son (1817), 1 Web. 235; 1 Abb. P. C. 299; *Morgan v. Seaward* (1837), 1 Web. 187; 2 Abb. P. C. 419.

⁴ 5 & 6 Will. IV., chap. 83, § 1, authorizing any person "who as grantee, assignee, or otherwise, hath obtained, or who shall hereafter obtain letters-patent," by leave of certain officials, to enter with the clerk of patents "a memorandum of any alteration in the said title or specification, not being such disclaimer or such alteration as shall extend the exclusive right granted by the said letters-patent," &c.

⁵ A disclaimer may be made after the judgment of a court of law, or the verdict of a jury, adverse to the validity of a patent, in order to preserve the new and useful parts of the invention. *In re Derosne's Patent* (1835), 1 Web. 166 n.; *Morgan v. Seaward* (1838), 2 Carp. 104.

them matters which at first he did not ask to have protected, and thus create a patent-right materially different in its effect from that originally bestowed upon him.⁶ Necessary and proper as the law in substance may have been, the age had become so permeated with the spirit of industrial enterprise, and had conceived such exalted ideas of the value of inventive skill, that no sufficient safeguards were thrown around the power thus bestowed, and the inventor, no longer a mere contracting party, whose granted privileges depended on his own fulfilment of his bargain with the public, was raised to a position where he could receive and enjoy his grant without ever giving for it the consideration which the law demands.⁷

⁶ Coryton : (185) "The extent of the alterations in its description gives, as we have seen, a very inadequate idea of the extent of the alteration in the results of a manufacture. The real effect of any alteration in a specification may, therefore, be to create a patent-right materially different from that intended to be conferred by the original letters-patent."

In re Sharp's Patent (1840), 1 Web. 641, the petitioner claimed that by a memorandum of alteration, filed under this statute, the patent of the respondent had been extended to embrace matters not originally protected, and prayed the Master of the Rolls to expunge it as unlawful. Lord Langdale, M. R. refused, on the ground that he had no authority so to do, and said : (643) "You have a plain and easy remedy elsewhere. If the memorandum goes beyond the act, as you say, it is void, and could not be given in evidence or made any use of," — thereby recognizing as valid every memorandum that might be filed, until the same were declared invalid in a court of law. In a note to this case Mr. Webster says : (642, note e) "According to the practice of the law officers of the crown, memoranda of alterations of a very extensive kind have been allowed. . . . The va-

lidity of any memorandum of alteration, when enrolled, is matter of law and of fact, to be decided in the same manner as questions arising on the validity of the original specification." With a disposition to allow "alterations of a very extensive kind" to be filed, and a decision which makes such alterations valid parts of the original specification until a contrary judgment is rendered on a trial of the patent itself, the power conferred upon a patentee by this statute could hardly escape serious abuses.

⁷ Coryton : (178) "A consideration of amendment and disclaimer . . . produces a strong conviction on the mind that the theory proceeded on is false, and the practice, beyond a doubt, highly prejudicial to public interests. Good policy requires that the invention, at the period of the grant, should be complete, and the proceedings connected with it such as to discourage all laxity in the patentee. The very contrary appears to be at the foundation of the practice as at present established, as the terms of the patent privilege, carelessly conceded in the first instance, may, with as little supervision, at any period of their continuance, be varied almost arbitrarily by the patentee."

Lund : (197) "The privilege has been

§ 17. Patent Privilege a Monopoly: Effect of Departure from this Doctrine on later English Law: Validating void Patents.

Parliament did not content itself even with this concession. In another section of the same act it conferred upon the crown the power to confirm and validate patents which had been granted contrary to the express language of the law. According to the statute of James I., a monopoly could be bestowed on no one except the first and true inventor of some manufacture which others, at the date of the letters-patent, did not use.¹ In construing this provision the courts distinguished between a use in secret by which the people could obtain no knowledge of the invention, and a use in public by which such knowledge might have been communicated; and decided that any use of the latter kind, whether by one person or many, would defeat a patent.² This was the law for upwards of two hundred years. But now it was enacted that the patentee, though not the first inventor, and though the actual invention protected by his patent had been used by others before he discovered it, might have his void patent

greatly abused in a large majority of cases, and it has almost become a custom to choose a very distributive title, and to divide or break up the specification into as many minute divisions and heads as possible, with the sole object of enabling the patentee to detach any of these several members whenever he may find it convenient. This very much increases the difficulty of understanding or applying what remains, and a specification drawn up on such a principle can never be that carefully and minutely digested document which will alone stand an argument in a court of law, and protect either the public from imposition or an inventor from the embarrassment and anxiety attendant upon a badly defined right."

§ 17. ¹ Stat. Jac. I., § 6.

² In Dollond's Case (1766), 1 Web. 43, it was held that a prior inventor, confining his discovery to his closet so that the public were not ac-

quainted with it, did not prevent a later inventor and patentee from obtaining a monopoly of the invention. 1 Abb. P. C. 9.

In Tennant's Case (1802), 1 Web. 125, note *c*, Lord Ellenborough, C. J., held that a prior use by five persons, though connected in the same business, was such a use as would defeat a patent. 1 Abb. P. C. 115.

Lund: (69) "Throughout the preceding cases this principle is kept steadily in view: that the private or secret use of an invention, or trials, or experiments, by one person, do not prevent another from obtaining a patent for the same invention; if he be the first to publish the invention (the first who comes to the crown), he is accounted the first inventor. This was distinctly laid down in the early case of Dollond's Patent and has since been invariably followed."

made good against all persons whatsoever, including the original inventor, on proof that at the date of his patent he believed himself the first inventor, and that the thing invented had not then been publicly and generally used.³

§ 18. Patent Privilege a Monopoly : Effect of Departure from this Doctrine on later English Law : Extending Patents.

Nor did the liberality of Parliament stop here. The statute of James I. had limited the period of the inventor's privilege to fourteen years. This period had always been considered long enough to enable any patentee, who used due diligence in bringing his invention to the knowledge of the public, to gain an ample recompense for the cost and labor of inventing it. But such was the appreciation in which these modern

³ 5 & 6 Will. IV., chap. 83, § 2. This statute provides that if, in any action, it be found that the patentee was not the first inventor of the supposed invention "by reason of some other person or persons having invented or used the same or some part thereof, before the date of such letters-patent;" or, if the patentee discovers that some other person had, unknown to him, "invented or used the same or some part thereof before the date of such letters-patent," he may apply to the king in council to confirm his patent; and upon hearing before the judicial committee of the privy council, if such committee are "satisfied that such patentee believed himself to be the first and original inventor," and are "satisfied that such invention or part thereof, had not been publicly and generally used before the date of such first letters-patent," may report to the king, and the king may grant the application, and the said patentee shall then have "the sole right of using, making, and vending such invention as against all persons whatsoever, any law, usage, or custom to the contrary thereof notwithstanding."

In re Stead's Patent (1846), 2 Web.

143, Lushington, J. : (146) "We apprehend that this section must necessarily be construed to confer the power of giving to the patentee that which he did not possess before the passing of the statute, or, in other words, of curing that which, before the statute, would have constituted an invalidity. If the patent were valid by the law as it existed before the passing of the statute, it could hardly be necessary to confirm it. The case to be remedied was not that of a patentee discovering a prior invention, wholly unused and wholly unknown up to the date of the letters-patent, but it was applicable to the case of a patentee discovering a prior invention so known that the patent might be invalidated on that ground, though not publicly and generally used."

In re Horniball's Patent (1855), 2 Web. 201, Leigh, J. : (210) "It is not very easy to define what is the exact meaning of the expression 'publicly and generally used,' . . . but certainly we cannot consider the use of the invention on board a single ship, however public or for whatever length of time, as a general use."

lawgivers held the services of the inventor that power was now conferred upon the crown to continue his monopoly for an additional period of seven years, and this was increased in A. D. 1844 to fourteen years.¹

§ 19. Patent Privilege a Monopoly: Effect of Departure from this Doctrine upon Patentee and Public under later English Law.

The change which these three statutory concessions wrought in the position of the patentee was very great. His patent, which once accurately and permanently defined the boundary between his rights and those of the public, had now become an elastic instrument which, by disclaimer or amendment, might be adapted to his varying fortunes in the courts and to the requirements of advancing art. To have been the first applicant for letters-patent constituted the basis of his privilege rather than to have been the first inventor, or even to have first brought the invention into actual use. Instead of being now, as formerly, compelled to push his new manufacture into public notice with energy and promptness in order to make sure of his reward, it became possible for him to secure additional periods of protection, in some cases even doubling the monopoly originally granted to him for making and disclosing his invention. Each one of these statutory concessions was a direct limitation of the public right. Each was a bestowal on the inventor of important powers never embraced in any grant of a monopoly under the statute of James I. and never contemplated by the common law. Neither of them could have been allowed by Parliament, nor would the attempt to grant them have been tolerated by the people, had not the theory of the nature of a patent privilege, and of the reciprocal relations of the inventor and the public, been very different from that which had prevailed two centuries before.

§ 18. ¹ 5 & 6 Will. IV., chap. 83, § 4; 7 & 8 Vict., chap. 69.

§ 20. Patent Privilege a Monopoly: Effect of Departure from this Doctrine on the American Courts: Contract Theory: Reward Theory.

In this country that extreme jealousy of the inventor's privilege, which characterized the earlier English judges, never has been manifested. Our courts did not approach this subject until after the ancient doctrines had been widely modified in favor of the patentee, and the true interest of the public had been recognized as best promoted by securing to him an immediate and liberal reward. In the earliest case in which those questions were considered at any length (A. D. 1831), the court adopted these three fundamental principles, which have been followed in all subsequent decisions: (1) That a patent creates a contract between the inventor and the public, and that each party is bound to exercise good faith toward the other; (2) That a patent is not granted to the inventor as a favor, but is a matter of right on his compliance with the conditions prescribed by law; (3) That being intended for his benefit, both the patent and the law are to be construed in favor of the patentee.¹ The progressive spirit

§ 20. ¹ In *Whitney v. Emmett* (1831), Baldwin, 303, Baldwin, J.: (319) "A patent is a bargain with the public, in which the same rules of good faith prevail as in other contracts. . . . (318) In England a patent is granted as a favor on such terms as the King thinks proper to impose; here a patent is a matter of right, on complying with the conditions prescribed by the law. . . . (322) Intended for their protection and security, the law should be construed favorably and benignly in favor of patentees in the spirit of the proviso in patents in England." 1 Robb, 567 (589, 587, 593).

In *Ames v. Howard* (1833), 1 Sumner, 482, Story, J.: (485) "Patents for inventions are not to be treated as mere monopolies, odious in the eyes of the law, and therefore not to be favored; nor are they to be construed with the utmost rigor, as *strictissimi juris*. The

Constitution of the United States, in giving authority to Congress to grant such patents for a limited period, declares the object to be to promote the progress of science and useful arts; an object as truly national and meritorious and well-founded in public policy as any which can possibly be within the scope of national protection. Hence it has always been the course of the American courts (and it has latterly become that of the English courts also) to construe these patents fairly and liberally, and not to subject them to any over-nice and critical refinements." 1 Robb, 689 (692).

In *Blanchard v. Sprague* (1839), 3 Sumner, 535, Story, J.: (539) "Formerly, in England, courts of law were disposed to indulge in a very close and strict construction of the specifications accompanying patents and expressing the nature and extent of the inven-

of this court appears in the further doctrine then announced : that the grant of an exclusive privilege to the inventor is intended to advance the interest of the public, not by securing to it the knowledge and the use of that particular invention, but by rewarding the inventor and thus stimulating him as well as others to new efforts,² — a doctrine which, if pushed to its legitimate conclusions, would justify the legislative grant of any privilege however extensive in scope or in duration, and which seems to have influenced the language, if not the ideas, of many later judges in their interpretation of the powers and remedies bestowed by Congress on the patentee.³

tions. This construction seems to have been adopted upon the notion that patent-rights were in the nature of monopolies, and, therefore, were to be narrowly watched, and construed with a rigid adherence to their terms, as being in derogation of the general rights of the community. At present, a far more liberal and expanded view of the subject is taken. Patents for inventions are now treated as a just reward to ingenious men, and as highly beneficial to the public, not only by holding out suitable encouragements to genius and talents and enterprise, but as ultimately securing to the whole community great advantages from the free communication of secrets and processes and machinery, which may be most important to all the great interests of society, — to agriculture, to commerce, and to manufactures, as well as to the cause of science and art. In America this liberal view of the subject has always been taken, and indeed it is a natural, if not a necessary result from the very language and intent of the power given to Congress by the Constitution on this subject. Congress (says the Constitution) shall have power to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right of their respective

writings and discoveries. Patents, then, are clearly entitled to a liberal construction, since they are not granted as restrictions upon the rights of the community, but are granted to promote science and useful arts." 1 Robb, 734 (739).

² In *Whitney v. Emmett* (1831), Baldwin, 303, Baldwin, J. : (321) "With the Constitution, the English Statute, and the adjudication upon it before them, Congress have declared the intention of the law to be to promote the progress of the useful arts by the benefits granted to inventors, not by those accruing to the public after the patent had expired, as in England." 1 Robb, 567 (591).

³ In *Brooks v. Jenkins* (1844), 3 McLean, 432, McLean, J. : (437) "When we consider the inestimable advantages which result to the world from the labor, ingenuity, and expense of inventors, so far from classing them with monopolizers, they should be regarded as public benefactors. And in order to secure to them the remuneration, which the law provides, a liberal construction should be given to it."

See also *Parker v. Haworth* (1848), 4 McLean, 370 ; 2 Robb, 725 ; *Bloomer v. Stolly* (1850), 5 McLean, 158 ; *Allen v. Hunter* (1855), 6 McLean, 303.

§ 21. Patent Privilege a Monopoly: Effect of Departure from this Doctrine on the American Courts: Amending Patents: Damages and Profits.

The opinion that a defective patent is amendable was also first authoritatively expressed in the courts of the United States. In A. D. 1832 it was decided that the practice of correcting such defects is within the spirit and intention of the general law which authorizes the granting of a patent, and is necessary to secure to the inventor that full compensation which it is the interest of the public to bestow upon him.¹ The subsequent act of Congress establishing this practice has been construed with even greater liberality, — the court in one case holding that in his amended patent the inventor may

The distinction taken by the learned judge in this early case of *Whitney v. Emmett* seems to serve almost as a line of demarcation between the two great classes into which the later authorities may be divided. That the purpose of the patent law is to benefit the inventor is one principle. That the purpose of the law is to secure to the public the advantages of the invention, by compensating the inventor for its disclosure, is an entirely different principle. Some decisions of the courts are evidently controlled by the first principle; others are as evidently delivered under the inspiration of the second. By remembering this, many seeming diversities in the opinions of the judges may be accounted for and reconciled; and in reading and collating these opinions it is essential that the lawyer or the writer should be on his guard and not be misled by the language of the court into a doubt as to the soundness of its doctrine.

The influence of the idea that the benefit of the inventor is the object sought by the law also manifests itself in the extreme importance given by our present rules to priority of invention as distinguished from priority of

publication, in the facility with which reissues and extensions have been granted, and in the extravagant compensation often awarded by the courts to patentees whose exclusive rights have been infringed.

§ 21. ¹ In *Grant v. Raymond* (1832), 6 Pet. 218, Marshall, C. J. : (243) "It has been said that this permission to issue a new patent on a reformed specification, when the first was defective through the mistake of the patentee, would change the whole character of the Act of Congress. We are not convinced of this. The great object and intention of the act is to secure to the public the advantages to be derived from the discoveries of individuals; and the means it employs are the compensation made to those individuals, for the time and labor devoted to these discoveries, by the exclusive right to make, use, and sell the things discovered for a limited time. That which gives complete effect to this object and intention by employing the same means for the correction of inadvertent error, which are directed in the first instance, cannot, we think, be a departure from the spirit and character of the act." 1 Robb, 604 (635).

include not only what was well described before, but whatever else was suggested, either in the first patent or in the specification, drawings, or model by which it was accompanied.² In reference to the damages to be recovered in an action for infringement, the courts have been equally solicitous for the interests of the patentee, allowing him, as compensation for the injuries he has sustained, not only all he might have realized from his invention, if undisturbed, but all that the superior industry or capital of the infringer have enabled him to save or make by using the invention.³

§ 22. Patent Privilege a Monopoly: Effect of Departure from this Doctrine on American Legislation: Amending Patents: Extensions.

The legislative bodies whose attention has been directed to this subject have exhibited a still more marked regard for the welfare of the patentee. The Constitution of the United

² In *Seymour v. Osborne* (1870), 11 Wall. 516, Clifford, J. : (544) "Power is unquestionably conferred upon the Commissioner to allow the specification to be amended if the patent is inoperative or invalid, and in that event to issue the patent in proper form ; and he may doubtless, under that authority, allow the patentee to redescribe his invention and to include in the description and claims of the patent not only what was well described before, but whatever else was suggested, or substantially indicated in the specification or drawings, which properly belonged to the invention as actually made and perfected."

³ In *Mowry v. Whitney* (1871), 14 Wall. 620, Strong, J. : (651) "The question to be determined in this case is what advantage did the defendant derive from using the complainant's invention over what he had in using other processes then open to the public and adequate to enable him to obtain an equally beneficial result ? The fruits of that advantage are his profits."

In *Mers v. Conover* (1876), 11 O. G. 1111, Strong, J. : (1112) "In the ascertainment of profits made by an infringer of a patented invention, the rule is a plain one. The profits are not all he made in the business in which he used the invention, but they are the worth of the advantage he obtained by such use ; or, in other words, they are the fruits of that advantage. . . . It is urged, however, that the Green machine, in which the defendant used the plaintiff's invention, was old and defective, and that no profits were actually received from such an use. But if such be the fact, if the defendant was a loser by splitting wood with the Green machine, his loss was less, to the extent of seventy-five cents on each cord split, than it would have been had he not used the patented invention. Such a result was equivalent to an equal gain, and it was rightly estimated as a part of the profits for which the infringer was responsible."

States declares that the progress of science and art is promoted by securing to inventors these exclusive privileges, and empowers Congress to enact such laws as will carry this idea into practical effect.¹ In the discharge of this duty, Congress conferred upon inventors the right to an exclusive privilege in such inventions as were not known or used *before their alleged discovery by the patentee*,—a right of far greater practical value than that conferred by the statute of James I., which permitted grants of the exclusive privilege only for inventions not known or used *at the date of the grant*.² It also provided for the surrender of an invalid or inoperative patent, and the issue of a new one based on a restricted or enlarged description; by which proceeding a patentee could claim and protect matters that were unclaimed and unprotected by his original patent.³ In A. D. 1836 it established a system by which the trouble and expense of obtaining patents were reduced to the lowest possible degree, and the security of the inventor against the subsequent loss of his privilege by

§ 22. ¹ Const. U.S. Art. 1, § 8: "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."

² Phillips: (169) "But there is a material difference in the effect of an oral publication, in England or France and the United States, where the invention has been reduced to practice in consequence of such a publication; for, as we have seen, in England and France, the novelty of the discovery is tested in reference to the date of the patent, whereas in the United States it is tested in reference to the date of the discovery. We perceive how prejudicial the rule, adopted in England and France, must be to the interests of the inventor, and to the beneficial operation of the patent law, by depriving the inventor of all the advantage of communication with others on the subject of his invention previous to taking out his patent; for if he

so makes it known, it may give others an opportunity to defeat his patent by piracy."

In *Cornish v. Keene* (1835), 1 Web. 501, Tindal, C. J.: (508) "If this (invention) was, at the time these letters-patent were granted, in any degree of general use, . . . then the letters-patent are void." 2 Abb. P. C. 139 (171).

The act of 1790, § 1, provided that a patent might issue for an invention "not before known or used." The act of 1793, § 1, prescribes that the invention must not have been "known or used before the application" for a patent. In the act of 1836, § 7, it was made the duty of the Commissioner to issue a patent if upon examination it did not appear that the invention had been known or used "prior to the alleged invention or discovery thereof by the applicant." See also Curtis, §§ 83, 84.

³ Act of 1832, § 3.

an adverse decision in the courts was rendered almost impregnable.⁴ In A. D. 1837 it gave to any person interested in a patent, which was void by reason of excessive claim, permission to cure the difficulty, as far as his interest in the patent was concerned, by simply filing in the Patent Office a written disclaimer of the excess.⁵ In A. D. 1839 it bestowed upon the inventor the further privilege of using his invention for two years before applying for a patent.⁶ It also freely exercised its powers in granting to patentees an extension of the period of their monopoly, at first by special acts and later under general laws, until the act of 1861 which prohibited extensions and increased the ordinary period to seventeen years.⁷ Thus although, at the outset, our patent laws were in some most important aspects more favorable to the inventor than those of England, the development of the theory that an inventor is necessarily a public benefactor, and that the means adopted for his protection and encouragement are in themselves promotive of the public good, has here as well as there produced its legitimate results in the constant increase of his exclusive privileges and the corresponding limitation of the public rights.

§ 23. Patent Privilege a Monopoly: Necessity for a Permanent and Correct Doctrine on this Point.

Experience having thus demonstrated that the dividing line, as drawn by courts and legislatures, between the rights of the inventor and the public is determined by the current theory concerning the nature of a patent privilege, it is evidently a matter of the first importance that this theory should be correct, and that once having been adopted it should always be consistently maintained.¹ Continual concessions to the pat-

⁴ Act of 1836, § 7. But see § 50, note 2, *post*.

⁵ Act of 1837, § 7.

⁶ Act of 1839, § 7.

⁷ Act of 1836, § 18; act of 1861, § 16.

§ 23. ¹ Not merely the importance but the absolute necessity of a correct theory upon this subject is demonstrated

by the remarkable changes in the attitude of our courts toward patentees during the past few years. From an extreme liberality, in which the rights of the public were too often disregarded, a tendency to an equally extreme strictness has been manifested, particularly in reference to the doctrines governing reissue and abandonment. Under the

entee are as unjust, and ultimately as disastrous, as continual restrictions of his powers; for they constantly give rise to new grounds of litigation, and are sure to produce, at some time, a reaction in public sentiment under whose impulse the entire system of exclusive privileges may disappear. That the correct theory can be ascertained by examining the relations of the inventor and the public to the invention both before and after the patent privilege is granted, and discovering what the grant has taken from the one and given to the other, cannot be disputed. Such an investigation will disclose not only that a patent privilege is a true monopoly, but that it approaches very nearly to an odious monopoly in its restriction of the pre-existing public right.

§ 24. Patent Privilege a Monopoly: Rights of Inventor under Natural Law.

In pursuing this investigation the relations of an inventor and the public to an unpatented invention first demand attention. In its earliest stage this invention is a mere addition to the stock of ideas possessed by the inventor. He has imagined or discovered something which to himself, and presumably to all the world, is new, and has conceived a method by which his idea may be so applied as to produce a tangible and valuable result. In this stage he has a natural exclusive right to his invention. No one can compel him to disclose his secret. He may reduce it to actual practice, or preserve it as a matter of subjective contemplation. The law can take no other notice of it than it does of his moral sentiments or his personal recollections. If, however, he endeavors to avail himself of this idea in his exterior life, his position in regard to it is somewhat changed. The material forms in which he then embodies it are his, but the idea itself is not to be imprisoned within their narrow bounds. Every one who examines and can understand them immediately conceives the same idea, whether he will or not, and thencefor-

influence of this tendency fundamental legal recognition, have been brought in principles, bottomed in the unchange- question, and uncertainty introduced- able relations of an inventor to his into some of the most stable and essen- invention, and sanctioned by uniform tial provisions of the law.

ward that idea remains as much a part of the observer's fund of knowledge as it ever was of that of the inventor. In order, therefore, to retain exclusive ownership of his idea, he must withhold its material embodiment from observation; and as long as he can do this, the invention is as truly his by natural right as if it never had been thus externally expressed.¹ But with his submission of the tangible result of his idea to the inspection of others, in such a manner that the idea itself becomes apparent, his control over it is gone. An idea once communicated can no longer be exclusively appropriated and enjoyed. Every one who receives it possesses it in the same degree as if he alone had apprehended it, and its inventor has no power to restrain him from its practical and useful application. Under the laws of nature the exclusive public use of an invention is thus impossible, and hence there is no natural right to such a use. The inventor, who voluntarily discloses his invention to the public, necessarily and freely dedicates it to the public; and that which formerly was his alone by virtue of his sole possession becomes by universal possession the common property of all mankind.²

§ 24. ¹ Curtis : (xx) "Whether we regard the knowledge, remaining for the present in the exclusive control of him whose intellectual production it is, as property, or as a possession of ideas, to which some other term might be more appropriate, it is still a possession, of which the owner cannot by any rule of natural justice be deprived without his consent. In this view it may, as it seems to me, justly be termed property."

² Coryton : (45) "So far as natural right is concerned, the application of a law of nature, a philosophical or abstract principle, is capable of exclusive appropriation only so long as the secret of such application is within the inventor's breast. Once passed, it becomes the property of all mankind."

Norman : (2) "Independently of an express restriction by the sovereign authority in a state, there is no such

thing as exclusive property in an invention. The subject-matters of human inquiry are free to all men. An addition once made to the stock of knowledge is common property forever, nor is it less the property of the discoverer because others possess it as well as himself. It is in its nature infinite and incapable of appropriation. The first builder of a house could claim as his own the substantial and tangible materials, the logs and wood of which he constructed it; but the idea of such an erection became instantly the property of all mankind. The abstract natural right of the inventor is only to exercise his own invention freely."

In *The Attorney-General ex rel. Hecker v. The Rumford Chemical Works* (1876), 9 O. G. 1062, Shepley, J. : (1064)

"So long as such writings and discoveries were not communicated to the public, authors and inventors had a possession

§ 25. Patent Privilege a Monopoly: Rights of Public under Natural Law.

The natural right of the public to appropriate all new ideas that may be voluntarily disclosed is no less evident than that of the inventor to conceal them.¹ It is a law of nature that men should profit by the discoveries and inventions of each other. This is the law which binds society together, and in obedience to which lies all the possibility of moral, intellectual, and material advancement. No man lives, or can live, for himself alone. Every improvement he can make in his appearance, habits, manners, or affairs becomes a guide and stimulus to others, by following which they also can improve themselves in person or estate. To benefit by the discoveries of his fellow-men is thus not only a natural right, it is also the natural duty which every man owes to himself and to society; and the mutual, universal progress thence resulting is the fulfilment of the earthly destiny of the human race.² It is by virtue of this natural right, and in pursuance of this natural duty, that the public receive

of, which was equivalent to a property in, their writings and discoveries. When communicated to the public, by the common law that property was lost."

§ 25. ¹ In *Jordan v. Overseers* (1831), 4 Ham. 294, Lane, J.: (309) "Although the inventor had, at all times, the right to enjoy the fruits of his own ingenuity, in every lawful form of which its use was susceptible, yet, before the enactment of the statute, he had not the power of preventing others from participating in that enjoyment, to the same extent with himself; so that however the world might derive benefit from his labours, no profits ensued to himself."

² Perhaps no recognition of this inherent public right is clearer and more positive than that contained in the very law by which the patent privilege is created. It has always been a fundamental doctrine of that law that if the public once became possessed of the inventor's secret their right to use it could

never thereafter be restrained. What should amount to such possession has, it is true, at different times been differently determined. In the earlier English cases it was held that any knowledge of the invention by the public before the granting of the patent vested it inalienably in them. *Wood v. Zimmer* (1815), 1 Web. 44, note; *Cornish v. Keene* (1835), 1 Web. 501. Modern legislation in the United States, on the other hand, permits the inventor to publicly use and sell his invention for two years before applying for a patent without thereby delivering it into their possession. But the principle remains the same, and in every aspect of it is enforced by the courts, that whenever the inventor permits the invention to pass beyond the legally defined limits of his exclusive possession, his right to it ceases and the right of all mankind to it begins. See also Phillips, 422; Curtis, §§ 101, 102.

and profit by the ideas of the inventor, as he, in turn, receives and profits by the ideas of others, each being recompensed for his private contribution to the general good by that which he appropriates to his own use out of the vast fund of human knowledge which has been formed by the continuous contributions of all races and all ages since the world began. This natural right and duty of the public come into existence where the natural right of the inventor ends, the same act which determines his exclusive possession and control delivering the invention to the universal knowledge and service of mankind.

§ 26. Patent Privilege a Monopoly : Restricts the Natural Right of the Public to use the Invention when disclosed.

Into the midst of this harmonious system of mutual rights and duties the patent privilege intrudes itself as a disturbing element. It obliterates the dividing line, drawn by the law of nature, between the relations of the inventor and the public to the new invention. It establishes an arbitrary line, based on no fixed principle, suggested by no natural analogy, and shifting toward or from the true line according to the changing theories of successive generations. It temporarily deprives the human race of its right to profit by the labors and discoveries of the individual, except upon such terms as he may see fit to impose. It locks up, under the control of the inventor, the physical fact or law which he applies, and gives him as complete dominion over it as if he and not Almighty God were its creator, and as if his advantage and not that of mankind in general were the object for which this attribute or element itself was made.¹ Regarded, therefore, in its sim-

§ 26. ¹ Many erroneous ideas, concerning the rights of inventors and the benefits conferred by them upon the public, seem to result from a failure to discriminate between different classes of inventors, as well as between the relations which authors and inventors occupy toward their respective writings and discoveries. Some jurists regard authors and inventors as having the

same rights to their various productions. Thus Curtis : (xix) "Inventors, in this respect, stand upon the same broad ground with authors. Both of these classes of persons have created something intellectual in its nature, &c." To the same effect are *dicta* of the judges scattered through the various reports. Other jurists, on the contrary, consider authors and inventors as occu-

plest and most abstract form, the patent privilege is a true restriction of pre-existing public rights. It may not, and or-

pying totally different positions. Thus Hindmarch, *Def. Pat. Laws, &c.* : (23) "A work of the imagination whether in literature or the fine arts, such as a poem, a piece of music, a painting, or a piece of sculpture, is actually created by its author, and he gives to the world that which in all probability never would be produced by any other mind. But he who invents a new practical manufacturing art, although the art may be of greater utility than any product of the imagination, does but find out that which had previous existence in the same way as travellers discover new countries or places. Inventions in the useful arts are based upon physical laws, which are immutable ; every investigation of those laws, in any given direction, must end in the same result ; and the consequence is that it frequently happens that several persons unknown to each other make almost precisely the same invention. . . . The merit of an inventor, which entitles him to the consideration of the public, in truth consists in his being the first to *communicate* a knowledge of the art, which he has discovered, to the public, and his merit with the public is the same whether any one has before *secretly* discovered the same art or not ; but he no more creates that art than Sir Isaac Newton did the law of gravitation, which he discovered."

Neither of these assertions is entirely correct. The habit among American writers of classing authors with inventors has probably arisen from the fact that the Constitution of the United States mentions them in the same clause, as alike entitled to protection. But their exclusive privileges rest, historically as well as theoretically, upon different foundations. The common law, as we have seen, never recognized any

exclusive right in the inventor to his invention, after he had once publicly disclosed it. His privilege was based on a royal grant, which was justified only on the ground of the benefit accruing to the public from such disclosure. The property of an author in his writings, on the other hand, was acknowledged as existing at common law even after his voluntary publication of them (*Millar v. Taylor* (1769), 4 Burr. 2303) ; and though this natural right has been merged into that defined and limited by the statute 8 Anne, chap. 19, § 1 (1710), (*Becket v. Donaldsons*, 4 Burr. 2408), which is the foundation of our modern copyright law, its origin and nature are entirely different from that which left the inventor dependent on the bounty of the sovereign for whatever protection his invention might receive.

The character of the exclusive privileges secured to authors and inventors by existing laws is also widely different. His copyright vests in the author no exclusive right to his ideas, apart from the language in which they are expressed, and any other writer may create them or adopt them, and clothe them in his own words, at his pleasure. But the exclusive privilege of the inventor extends to the idea which is embodied in his invention as well as to the form in which that idea is presented to the eye, and no other person is permitted to conceive and use or copy that idea in any mechanism or production of his own.

But notwithstanding these historical and legal diversities, the distinction between authors and inventors is not as great or as well-defined as Mr. Hindmarch has asserted. It is not true that every author is a creator as distinguished from a discoverer, nor that every inventor is a discoverer as distinguished from a creator. In fact, there are two

dinarily it does not, take away from the people the actual enjoyment of any benefit which they already had in their

classes of authors ; one which creates ideas as well as represents them; the other which collects ideas or facts already in existence and whose method of presenting them alone is new. To the first class belong the real authors, properly so called, — the pioneers in poetry, romance, and philosophy, and those who in succession have substantially added to, or developed the primeval thought. To the latter class belong the compilers, abridgers, and all others who bring nothing of their own into their works except their mode of selection, expression, and arrangement. In the same way there are also two classes of inventors : one which grasps at laws or facts in nature hitherto uncomprehended or unknown, and by applying them to practical uses, opens new fields of activity to the industrial arts ; the other which, on these fundamental inventions, builds its humble superstructures, by the combination, rearrangement, or new application of the facts or elements or principles which the great inventors have made known. To rank these two together as equal in accomplishment and merit is unwarrantable. The great inventor is no less a creator than the great author ; and the idea by which he links the physical law or fact to its accomplished object in the arts, that idea which is embodied in his actual invention, is as truly his creation as the nebular hypothesis was the creation of Laplace, or "Samson Agonistes" that of Milton. These are the inventors who deserve the name, the honors, and the rewards of public benefactors. They confer upon mankind, not only during their own generation, but for all time, benefits which, without them, might have never been enjoyed. But the second class of authors and inventors are entitled to no

such encomiums and to no such rewards. They achieve nothing which other men of ordinary ability and skill could not perform, and give nothing to the world that some one else would not be sure to give, as soon as the necessity for it was realized and the attention of the artisan or chemist turned in that direction.

With these differences in view it is evident that authors and inventors can neither be classed together nor entirely separated from each other ; and it is also evident that neither the existing copyright nor patent laws give to these different classes of authors and inventors a protection commensurate with their respective merits. The copyright law apparently ignores the existence of the first class of authors, as a distinct and more meritorious class, and gives to them no higher protection than it accords to the mere echoer of their original ideas. The patent law, on the other hand, secures to the first class of inventors an adequate recompense, in kind if not in duration, but bestows the same reward upon inventors of the second class, no matter how small may be the intellectual value of their achievements. The practical difficulties attending any attempt to measure recompense by merit, in either case, may be insurmountable. But there is no occasion for rendering the questions involved in the conflicting claims of inventors and the public any more obscure by putting all classes of inventors on the same level with the first class of authors, as has sometimes been done, or by denying to the first class of inventors the same degree of intellectual merit and accomplishment which is justly attributed to the highest class of writers. Patent law ought to rest on its own theories and antecedents, and deal with its own problems accord-

possession, but it does prohibit their immediate exercise of that perpetual and natural right by virtue of which every new discovery, when openly practised or proclaimed, becomes at once the possession and the property of all.

§ 27. Patent Privilege a Monopoly: Restricts the Natural Right of the Public in favor of a Limited Class of Inventors.

The extent to which the patent privilege invades these natural rights and duties appears still more clearly on considering the fact that such privileges are granted only to a very small class of inventors. In some degree probably every sane person of mature age is an inventor. By accident or by the efforts of his genius he discovers something new in one or more of the innumerable departments of human affairs, by which his own condition, as well as that of other men, is substantially improved. Not only the scholar in his closet, the explorer in the ocean or the wilderness, and the artisan in his work-shop, but every other man whose faculties are occupied with any form of labor, or with any kind of rational amusement, makes some addition to the common stock of useful knowledge, and aids in the advancement of his race. If each of these were privileged to appropriate to himself, for the time being, the entire advantage of his own discovery, the relation of the individual inventor to the whole body of inventors would correspond more closely with the principles of natural justice. But, on the contrary, the field of patentable invention is comparatively narrow.¹ By far the greater and the most useful portion of human discoveries lie outside the domain of these exclusive privileges. The general phenom-

ing to its own principles, without being led astray, either in its enactments or interpretations, by false analogies or by attempts to follow systems which, in nature as well as origin, are unlike its own.

§ 27. ¹ Under the statute of James I. a patent privilege is grantable only to protect a "new manner of manufacture." The courts interpreted this phrase as including: (1) New substances or compo-

sitions of substances; (2) new mechanisms or combinations of mechanisms; (3) new methods or processes of operating, whereby substantial or mechanical results were produced. *Boulton v. Bull* (1795), 2 H. Bl. 463 (492). Under the acts of Congress only an art, machine, manufacture, composition of matter, or design, or some improvement therein, can be thus privileged.

ena and laws of matter, the methods of agriculture and commerce, the metaphysical and moral truths, and all other inventions which do not relate to the industrial arts, belong at once, upon their publication, to all mankind. Of every one of these the privileged inventor may avail himself as freely as their first discoverer. But because his invention chances to fall within the protected field he can enjoy it in its full extent, and yet withhold it from the general fund of knowledge. He can do even more. He can select from the discoveries of others some truth which lies beyond the privileged domain, bring it within the privilege by devising a method for its application in the arts, and then appropriate the whole to his exclusive use. He can thus embody in tangible materials the results of the long years of research of the engineer, the chemist, or the electrician, and then forbid even these pioneers of science to employ in their own service the laws and facts which they themselves made known.² The whole world of activity is in this manner laid at the inventor's feet. Not only is the natural right of the public to benefit by every new discovery devested in his favor, but the natural right of every discoverer to enjoy the fruit of his own genius or good fortune, in common with the public, may be also lost as soon as the inventor has contrived the means of putting it to practical employment.

² While it is true that no physical law or fact, merely as such, can be exclusively appropriated by any person, even with the aid of the patent privilege, yet if there be but one method by which that law or fact can be practically applied to useful purposes, the person who discovers and patents that one method thereby obtains complete control over the uses of such fact or law. In this manner the discovery of any scientist, if published to the world, may be brought into actual employment in the arts by some other person, under

such circumstances as entirely to deprive the original discoverer of the right to apply it to any use whatever. Thus in the case of Neilson's Patent (1829), 1 Web. 273, if another than Neilson had discovered that smelting-furnaces driven by hot blast were more profitable than those driven by cold, and Neilson's method of employing the hot blast were the only practicable one, his patent would have excluded the very person who discovered the utility of the hot blast from availing himself, in any way, of his own discovery.

§ 28. Patent Privilege a Monopoly: Restricts the Natural Right of the Public to Discover and Employ the same Invention.

But the limitations created by the patent privilege extend to deeper and more fundamental rights than these. Every man has the natural right to discover for himself, and to apply to his own uses, any physical fact or law. That another may have already discovered the same law or fact, and the same method of its application, in no manner abridges this inherent right.¹ To all men the entire universe of truth is open, and no one can infringe upon another's rights therein unless by fraud or force he obtains possession of some secret which that other has alone discerned. This natural right is an essential and invaluable one. The indomitable activity of the human mind, directed by the pressure of exterior necessities to the subjugation of the material world, inevitably and constantly results in new discoveries and in their adaptation to the satisfaction of its wants. The maintenance of life as well as the development of character and civilization has always been, and always must be, dependent on the untrammelled exercise of these inventive powers; and no man can totally relinquish or be hindered from their use without losing his proper place among the thinkers and workers of his age, and being degraded to the condition of a pauper or a slave. Against this onward rushing tide of inventive energy the patent privilege arrays itself. To one who has conceived and practically applied a new idea it gives the power, not only to prohibit other men from copying after him, but from inventing and applying the same idea for themselves. It rec-

§ 28. ¹ In *Am. H. & L. S. & D. Mach. Co. v. Am. T. & M. Co.* (1870), 4 Fisher, 284, Shepley, J. (294): "An inventor has no right to his invention at common law. He has no right of property in it originally. . . . If to-day you should invent an art, a process, or a machine, you have no right at common law, nor any absolute natural right, to hold that for seven, ten, fourteen, or any given number of years, against one

who should invent it to-morrow, without any knowledge of your invention, and thus cut me and everybody else off from the right to do to-morrow what you have done to-day. There is no absolute right, or natural right at common law, that I, being the original and first inventor to-day, have to prevent you and everybody else from inventing and using to-morrow or next day the same thing." Holmes, 503 (509).

ognizes no difference between the piracy of an invention by the wilful injurer and its entirely independent generation by a true inventor. It so appropriates to one a truth originally free to all, that no other has any longer the right to know it, for any practical and useful purpose, until the patent privilege expires.² Every new patent thus closes up another avenue of research against all the world, thwarts the endeavors of the human mind in that direction, and to benefit one individual deprives all others of the right to profit in the same way by their own inventive powers.

§ 29. Patent Privilege a Monopoly: Restricts the Natural Rights of Simultaneous Inventors.

It is no answer to this thought to say that the privileged inventor is generally the sole inventor, and that but for him the idea and its application would remain unknown. The contrary is true. With very few exceptions, every invention is the result of the inventive genius of the age, working under the demand of its immediate wants, rather than the product of the individual mind. The inventors who have stepped forward into the outer darkness, and inaugurated a new era in the industrial progress of mankind, are probably less in number than the centuries of human history. The vast majority of inventions consist of slight advances in existing arts, and lie within the scope of the activities of many of the laborers in the common field. The one who first, through his superior abilities or more fortunate surroundings, attains the goal, only does that which many others, without aid from him, would very soon accomplish as effectually as he; and

² Lund : (4) "Supposing the originator of an idea also provides a mode or way of usefully applying it; or even suppose he usefully applies an idea or thought suggested by another person, or one long and well known but not as yet usefully applied: in either of these cases he will be entitled to forbid all other similar applications of the idea to the same object or purpose; although the utility which he produces is comparatively trifling, and the forbidden appli-

cation is admitted to be a great improvement upon the subject-matter of patent."

In *Andrews v. Carman* (1876), 9 O. G. 1011, Benedict, J. : (1013) "The idea when made available by a method, whereby it is put to practical use, is patentable as a process, and is thus secured to the person who has conceived the idea and invented the method." 13 Blatch. 307 (312); 2 Bann. & A. 277 (282).

the true measure of his merit is, therefore, not the value of his actual discovery, but the value of his temporary precedence of them.¹ Quite often also is the same discovery simultaneously made by several inventors. Men of the same genius, recognizing the same wants, skilled in the same arts, and familiar with the same defects in present methods of supply, might naturally be expected to arrive, at nearly the same time, at the same means of answering the public need; and experience amply justifies this expectation.² But with the granting of a patent privilege to any one of these inventors, the discoveries of the others, whether simultaneous or successive, become useless. Their patient research, their earnest meditation, their unwearied struggles are now all in vain. The patent privilege appropriates to the patentee the whole discovery, deprives them of the right to use the results they have themselves attained, and by rewarding him for his mere priority of publication or invention defeats the hopes and efforts of the rest.³

§ 29. ¹ Coryton: (16, 17) "The extension of the condemnation of monopolies of trades and articles in common use to that of patents, is based on the restraints upon the public during the continuance of the privileges. In some cases the mere abstinence amounts to serious self-denial. The tide of manufacturing industry and inventive skill, notwithstanding its apparent irregularities, rolls onward in a settled direction, indicated by the expressed wants of society, and within an almost calculable time is certain to achieve some means of satisfying those wants. Some discoveries are made by the pioneers of science, men like Watt, far before their age; to them a monopoly of their invention is but an inadequate reward; while of others the whole body of society is in earnest search; the appropriation therefore by individuals may be looked on almost as an invasion of a right."

In *Clark P. S. & F. R. Co. v. Copeland* (1862), 2 Fisher, 221, Shipman, J.: (227) "It not unfrequently happens,

in the progress of the mechanic arts, that the time arrives when the whole atmosphere of inventive thought is quickened with the life of an approaching discovery, that many lines of investigation and experiment, converging for a long time toward the point, almost, but not quite, reach it; when, at last, some mind, by a happy thought, supplies some new element, or instrument, or mode of organization, and instantly gives birth to the organized idea."

² Accurate statistics as to simultaneous inventions are unattainable. In the greater proportion of such cases, the grant of a patent to the first applicant probably leads to the silent abandonment of the enterprise by others. But those which come under the notice of the Patent Office, in interference proceedings and otherwise, are quite numerous, amounting sometimes to several hundred in a year. Argument before Com. on Patents, 1878, 336.

³ Godson: (54) "If two persons severally discover the same thing, the one

§ 30. Patent Privilege a Monopoly: Restricts the Natural Right of the Public to Improve upon Existing Inventions.

Nor is this all. The patent privilege reaches out into the future, and restricts the right to exercise inventive skill in fields which the thought of the privileged inventor never entered. Every real invention gives a fresh impulse to the progress of the age, and affords it a new vantage ground from which to press on toward still greater triumphs over the material world. Ideas which the inventor could not have conceived are suggested by his invention to the minds of others,—ideas which, if applied in practice, would result in benefit to all mankind. The right of one man in this manner to avail himself of the discoveries of others is also a natural right. It is the right which every generation exercises over the inventions of its predecessors; and were it denied, every inventor, instead of aiding in the progress of the race, would be a barrier in its path, unless his own invention were so perfect as to exhaust all possibility of advancement in the same direction. Yet even this right is invaded by the patent privilege. It debars other men, not only from applying the discovery to the uses for which it was designed by its inventor, but from employing it as a basis on which to build up new inventions of their own. To the patentee belongs, not merely the exclusive right to what he has invented, but also the right to prevent others from using their own inventions, however valuable they may be, if they embrace a single one of his original ideas.¹ Nor is his right affected by the fact that whatever

who obtains a patent for it, before the other has made the matter public, will be adjudged to be the true and first inventor and be entitled to hold the grant."

In *Smith v. Davidson* (1857), 19 C. S. 697, which was a case of contemporaneous invention by both plaintiff and defendant, it was adjudged that the defendant could not use his own invention after the grant of a patent to the plaintiff. The lord president said: "His monopoly must be protected, and although there may be others who have

made the same discovery, but who have not brought it to the same perfection, and have not made their bargain with the public in regard to it, they cannot disturb the integrity of the monopoly of the party who first makes his bargain with the public." See also *Forsyth v. Riviere* (1819), 1 Carp. 401; 1 Abb. P. C. 325. For American cases to the same effect, see *Cox v. Griggs* (1861), 2 Fisher, 174; 1 Bissell, 362.

§ 30. ¹ Lund, speaking of the effect of a patent privilege on the rights of others to develop the same idea, says: (5) "This

they adopt of his invention was independently discovered. His patent privilege once thrown around a new idea, that idea, no matter by whom conceived or how improved upon by others, is his alone. So far as he is able he may develop and extend it, and may erect new structures upon its foundation; but to all others it remains forbidden ground.² And hence, where

characteristic of a patent right may undoubtedly very often hinder the profitable employment of a certain amount of ingenuity, as well as prevent great improvements in some patented inventions. It is well known that the degree and character of the ingenuity, required to perfect or vary the practical details of an invention, is common in comparison either with the genius or good fortune, which leads to the useful application of a mere thought or abstract idea; and, therefore, as soon as such an application is made, some improvements in matters of detail would, in almost every case, be immediately produced. Now to allow these to be put in practice without the consent of the patentee, during the continuance of his grant, would amount to its repeal — for instance by the sale of a cheaper or better article. Whatever question there may be, as to the right of the public to the immediate enjoyment of any such improvements, there can be no doubt that the improver is not entitled to profit at the expense of the patentee; as the improvements were the fruits of his usefully applied thought.”

In *Converse v. Cannon* (1873), 9 O. G. 105, Woods, J.: (107) “It makes no matter what additions to, or modifications of, a patentee’s invention a defendant may have made; if he has taken what belonged to the patentee he has infringed, although with his improvement the original machine or device may be much more useful.” 2 Woods, 7 (12).

² Curtis: (§ 320) “These cases show

that when a party has invented some mode of carrying into effect a law of natural science, or a rule of practice, it is the application of that law or rule which constitutes the peculiar feature of his invention; that he is entitled to protect himself from all other modes of making the same application; and, consequently, that every question of infringement will present the question whether the different mode, be it better or worse, is in substance an application of the same principle. . . . If the mode of carrying the same principle into effect, adopted by the defendant, still shows only that the principle admits of the same application in a variety of forms, or by a variety of apparatus, the jury will be authorized to treat such mode as a piracy of the original invention.”

In *Jupe v. Pratt* (1837), 1 Web. 145, Alderson, B.: (146) “You may take out a patent for a principle coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle, but invented some mode of carrying it into effect. But then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by the jury as piracy of your original invention.” 2 Abb. P. C. 464 (467).

In *Ex parte Kent* (1880), 17 O. G. 686, Doolittle, Acting Com.: (686) “It is true that a discoverer of a genus in mechanics is entitled to a claim in a

his exclusive rights are rigidly respected or enforced, and his own skill and enterprise are not sufficient to produce the improvements of which his discovery is capable or to which it leads, the public may be deprived of every benefit of the invention, except those which it confers upon them at the moment when it leaves the first inventor's hands.

§ 31. Patent Privilege a Monopoly: Deprives the Public of the entire Use of the Invention at the Option of the Patentee.

Finally, the patent privilege is not merely restrictive of these public rights, it is capable of being turned, at the will of the inventor, to their complete destruction. A patentee has not only the exclusive right to use his own discovery and to impose whatever terms he chooses on its use by others, but he also has the right to refuse to use it or permit its use. His patent places him under no obligation to the public during the existence of his privilege. If poverty or other inability compels him to retain it unemployed, or his unwarranted estimate of its pecuniary value places it beyond the reach of others, the people are without redress. The fact or law which he has discovered and applied is his own property, and can be withheld from or bestowed upon mankind at his pleasure. He has become an absolute monarch over that part of nature's vast domain, and can determine whether it shall be at once a fruitful field, or remain during his ownership an uncultivated waste.¹ Fortunately, this evil is less formidable in practice than in possibility. The obstinacy or carelessness of the inventor does not often keep from public use a really valuable invention. Those who appreciate its true importance adopt it

patent co-extensive with the genus, and to which all subsequent claims for species of that genus must be subordinate."

§ 31. ¹ In *Pitts v. Wemple* (1855), 2 Fisher, 10, Drummond, J. : (15) "A man may obtain a patent for an invention and let it lie in the Patent Office without use, and no one else would have the right to use such invention because it is his property." 1 Bissell, 87 (93).

This position has been recently qualified by a decision that the patentee must use the invention himself, or permit others to use it on reasonable terms, or the court will not grant him an injunction against infringers, but will order them to give bonds to account for its use. See *Hoe v. Knap* (1886), 27 Fed. Rep. 204; 36 O. G. 1244.

in defiance of his rights, and at the risk of their own ultimate loss confer upon the public the benefit of his discovery. And though the courts condemn these bold infringers, the world may owe to them the entire advantage it derives from the invention, which but for them would have lain unemployed for years, if not forever.

§ 32. Patent Privilege a true Monopoly: how Distinguished from an Odious Monopoly.

The nature of the patent privilege, as thus disclosed by its effects on the relations of the inventor and the public toward the invention, proves that it possesses both the characteristics of a true monopoly: (1) It confers on the inventor an exclusive right to which he is not naturally entitled, and which he could neither claim nor enforce except through the arbitrary interposition of the law; (2) It restricts the public in its enjoyment of three invaluable natural rights, without the exercise of which, in some form, all progress in the industrial arts would be impossible. It differs from an odious monopoly in this: that in the odious monopoly the public are deprived of some existing method of enjoying these rights, while the patent privilege prevents their exercise only in the new direction marked out by the discovery of the inventor.¹ But in both cases the rights restricted are the same, and the effect on their enjoyment after the monopoly is granted is identical.² That a patent privilege is a true monopoly, derogatory to common right, is, therefore, the correct theory concerning it considered in itself. If courts and legislatures, by abandoning this theory, have drifted into lax and dangerous modes of dealing with the public interests when opposed to those of the inventor,

§ 32. ¹ In *Mitchell v. Reynolds* (1711), 1 P. Williams, 181, Parker, C. J., held that the grant of the sole use of a trade is void, but a grant of a trade newly invented, and for a time, is good; for the public has an advantage in the invention of a useful trade which, after a limited time, is to be public. See also *Darcy v. Allin* (1602), Noy. 173; 1 Abb. P. C. 1.

² Phillips: (5) "The rights taken from the members of the community generally are, first, that of discovering or inventing the same thing, independently of the prior invention, and that of using and vending it for a limited time; and second, the right of profiting by the prior invention or discovery of another, for a limited time."

it is apparent that the future safety of the entire patent system, and the protection of the people from unreasonable and oppressive patent privileges, can only be secured by such a return to this theory as shall result in the adoption of a just and permanent dividing line between these constantly conflicting rights.

§ 33. Patent Privilege, though a Monopoly, is Justifiable on grounds of Public Policy.

The creation of a monopoly embracing these extraordinary privileges, with their corresponding limitations of the common right, could not be justified unless the ultimate results of its bestowal were, upon the whole, highly advantageous to the public. That this is true, experience has fully demonstrated.¹ The granting of a patent privilege at once accomplishes three important objects: it rewards the inventor for his skill and labor in conceiving and perfecting his invention; it stimulates him, as well as others, to still further efforts in the same or different fields; it secures to the public an immediate knowledge of the character and scope of the invention, and an unrestricted right to use it after the patent has expired. Each of these objects, with its consequences, is a public good, and tends directly to the advancement of the industrial arts. Any system of law which attains these results, without the

§ 33. ¹ Curtis : (xxxiv) "It is now too late in the history of civilization to question the policy of this protection, which forms a prominent feature in the domestic polity of every nation which has reached any considerable stage of progress in the arts of civilized life."

In *Ames v. Howard* (1833), 1 Sumner, 482, Story, J. : (485) "The Constitution of the United States, in giving authority to Congress to grant such patents for a limited period, declares the object to be to promote the progress of science and useful arts, an object as truly national, and meritorious, and well-founded in public policy, as any which can possibly be within the scope of national protection." 1 Robb, 689 (692).

J. J. Storow, Esq., Argument before Com. on Patents (1878): (334) "I look upon it as a mark of the highest civilization that a country shall recognize by its fundamental law the utilitarian effects of pure brain power; as a mark both of the highest civilization and of the highest reaches of the law that a nation recognizes, as property to be protected, because helpful to the state and to all its people, the pure creations of the intellect."

See also, for an able presentation of the policy and advantages of this method of reward and encouragement, the address of Hon. J. M. Thacher before the Patent Congress at Vienna in 1873, 4 O. G. 419.

undue restriction of natural rights, is evidently consonant with reason, justice, and sound public policy.

§ 34. Patent Privilege a Justifiable Monopoly: Inventors Entitled to Reward. .

To reward the inventor for his skill and labor in making his invention has always been recognized as a proper reason for granting him an exclusive privilege.¹ Every discoverer of any new and useful thing becomes thereby a benefactor to his race. Even if he preserves his secret, employing his invention only in his own affairs, the improvement which he makes in them is an addition to the sum of human prosperity, and so far an advantage to the public. If he reveals it, permitting but a limited enjoyment and on terms involving compensation to himself, he has conferred still greater favors on mankind. And if he freely publishes it, allowing all to practise it who so desire, and conveying to them whatever knowledge he may have as to its most profitable use, he has bestowed upon the world the highest benefits. Regarded as a mere inventor, not protected by a patent, he is thus always serviceable to the state, and whenever the value of his invention to the public exceeds the fair measure of that contribution, which is due from every man to the common stock of useful knowledge, he is entitled to some adequate reward.

§ 34. ¹ Phillips: (12) "It would be considered paltry to maintain that a general, who had achieved a victory, was sufficiently compensated by his pay, during the time he gave to the achievement. He is considered a benefactor to his country, and, as such, entitled not merely to his pay, but to a *reward*. So is the inventor of a useful art a benefactor to his country, and to the whole civilized world, and as such entitled to a *reward*. It is a debt due to him; not one that he can demand by virtue of the law of nature, and independently of all civil institutions, but one which it ought to be the early

care of the positive laws to acknowledge and satisfy."

Curtis: (xx) "The intellectual conception of an inventor, or a writer, constitutes a valuable possession, capable of being appreciated as a consideration, when it passes by his voluntary grant into the possession of another. If, by the same voluntary grant, this possession is bestowed upon the public, the logical justice of compensation, in some form, will appear at once, by supposing the benefit to have been conferred exclusively upon any one of the mass of individuals who form in the aggregate the moral entity termed the public."

§ 35. Patent Privilege a Justifiable Monopoly : a Proper Reward for the Inventor.

Of all conceivable methods of recompensing an inventor, that of conferring upon him a temporary monopoly of his invention is undoubtedly the best, both for himself and for the public. It places the invention in the hands of him who generally is most fitted to develop and apply it, and compels him to render it beneficial to the public in order that he may reap his own reward. It encourages the inventor to bring his invention to the highest possible condition of practical utility by constantly inventing improvements on it, in order to keep pace with the public wants and to control the trade from which his compensation is derived. It secures the direction of inventive genius toward fields of labor which are of practical importance to the public, and in which the prospect of a due remuneration is most immediate and certain. It makes the reward of the inventor commensurate with the value of his invention to the public. It lays no burden on the people except that of remaining for a while without that which they never yet enjoyed. It is in all respects, if judiciously bestowed and so construed as to protect the precise thing invented and only that, the nearest approach to a perfect apportionment of recompense to services that the law has ever known.¹

§ 35. ¹ Bentham, *Rationale of Rewards* : (92) "It is an instance of reward peculiarly adapted to the nature of the service, and adapts itself with the utmost nicety to those rules of proportion to which it is most difficult for reward, artificially instituted by the legislature, to conform. If confined, as it ought to be, to the precise point in which the originality of the invention consists, it is conferred with the least possible waste of expense. It causes a service to be rendered, which, without it, a man would not have a motive for rendering ; and that only by forbidding others from doing that which, were it not for that service,

it would not have been possible for them to have done. Even with regard to such inventions, for such there will be, where others besides him who possesses the reward have scent of the invention, it is still of use by stimulating all parties and setting them to strive which shall first bring the discovery to bear. With all this it unites every property that can be wished for in a reward. It is variable, equable, commensurable, characteristic, exemplary, frugal, promotive of perseverance, subservient to compensation, popular and reasonable." See also Coryton, 21.

§ 36. Patent Privilege a Justifiable Monopoly: Public Interest Promoted by Stimulating Inventive Genius.

To stimulate inventive skill and energy is one of the most effective methods of advancing national prosperity, and in modern times especially attracts the attention of all enlightened governments. While it is certain that the human mind, independently of external impulses, is constantly engaged in pushing its investigations into new fields and in achieving new results, it by no means follows that practical inventions in the industrial arts would rapidly be multiplied without the inducement offered by the prospect of pecuniary reward. Such inventions necessitate not only the conception of a new idea by the mind, but the reduction of that idea to practice in some tangible and useful form. This latter process cannot be accomplished by speculation only, but involves experiments, often protracted and expensive, and a degree of physical skill and labor which otherwise applied might secure to the inventor a considerable recompense in money. To lead an able and prudent man to engage in such enterprises as these, some reasonable hope of profiting by his own labors must be aroused within him; and this can be effected only by a promise on the part of the public that if he succeeds in his invention he shall be suitably rewarded.¹ Experience teaches that this is true; the progress of inventive triumphs, in all civilized nations, being directly in proportion to the encouragement offered to inventors by the state.²

§ 36. ¹ Coryton: (22) "Inventors, as a class, are singularly deficient in the qualifications for prosecuting a new trade with a probability of success, if exposed to unlimited competition. Without the encouragement of a patent, how is any man to engage in a novel and expensive process, if the moment he succeeds, at the cost of all this outlay, he must be sure that his neighbors, who were cautious enough to shun all chances of loss, will come into competition with him and make his remuneration impossible?"

Chauncey Smith, Esq., Argument before Com. on Patents (1878): (426) "The suggestion is made, indeed, that

inventors are so possessed with the spirit of invention that they would make inventions whether rewarded for it or not. But I am satisfied, from my observation of the inventors with whom I have come in contact, that those who make this assertion know but little of inventors. I have met many of them, but I have never yet seen one, who did not labor constantly and zealously in view of the reward which he hoped to reap as the result of his labor."

² Hon. Elisha Foote, Argument before Com. on Patents (1878): (416) "Some gentlemen have urged here that inventions do not need the protec-

§ 37. Patent Privilege a Justifiable Monopoly: Stimulates Inventive Genius.

For this purpose also the bestowal of the patent privilege on the inventor is admirably adapted. The reward which it offers is certain, and is limited in amount only by the value of his invention to the public and by his energy and judgment in developing it. It furnishes him with the strongest motive to pursue his researches and experiments by securing to him the profitable result of the very enterprise in which he is engaged. It gives him a contingent property in the invention from the moment when he first conceives the idea, to become absolute when the patent privilege is granted, on which he can, as on the pledge of any other property, raise means to prosecute his inquiries and bring them to complete success.¹ And where the field of art covered by his patent is capable of further cultivation, it enables him to devote himself to its improvement with the assurance that every increase in its utility to the public will be followed by an increase in his own reward.

tion of patents; that they come as a matter of course, from the natural promptings of the human mind, and will be made without reference to profits or personal advantages. Such persons, I apprehend, have never investigated the subject. It is within my remembrance when most of the women were employed in spinning and weaving just as they were in the times of Homer. . . . Indeed since the practical operation of patent laws, there has been more advance in all the practical arts of life than was made before in all preceding ages of the world taken together."

§ 37. ¹ Chauncey Smith, Esq., Argument before Com. on Patents (1878): (427) "Those who expect and, perhaps, believe that inventors would make inventions without the hope of reward as well as with, assume, I think, that invention consists wholly in mental labor — in the intellectual exercise of conceiving and devising new things, which

may be described in words and represented by drawings, if the subject is of a nature to admit of drawings. But in almost all cases a good invention involves a great deal more than this. It involves experiments and trials, a large amount of physical labor, and the expenditure for materials of more or less money, according to the nature of the invention. . . . It is this practical part of invention which few men could or would undertake unless the product of the labor and expense should become their own. Most of our inventors are men who live by their daily labor, and they are frequently compelled to sell a share of their proposed inventions in advance of their reduction to practice, in order to obtain the means to reduce them to practice. Contracts of this kind are common, but they could not be made if the law did not protect the invention in the hands of the inventor when completed."

§ 38. Patent Privilege a Justifiable Monopoly: Public Interest promoted by Disclosure of Inventions.

The duty which the state owes to the people to obtain for them, at the earliest moment, the practical use of every valuable invention in the industrial arts is, however, a higher and more imperative duty than any which it owes to the inventor. Upon the amelioration of their physical condition depends, to a great extent, the mental and moral progress of its citizens, and the influence of inventions in effecting this amelioration cannot well be overestimated. Such a delay in bringing a single invention into use as might result from an attempt by the inventor to conceal it may deprive an entire generation of advantages which would redound to its incalculable benefit. To secure the publication of the invention as soon as it is brought to such perfection as to be capable of practical employment, and to remove, as early as the accomplishment of this first object will permit, all restrictions to its free use by the people is, therefore, the main purpose of every concession made to the inventor by the state.¹

§ 39. Patent Privilege a Justifiable Monopoly: Secures the early Disclosure of Inventions to the Public.

The patent privilege, if wisely guarded, effects this purpose. It removes from the inventor all inducement to conceal his

§ 38. ¹ Coryton: (20) "Nothing but principles of justice or public policy can justify the crown, as the steward of public rights, in sanctioning such privileges as those awarded to patentees. The reward of the inventor for the benefit he has conferred on trade, and the obtaining from him for public use the full benefit of the improvement he has effected, are objects which the Executive, as representative of the community, should endeavor to effect with the least possible disturbance of public rights."

In *Blanchard v. Sprague* (1839), 3 Sumner, 535, Story, J.: (539) "Patents for inventions are now treated as a just reward to ingenious men, and as

highly beneficial to the public, not only by holding out suitable encouragements to genius and talents and enterprise; but as ultimately securing to the whole community great advantages from the free communication of secrets, and processes, and machinery, which may be most important to all the great interests of society." 1 Robb, 734 (739).

In *Kendall v. Winsor* (1858), 21 How. 322, Daniel, J.: (327) "It is undeniably true, that the limited and temporary monopoly granted to inventors was never designed for their exclusive profit or advantage; the benefit to the public or community at large was another and doubtless the primary object in granting or securing that monopoly."

discovery, by affording him the same protection that could be obtained by the most rigid secrecy. It encourages him to make known his results, as the method of securing for himself the largest recompense. It compels him to acquaint the public, thoroughly and at the outset, with all the details of his invention and with the various modes of benefiting by its use. It appropriates to the whole people, after a short period of exclusive ownership by the inventor, the entire invention as a portion of that common property in which all men may exercise an equal right.¹ Wherein any grant of the patent privilege fails to accomplish this object it is the fault, not of the inherent nature of the privilege itself, but of the legislature which devised it or the courts by whom it is construed.

§ 40. Patent Privilege a Monopoly : its Threefold Aspect, as a Reward, a Stimulus, and a Contract for the Disclosure of the Invention.

Regarded as a method of attaining these three objects, the concession of the patent privilege by the state is an act having a threefold character. As a reward bestowed on the inventor for his past inventions, it is an act of justice. As an inducement to future efforts, it is an act of sound public policy. As a grant of temporary protection in the exclusive use of a particular invention, on condition of its immediate publication and eventual surrender to the people, it is an act of compromise between the inventor and the public, wherein each concedes something to the other in return for that which is conceded to itself.¹ In this latter character it is a true

§ 39. ¹ In *Grant v. Raymond* (1832), 6 Pet. 218, Marshall, C. J. : (243) "The great object and intention of the act is to secure to the public the advantages to be derived from the discoveries of individuals." 1 Robb, 604 (635).

For a very instructive and interesting discussion of the effects produced by the patent laws upon the inventive genius, the public convenience, wealth and happiness, and the intellectual progress of the countries where such laws prevail, see the arguments of Messrs: Chauncey

Smith, J. J. Storrow, and other gentlemen, in the Report of the hearing before the Congressional Committee on Patents in 1877-78.

§ 40. ¹ Coryton: (41) "The clearest insight, however, into the peculiarities of this property [a patent privilege] is from considering it as the result of a contract entered into by the executive, as representative of the public, with the patentee. The parties meet on the understanding that the one has a secret to communicate, the other a favor to confer in return."

contract, to the stipulations in which each party is bound with the same strictness as in any other contract, and which is to be interpreted in the same manner as other legal obligations.² That portion of the contract by which the public grant protection to the inventor, being intended for his benefit, should be liberally construed, in order to secure to him, in its fullest extent, the protection to which he is entitled. That portion of the contract by which the inventor communicates his invention to the public, being intended for the public benefit, ought, for the same reason, to be construed in favor of the public, in order to secure to them that knowledge and use of the invention to which they are entitled. To construe both parts of the contract in favor of the public, as in the earlier English cases, or to construe both in favor of the inventor, as seems to be the tendency of certain modern courts, is an abandonment of the correct theory of the patent privilege itself, and of the common rules by which all mutual obligations are controlled.³

Phillips : (22) "All laws of this description, therefore, give only a temporary monopoly. They offer a compromise between the inventor and the rest of the community, by which each party surrenders something, and it is proposed that each shall receive an equivalent."

² Curtis : (xxiii) "But it should always be remembered that in the grant of a patent privilege, as now understood, a contract takes place between the public and the patentee, to be supported upon the ground of mutual considerations, and to be construed, in all its essential features of a bargain, like other contracts to which there are two parties, each having rights and interests involved in its stipulations."

³ Curtis : (xxxv) "The truth is, a patent should be construed as, what it really is, in substance, namely, a contract or bargain between the patentee and the public, upon those points which involve the rights and interests of either party. These points relate to the extent of the claim, and to the intelligi-

bility of the description for the purposes of practice." See also 2 Pars. Cont. 257 z.

That any confusion or doubt should attend the truth or application of so plain a rule as that stated in the text would seem impossible, did not experience prove the contrary. So far as the relation between the public and the patentee can be regarded as a contract relation, the rights and obligations of both parties to the contract are perfectly clear and simple. The right of the public is to be put into immediate possession of a complete knowledge of the invention, and it is the duty of the patentee to give this knowledge. The right of the patentee is to enjoy unmolested the exclusive use of his invention during the life of his patent, and it is the duty of the public to secure him in this right by the ordinary forms of legal protection and redress. These reciprocal rights and obligations are to be assured to the respective parties only by imposing upon each the necessity of fully,

§ 41. Patent Privilege a Monopoly: its Contract Aspect alone Involved in the Construction and Administration of Patent Law: Two Fundamental Principles.

The acts of legislatures which prescribe the limits and conditions of the patent privilege, and the decisions of the courts in interpreting and applying such legislative acts, relate to its contract character alone. Considerations of public policy and of justice to inventors are proper for the constitutional convention, when determining whether or not these privileges shall be granted, and for the legislature when about to define the scope of the inventor's rights and the service which he must render to the public in return. But the legis-

literally, and immediately discharging its legal duty to the other; in other words, by interpreting each side of the contract against its promisor and in favor of its promisee.

The cause of this confusion and doubt one need not go far to discover. In the first place, the courts have for many years habitually employed sweeping language to the effect that patents were to be construed liberally in favor of the patentee, — language which is correct enough if the patent is to be regarded merely as the grant of the privilege (which it was until a recent period), but which is incorrect when the patent is considered as embracing also the communication of his discovery by the inventor to the public. As a matter of fact the specification and drawings attached to a patent now perform two distinct functions, and thus become portions of each of the two different parts of the contract. Used to define the limits of the granted privilege, they are the contract of the public, and to be interpreted in favor of the patentee. Used to describe the invention to the public, they are the contract of the inventor and to be construed in favor of the public. General language in this instance has worked such mischief as it usually does.

Moreover, this confusion is increased

by the fact that the interpretation of these two parts of the contract is practically confided to two different tribunals. The question as to the meaning of the patent, specification, and drawings, considered as a grant of privilege, is a question of law for the court. The question as to their meaning and sufficiency, considered as a communication of the discovery to the public, is a question for the jury under the direction of the court. The rule which is to guide the court in its interpretation is the rule of favor to the patentee; that which is to guide the jury is the rule of full protection to the public. That the courts, in hurriedly prepared instructions to the jury, should sometimes fail to distinguish between these two rules, and direct them generally that the patent is to be construed in favor of the patentee, is perhaps not surprising; but that their language, embodied in the reports and followed by later judges, should come to be regarded as embracing the entire law on that subject was as unnecessary as it is unfortunate. That this confusion has worked practical injustice to the public may not be capable of proof; but the obscuration of the law itself by those whose duty it is to develop and elucidate it is, by no means, the least of evils.

lature having acted in the premises, the language of the statute, regarded, as all statutes must be, as intended to promote the common good, becomes the measure of the rights and duties of the inventor and the public, and fixes the relations which they are to occupy toward each other. It is the office of the courts to interpret the language of the statute, and apply it to particular cases, in such a manner as to effect the intention of the legislature, by preserving these rights and enforcing these duties, as they are prescribed by the statute and specified in the patent actually granted.¹ Patent Law as such, consisting of these statutes and decisions, therefore relates only to the contract character of the patent privilege and forms one branch of the Law of Contracts.² It deals with a single form of obligation, and with but two classes of parties whose relations to each other are always substantially the same. The principles on which it rests are simple, though often difficult of application on account of the abstruse or intricate character of the invention concerning which the controverted questions rise. These principles may be finally reduced to two, as fundamental grounds on which all others rest:—

I. That the inventor, having made such an invention as is entitled to the patent privilege, must communicate it to the public by publishing an accurate description of its character and uses ;

II. That the public, having received from the inventor this communication, must thenceforth, during the period for which his privilege is granted, protect him in the exclusive use of the invention so described.

§ 41. ¹ Bishop, Written Laws : (§ 70)
 “Laws are expounded and enforced, not made, by the courts. The makers are entitled to have their real meaning, if it can be ascertained, carried out. Hence the primary object of all rules for interpreting statutes is to ascertain the legislative intent ; or, exactly, the meaning which the subject is authorized to understand the legislature intended.”

² 2 Pars. Cont. : (257 y) “The rules and principles of the common law, as to contract, construction, evidence and remedy, are applied to the law of patents. . . . (257 z) [The patentee] is a party to a fair and equal contract, and should be dealt with by the law rationally and impartially.”

§ 42. Patent Privilege a Monopoly: its Contract Aspect: Obligations assumed by the Inventor.

According to the first of these principles the obligation of the inventor to the public is twofold: (1) The result of his inventive skill must be of such a nature that a patent may lawfully be granted to protect it; (2) The invention itself must be fully communicated to the public. Of these two obligations the latter is practically the most important. Invention without publication is of comparatively little value to the state, and to reward the inventor, at the public loss, for a discovery which he endeavors for his own advantage to conceal, would be contrary to the entire purpose of the patent privilege.¹ It is the publication, rather than the invention, which promotes the interests of the people; and although invention by some one must necessarily precede publication by any, it has always been the policy of the law to treat the publication as the meritorious act which entitles the inventor to his patent. Thus by the decisions under the statute of James I. it was established that the first importer into the realm was entitled to the same privilege as a first inventor; the mere act of invention adding nothing to the merit of the latter, and its absence not diminishing the service rendered to the public by the former.² The earlier patents also contained a clause, requiring the inventor to take apprentices and teach them the knowledge and mystery of the new invention.³ In the reign of Anne (A. D. 1712) it was made a condition of the grant that the patentee should file in Chan-

§ 42. ¹ In *Kendall v. Winsor* (1858), 21 How. 322, Daniel, J. : (328) "The inventor who designedly, and with a view of applying it indefinitely and exclusively for his own profit, withholds his invention from the public, comes not within the policy or objects of the Constitution or Acts of Congress. He does not promote, and if aided in his design, would impede, the progress of science and the useful arts. And with a very bad grace could he appeal for favor or protection to that society which, if he had not injured, he certainly had neither benefited nor intended to benefit."

² In *Edgebury v. Stephens* (1691), 1 Web. 35, Holt and Pollexfen, JJ. : "A grant of a monopoly may be to the first inventor by the 21 Jac. I., and if the invention be new in England, a patent may be granted though the thing was practised beyond sea before; for the statute speaks of new manufactures within this realm; so that if it be new here, it is within the statute; for the act intended to encourage new devices useful to the kingdom, and whether learned by travel or by study it is the same thing." 1 Abb. P. C. 8.

³ Coryton, 123.

cery a written specification, describing his invention and the proper mode of its employment.⁴ And in this country it has always been a condition precedent to the issue of a patent that the inventor should place upon the public records a full and accurate statement of the character of his discovery and of the methods in which it could be practically used.⁵ As between rival inventors, also, the one who has first published the invention, by his application for a patent, is presumed to be entitled to the privilege until the contrary is shown.⁶ Of simultaneous inventors, the first publisher by specification becomes the only patentee.⁷ Through the whole body of the law runs the same principle, that the real consideration given to the public for the patent privilege is not the skill of the inventor in inventing, but his honesty and thoroughness in making his discovery known.⁸ The inventor, therefore, who does not

⁴ Godson, 46 ; Coryton, 123. This requirement was introduced into the patent, not by legal enactment, but on the authority of the law officers of the crown, — the date of the first patent containing this condition being April 1, 1712.

⁵ In the act of 1790, § 2, it is provided that, at the time the patent is granted, the patentee shall file, to be kept on public record, a written specification so describing the invention as to enable any person skilled in the art to which it belongs to make and use it. The same act, § 3, makes it the duty of the government official, in charge of such record, to furnish copies of it to any one who may desire them. These provisions, in substance, are found in all later statutes.

⁶ In *Booth v. Lyman* (1880), 17 O. G. 393, Paine, Com. : (394) “Priority of invention . . . is determined *prima facie* as between two original applications by the dates of filing the respective applications : as between an original pending application and one or more patents by the dates of filing the pending application and the applications on which the patents were granted ; as between a pend-

ing reissue application and one or more unexpired patents by the dates of filing the original application for the patent of which a reissue is asked and the applications on which the other patents were granted.”

⁷ In *Cox v. Griggs* (1861), 2 Fisher, 174, Drummond, J. : (177) “If they were jointly experimenting and equally meritorious, a doubt should be solved in favor of him who first obtains a patent.” 1 Bissell, 362 (365).

⁸ Curtis: (xxi) “This secret the inventor undertakes to impart to the public, when he enters into the compact which the grant of a patent privilege embraces. In that compact he promises, after the lapse of a certain period, to surrender to the public completely the right of practising his invention ; and, as a guaranty against his concealment of the process by which it is to be practised, and to prevent the loss of this knowledge, he is required to deposit in the archives of the government a full and exact description in writing of the whole process, so framed that others can practise the invention from the description itself. The public, on the other

fully disclose his invention, at the time and in the manner required by law, does not fulfil his contract with the public and is not entitled to the privilege which he receives.⁹ If this occurs without his fault, reason and the public interest both require that he should be permitted to protect himself and afford proper information to the public by amending his description.¹⁰ But such permission, unless restricted to evident mistakes and never suffered to result in an extension of the privilege already granted, is fraught with many dangers, and leads to flagrant violations of the public rights.¹¹

§ 43. Patent Privilege a Monopoly: its Contract Aspect: Obligations assumed by the Public.

According to the second of these two principles, the obligation of the public to the inventor, upon the discovery and

hand, through the agency of the government, in consideration of this undertaking of the inventor, grants and secures to him the exclusive right of practising his invention for a term of years."

In *Carr v. Rice* (1856), 1 Fisher, 198, Betts, J. : (200) "It is dealt with by the courts, as a grant by the legislature, in exchange for the equivalent to be received by the public, in the free enjoyment of the patented discovery, after the inventor's exclusive privilege expires."

In *Page v. Ferry* (1857), 1 Fisher, 298, Wilkins, J. (306) : "The patent may be considered in the light of a deed from the government, the consideration of which is the invention specified; and the patentee is bound to communicate it, by so full, clear, and exact a description, with drawings and models, that it shall be within the comprehension of the public at the expiration of the patent, for at that period his invention becomes public property."

⁹ Curtis : (§ 256) "If anything be omitted which gives an advantageous operation to the thing invented, it will vitiate the patent."

¹⁰ In *French v. Rogers* (1851), 1 Fisher,

133, Kane, J. : (137) "If it be true, as we have supposed . . . that the patent is granted to the inventor in consideration of some benefit to be derived by the public from his disclosures, and that the reissue is in consideration of some more full or more accurate disclosure than that which he had made in his original specification, or some renunciation on his part of an apparently secured right — it is for the public interest that the surrender and reissue should be allowed to follow each other, just as often as the patentee is content to be more specific or more modest in his claims."

¹¹ In *Meyer v. Maxheimer* (1881), 20 O. G. 1162, Wheeler, J. : (1162) "There is no safe or just rule but that which confines a reissue patent to the same invention which was described or indicated in the original." 20 Blatch. 15 (17); 9 Fed. Rep. 99 (100).

In *Smith v. Merriam* (1881), 19 O. G. 601, Lowell, J. : (602) "The law is extremely liberal, perhaps too much so, and has been much abused." 6 Fed. Rep. 713 (717).

See also *Miller v. Brass Co.* (1882), 104 U. S. 350, 21 O. G. 201.

publication of his invention, is also twofold: (1) It must give to his exclusive right a legal sanction by the act of granting him the patent; (2) It must afford him adequate protection and redress in cases where his rights are violated or endangered. To the inventor himself the former is undoubtedly the most valuable part of this obligation. A patent being once obtained, the public generally acquiesce in the inventor's claims as far as he has clearly stated and defined them, and he proceeds to gather his reward without denial or interference on the part of others.¹ But the latter part is practically the most important; for it is this which gives vitality and force to the former, and it is in the proceedings which this involves that the limits of the patent privilege are finally determined and the rules governing it are settled and applied. The principle which underlies these rules, namely, that the inventor is entitled to complete protection in the exclusive use of what he has invented and has covered by his patent, assumes that he will bring his invention into actual use, and that the injury to which he is subject consists in such a use by others as amounts to an infringement of his own.² It is true that his patent privilege as now interpreted permits him to withhold his patented invention from the public, and that this course of action does not justify its unauthorized employment.³ Nevertheless, it is apparent that one great object of the patent privilege is to secure to the public an immediate,

§ 43. ¹ Although there are numerous infringements, which are never brought to the attention of the courts, and of suits actually instituted but a small part find their way into the reports, yet, in view of all the facts, it appears probable that less than two per cent of the patents actually granted are so far infringed as to impair the enjoyment of his exclusive use by the inventor.

² The property of a patentee in his invention consists entirely in his right to its exclusive use (*Brush v. Naugatuck R. R. Co.* (1885), 32 O. G. 894, 24 Fed. Rep. 371; 23 Blatch. 277), and the whole body of the law protect-

ing this property, with the single exception of the equity doctrine concerning his right to the infringer's profits, proceeds on the assumption that the invention will be put to practical use, so far as it is in the inventor's power.

³ In *Pitts v. Wemple* (1855), 2 Fisher, 10, Drummond, J. : (15) "A man may obtain a patent for an invention and let it lie in the Patent Office without use, and no one else would have the right to use such invention, because it is his property." 1 Bissell, 87 (93); but see *Hoe v. Knap* (1886), 27 Fed. Rep. 204; 36 O. G. 1244, cited in note 1, § 31.

if not gratuitous, enjoyment of the new discovery, and that the inventor does not fulfil the spirit of his contract unless he introduces his invention into actual use and puts its benefits within the reach of others.⁴ It is for this very reason that his reward for his disclosure is given him in this form of a monopoly of his invention, and that the amount of his compensation is thus made dependent on the diligence with which he presses it upon the public. Correctly speaking, it is, therefore, the infringement of the use, and not of the ownership of an invention, that the public have contracted to prevent or to redress; and the degree of injury committed by the infringer is to be estimated by his interference with that use as already made, or likely to be made, by the inventor. To give to one who, having patented a valuable invention, practically suppresses it the same redress, in quantity as well as kind, which justly could be claimed by one who was engaged in its employment, is a perversion of the true idea of the relation of the inventor to the public, and sanctions his neglect of a duty impliedly imposed upon him by his grant.⁵ No such encouragement should be given to him to speculate upon wrong-doing. He should be compelled to exercise the exclusive right conferred upon him by his patent, and thereupon the state should vindicate that right by obliging those who violate it to make him ample compensation for the loss they have occasioned.

⁴ In *Magic Ruffle Co. v. Douglass* (1863), 2 Fisher, 330, Shipman, J. : (333) "The public who thus, through the law, secure to the inventor the exclusive property in his invention for a limited period, receive in return either new, more valuable, or cheaper productions during the lifetime of the patent, and from its expiration the free enjoyment of any benefits which may flow from it forever thereafter."

⁵ This is the consequence, however, of the rule adopted by the courts that in equity the infringer is to be so far treated like a trustee for the owner of the infringed patent, as to be held accountable to him for all the benefits that

may accrue from the infringement. In view of that rule, all question as to the actual injury done to the patentee is avoided. It is assumed that, by the infringement, he has been deprived of all the profit which the defendant has made, and this whether he has ever attempted to avail himself of his invention or not. Indeed, if his invention be of that class which can be enjoyed by licensing others to use it, and he has thus enjoyed it, his compensation for the infringement is likely to be far less in amount than if he had neglected it, since in the former case his habitual license fee, and not the profits, becomes the measure of his recovery.

§ 44. Patent Privilege a Monopoly: Summary of Fundamental Principles.

This discussion of the nature of the patent privilege leads to the following conclusions:—

I. That the patent privilege is a true monopoly, granted in derogation of the common right;

II. That this monopoly is, however, properly bestowed on the inventor, because, upon the whole, it is conducive to the public good;

III. That when bestowed, it becomes a consideration paid to the inventor for the immediate and full disclosure of his invention, and for its ultimate entire surrender to the public;

IV. That unless the inventor, at or before the issue of his patent, makes this disclosure, and thereby puts the public into complete possession of his secret, his own part of the contract remains unfulfilled, and he is not entitled to the privilege;

V. That so much of the letters-patent as constitutes the grant of the inventor's privilege is to be construed liberally in his favor; while so much as constitutes his disclosure of the invention is to be construed in favor of the public;

VI. That having duly published his invention, and received his patent, the inventor is entitled to enjoy his exclusive use without interference, and to recover in suitable proceedings full compensation for all injuries thereto.

CHAPTER III.

OF THE PATENT SYSTEM OF THE UNITED STATES.

§ 45. Patent Privilege in America usually Conferred only by Federal Government: Power of State Governments to Grant Patents.

IN the United States the patent privilege is now conferred by the national government alone. That the individual States possess the power to grant these rights, as part of their inherent sovereignty, is generally conceded, and has been formally recognized both by Congress and the courts.¹ Previous to the establishment of the patent system of the United States many of the States had exercised this power, but as its opera-

§45. ¹ The act of 1793, §7, provides: "That where any State, before its adoption of the present form of government, shall have granted an exclusive right to any invention, the party, claiming that right, shall not be capable of obtaining an exclusive right under this act, but on relinquishing his right under such particular State; and of such relinquishment, his obtaining an exclusive right under this act shall be sufficient evidence."

Among the most notable examples of these State grants is the one out of which grew the case of *Livingston and Fulton v. Van Ingen* (1812), 9 Johns. 507. On Mar. 19, 1787, the legislature of the State of New York granted to one John Fitch the sole and exclusive right and privilege of making and using boats, propelled by fire or steam, within the waters of that State for the period of fourteen years. Fitch failed to ex-

ercise this right, and on Mar. 27, 1798, his patent was repealed, and the same privileges were conferred on Robert R. Livingston for the ensuing twenty years. Livingston's efforts were also fruitless, but Robert Fulton having at last succeeded in constructing a boat that could be moved by steam, the Livingston patent was extended on April 5, 1803, to embrace Fulton also, and its duration fixed conditionally at twenty years from the date of the extending act. While the steamboats of these patentees were in operation, James Van Ingen and others engaged in a similar enterprise, and against these a bill for an injunction was filed by Livingston and Fulton in 1811. The chancellor denied the prayer of the bill, but on appeal to the Court of Errors this judgment was reversed, and a perpetual injunction ordered. Kent, C. J., delivering his opinion in reference to the power of in-

tion was necessarily limited to the territory of the State, the practical protection afforded to the inventor by such grants was comparatively worthless.² And since it became possible, by one act emanating from the central government, to secure these exclusive privileges throughout the entire nation, inventors have, with scarcely an exception, sought and received their patents from the Federal authority.

**§ 46. Patent Privilege Authorized by Federal Constitution:
Powers of Congress.**

The power of the United States to clothe inventors with their exclusive privileges is derived from the following clause in the eighth section of the first article of the Constitution: "The 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." The authority thus conferred on Congress is unrestricted as to the method of its exercise. The subject of the exclusive right must be a writing or discovery of the person to whom the right is granted, and the period during which the right may be enjoyed must be determined by the letter of the grant.¹ As to all other matters Congress

dividual States to grant such patents, says: (581) "If the grant is not inconsistent with the power of Congress to regulate commerce, there is as little pretence to hold it repugnant to the power to grant patents. That power only secures, for a limited time, to authors and inventors, the exclusive privilege to their writings and discoveries; and as it is not granted, by exclusive words, to the United States, nor prohibited to the individual States, it is a concurrent power which may be exercised by the States, in a variety of cases, without any infringement of the Congressional power. A State cannot take away from an individual his patent right, and render it common to all the citizens. This would contravene the Act of Congress, and would be, therefore, unlawful.

But if an author or inventor, instead of resorting to the Act of Congress, should apply to the legislature of this State for an exclusive right to his production, I see nothing to hinder the State from granting it, and the operation of the grant would, of course, be confined to the limits of this State. Within our own jurisdiction, it would be complete and perfect. So a patentee under the Act of Congress may have the time of his monopoly extended by the legislature of any State, beyond the term of fourteen or twenty-eight years allowed by that law."

² Law. Dig. (States, 11).

§ 46. ¹ In *Graham v. Johnston* (1884), 21 Fed. Rep. 40, Morris, J. : (42) "The theory of the encouragement given to inventors is, that by disclosing under the

is supreme. It may refuse all privileges whatsoever. It may bestow them with or without conditions. It may establish such a period for their duration as it deems expedient. It may exhaust its powers by special grants to individual authors and inventors, or by a general law award to all a uniform protection. Its action may be retrospective or prospective, as long as vested rights are not impaired.² The effect of its

regulations of law their discoveries they benefit the public, and the constitutional power of Congress for securing to them the exclusive right to their inventions has only one restriction, viz. : that it shall be for limited times. With regard to the terms upon which the exclusive right shall be granted, the time when the application for the original grant or for any renewal or extension of it shall be made, it has been frequently held that the regulations in these matters are merely self-imposed restrictions on the constitutional power of Congress, which it can at pleasure disregard in any particular case. Walker Pat., § 255."

In *Livingston and Fulton v. Van Ingen* (1812), 9 Johns. 507, Kent, C. J. : (583) "It seems to be admitted that Congress are authorized to grant patents only to the *inventor* of the useful art. . . . There cannot, then, be any aid or encouragement, by means of an exclusive right under the law of the United States, to importers from abroad of any useful invention or improvement."

In *Blanchard v. Sprague* (1839), 3 Sumner, 535, Story, J. : (541) "The power is general, to grant to inventors ; and it rests in the sound discretion of Congress to say, when and for what length of time and under what circumstances the patent for an invention shall be granted. . . . All that is required is, that the patentee should be the inventor." 1 Robb, 734 (741).

² In *Graham v. Johnston* (1884), 21 Fed. Rep. 40, Morris, J. : (42) "Special

acts for the relief of particular inventors have often been passed by Congress. *Evans v. Eaton*, 3 Wheat. 454. In the case of *Agawam Co. v. Jordan*, 7 Wall. 583, the Supreme Court sustained a patent which had been extended in pursuance of a special act of Congress, passed more than twenty years after the original patent had expired, and the invention had been free to the public. . . . In *Blanchard v. Sprague*, 2 Story, 170, Mr. Justice Story, speaking of the right of Congress to grant a patent to an inventor whose invention had, at the time of the passage of the act, gone into public use, says that the question is set at rest by *Evans v. Eaton*, and that he had never doubted the constitutional authority of Congress to make such a grant. The right which the public has acquired to use the thing invented, by reason of the applicant for a patent failing to do something prescribed by Congress, and the necessity for which Congress might, by previous legislation, have dispensed with, has never been held to be a vested right."

In *Bloomer v. Stolley* (1850), 5 McLean, 158, McLean, J. : (161) "There would seem to be no doubt that the constitutional power in question might have been fully exercised by Congress in making special grants ; . . . but this would be a question of expediency and not of constitutional power. . . . (162) The machinery through which this right is ordinarily applied for, and obtained, may be dispensed with, and the title may be conferred by a legislative grant ;

enactments is co-extensive with the territory of the United States,³ and no State can disturb or modify either the privileges

and this may be done in regard to the extension of an exclusive right by Congress, the same as in originally granting it."

In *McClurg v. Kingsland* (1843), 1 How. 202, Baldwin, J., speaking of the patent laws: (206) "Though they may be retrospective in their operation, that is not a sound objection to their validity; the power of Congress to legislate upon the subject of patents is plenary by the terms of the Constitution, and as there are no restraints on its exercise, there can be no limitation of their right to modify them at their pleasure, so that they do not take away the rights of property in existing patents." 2 Robb, 105 (110).

For examples of the exercise of its more extraordinary powers on this subject, see the following cases:—

The grant of a patent, or a renewal, for an invention already in public use, *Evans v. Jordan* (1813), 1 Brock. 248; 1 Robb, 20; *Evans v. Jordan* (1815), 9 Cranch, 199; 1 Robb, 57; *Blanchard v. Sprague* (1839), 3 Sumner, 535; 1 Robb, 734; *Jordan v. Dobson* (1870), 4 Fisher, 232.

The grant of special extensions, *Blanchard's Gun-Stock Turning Factory v. Warner* (1848), 1 Blatch. 258; *Bloomer v. Stolley* (1850), 5 McLean, 158; *Bloomer v. McQuewan* (1852), 14 How. 539.

That all the rights and remedies of inventors rest on the Constitution and the acts of Congress, and where these are silent no right or remedy exists, see *United States v. American Bell Telephone Co.* (1887), 41 O. G. 123; 32 Fed. Rep. 591. But see § 10 and notes.

That the powers of Congress are unlimited except as to time of grant, see *Graham v. Johnston* (1884), 21 Fed. Rep. 40.

That special acts of Congress are valid though privative of common right, see

Graham v. Johnston (1884), 21 Fed. Rep. 40.

³ In *Brown v. Duchesne* (1856), 19 How. 183, Taney, C. J., speaking of the power of Congress to confer patents for inventions: (195) "The power thus granted is domestic in its character, and necessarily confined within the limits of the United States. It confers no power on Congress to regulate commerce, or the vehicles of commerce, which belong to a foreign nation, and occasionally visit our ports in their commercial pursuits. . . . Nor is there anything in the patent laws that should lead to a different conclusion. They are all manifestly intended to carry into execution this particular power. They secure to the inventor a just remuneration from those who derive a profit or advantage, within the United States, from his genius and mental labors. . . . But these acts of Congress do not, and were not intended to, operate beyond the limits of the United States; and as the patentee's right of property and exclusive use is derived from them, they cannot extend beyond the limits to which the law itself is confined." In pursuance of this rule it was held in this case that the use, on a foreign vessel in an American port, of an invention patented in the United States, is no infringement of the patentee's rights.

In *Gardiner v. Howe* (1865), 2 Clifford, 462, the limits of the United States, for this purpose, were regarded as including American vessels on the high seas. Clifford, J.: (464) "The patent laws of the United States afford no protection to inventions beyond or outside of the jurisdiction of the United States; but this jurisdiction extends to the decks of American vessels on the high seas, as much as it does to all the territory of the country."

which it creates or their enjoyment by the persons on whom they are bestowed.⁴

⁴ In *People v. Russell* (1883), 25 O. G. 504, Cooley, J., speaking of an ordinance imposing a license fee on peddlers, says: (504) "It is objected to the ordinance that if applied to the sale of patented articles it is an interference with the power of Congress to grant exclusive rights to patentees to make and sell their inventions, and an encroachment upon the rights which the patent assures to the patentees. We agree that if this is the case the ordinance can have no such application. The power of Congress to grant the exclusive right to make and sell the articles which from their originality and value have been found deserving, is exclusive, and any State legislation which undertakes to limit or restrict in any manner the privileges which the letters-patent confer is an invasion of the sphere of national authority, and therefore void. This was shown in *Cranson v. Smith*, 37 Mich. 309, and what is said there need not be repeated. But the ordinance in question does not assume to interfere with or in any way to abridge the exclusive rights which the patentee may lay claim to under his patent. The ordinance is a police regulation, made under the general police authority of the State, and taking no notice of this or any other patent, or of the way in which any salable commodity may have come into existence. It is one of the customary regulations for a business. It is well settled now, if it was ever doubted, that any ordinary exercise of Congressional authority does not take from the State any portion of its general power of police. *Pervear v. Commonwealth*, 5 Wall. 475. The acts of Congress assume the existence of State regulations, and in many respects would prove inoperative and confusing if it were other-

wise. The patent laws are as forcible for illustration as any other; they give exclusive rights, but they do not determine personal capacity to contract or prescribe the requisites for sales of patented articles or impose the customary restrictions which are supposed to be important to the protection of public morals. All these matters are left to the State law. The patentee must observe the Sunday law as much as any other vendor; he must put his contracts in writing under the same circumstances which require writings of others, and he must obey all other regulations of police which are made for general observance. *Patterson v. Kentucky*, 97 U. S. 501. Invidious regulations applicable to patentees exclusively might be void; but there is no question of that nature here. We have no doubt that it was competent for the State to confer upon the city the power to pass such an ordinance. That the regulating of hawkers and peddlers is important, if not absolutely essential, may be taken as established by the concurring practice of civilized states. They are a class of persons who travel from place to place among strangers, and the business may easily be made a pretence or a convenience to those whose real purpose is theft or fraud. The requirement of a license gives opportunity for inquiry into antecedents and character and the payment of a fee affords some evidence that the business is not a mere pretence." 49 Mich. 617 (618).

In *Palmer v. State* (1883), 39 Ohio State, 236, Upson, J. : (238) "The patent laws of the United States give to inventors the exclusive right to their inventions, but do not give to them the right to disregard laws enacted to promote the welfare of the whole people.

§ 47. Patent Privilege Conferred by General or Special Acts of Congress.

The acts of Congress, in pursuance of this authority, have been of two classes: (1) Special acts, bestowing upon in-

The State cannot discriminate against patented articles by imposing upon their sale conditions and restrictions not placed upon the sale of other similar articles; but the sale of all articles like those now under consideration, whether patented or not, may be restricted, regulated or forbidden, whenever the public good requires such restriction, regulation, or prohibition."

In *State v. Telephone Co.* (1880), 36 Ohio State, 296, McIlvaine, C. J.: (311) "While it is true, that letters patent secure a monopoly in the thing patented, so that the right to make, vend, or use the same is vested exclusively in the patentee, his heirs and assigns, for a limited period; it is not true, that a right to make, vend, or use the same in a manner which would be unlawful except for the letters patent, thereby becomes lawful, under the act of Congress, and beyond the power of the States to regulate or control. This doctrine is fully discussed and settled in *Jordan v. Overseers of Dayton* (4 Ohio, 295), and *Patterson v. Kentucky* (97 U. S. 501). The doctrine of these cases may be stated thus: the right to enjoy a new and useful invention may be secured to the inventor and protected by national authority against all interference; but the use of tangible property which comes into existence by the application of the discovery is not beyond the control of State legislation, simply because the patentee acquires a monopoly in his discovery."

In *Patterson v. Commonwealth* (1875), 11 Bush, 311, Pryor, J.: (314) "There is a manifest distinction between the right of property in the patent, which carries with it the power on the part of the patentee to assign

it, and the right to sell the property resulting from the invention or patent. A State has no power to say through its legislature that the patentee shall not sell his patent, or that its use shall be common to all of its citizens; for this would be in direct conflict with the law of Congress; and that portion of the opinion referred to, giving the patentee an unrestricted power to sell, has allusion alone to his right of property in the patent right, as that was the only question involved in the case. The discovery or invention is made property by reason of the patent, and this right of property the patentee can dispose of under the law of Congress, and no State legislation can deprive him of this right; but when the fruits of the invention or the article made by reason of the application of the principle discovered is attempted to be sold or used within the jurisdiction of a State, it is subject to its laws, like other property; and such has been the uniform decision of all the courts, State and Federal, upon this question."

In *Ex parte Robinson* (1870), 4 Fisher, 186, Davis, J.: (188) "The property in inventions exists by virtue of the laws of Congress, and no State has a right to interfere with its enjoyment, or to annex conditions to the grant. If the patentee complies with the law of Congress on the subject he has a right to go into the open market anywhere within the United States and sell his property." 2 Bissell, 309 (314). In this case a law of Indiana regulating the sale of patent-rights within that State was held unconstitutional and void.

In support of the same principle see *Hollida v. Hunt* (1873), 70 Ill. 109;

dividual inventors some new or more extensive privilege;
(2) General acts, providing for the issue of grants of privi-

Helm v. First National Bank of Huntington (1873), 43 Ind. 167.

In *Jordan v. Overseers* (1831), 4 Ham. (Ohio) 294, Lane, J. : (309) "The sole operation of the statute, is to enable him to prevent others from using the products of his labours, except with his consent. But his own right of using is not enlarged or affected. There remains in him, as in every other citizen, the power to manage his property, or give direction to his labours, at his pleasure, subject only to the paramount claims of society, which require that his enjoyment may be modified by the exigencies of the community to which he belongs, and regulated by laws, which render it subservient to the general welfare, if held subject to State controul."

That a State statute is not to be so construed as to interfere with the enjoyment of a patent privilege or annex conditions to its grant, see *Grover & Baker Sewing Mach. Co. v. Butler* (1876), 53 Ind. 454.

That a State law imposing unusual burdens on the vendors of patent-rights is unconstitutional, see *Wilch v. Phelps* (1883), 14 Brown (Neb.), 134 ; 25 O. G. 981.

That a State has no power to require the vendor of *patent-rights* to procure a State license to do so, see *State v. Butler* (1879), 3 Lea, 222.

That a State has power to protect its citizens against fraud in the sale of patent-rights by requiring the vendor to file and record his patent and statement of his title in the county where it is offered for sale, see *New v. Walker*, (1886), 108 Ind. 365; *Brechbill v. Randall* (1885), 102 Ind. 528.

That a foreign corporation cannot be compelled to comply with certain State provisions as a condition of its power to sell or license under its patents within

such States, see *Shook v. Singer Mfg. Co.* (1878), 61 Ind. 520; *Grover & Baker Sewing Mach. Co. v. Butler* (1876), 53 Ind. 454; *Wood Mowing & Reaping Mach. Co. v. Caldwell* (1876), 54 Ind. 270.

That a State cannot pass laws regulating the sale of patent-rights, see *People v. Russell* (1883), 49 Mich. 617; 25 O. G. 504; *Crittenden v. White* (1876), 23 Minn. 24; *Patterson v. Com.* (1875), 11 Bush (Ky.), 311; *Hollida v. Hunt* (1873), 70 Ill. 109.

That a State cannot discriminate against notes taken for patent-rights, see *Hollida v. Hunt* (1873), 70 Ill. 109.

That a State may pass a law requiring notes or bonds given for a patent-right to state that fact on the face of the instrument, see *New v. Walker* (1886), 108 Ind. 365; *Herdie v. Roessler* (1886), 39 Hun, 198; *Tod v. Wick Bros.* (1881), 36 Ohio St. 370; *Haskell v. Jones* (1878), 86 Pa. St. 173. *Contra*, *Castle v. Hutchinson* (1885), 25 Fed. Rep. 394; *Cranson v. Smith* (1877), 37 Mich. 309; *Helm v. First National Bank of Huntington* (1873), 43 Ind. 167.

That where a State law requires that a note or bond given for a patent-right shall disclose that fact on its face, a note not disclosing it is open to all defences which could be made if it had contained such disclosure, see *New v. Walker* (1886), 108 Ind. 365; *Tod v. Wick Bros.* (1881), 36 Ohio St. 370.

That a State has power to regulate the transfer of notes which were originally given for an interest in a patent, see *Domestic Sewing Mach. Co. v. Hatfield* (1877), 58 Ind. 187.

That the States cannot be deprived of their police powers by any ordinary act of Congress, see *People v. Russell* (1883), 49 Mich. 617 ; 25 O. G. 504.

That the patent laws confer rights

lege by some department of the government to any person who might be found to be entitled to them. Each of the former is independent of all others of its class, but is considered as engrafted on the general acts, and is construed in harmony with them as far as its own language will permit.¹ The latter

but do not determine contracting powers or prescribe requisites for sales, see *People v. Russell* (1883), 49 Mich. 617 ; 25 O. G. 504.

That a patentee's right to use and sell his invention is subject to State law, see *In re Brosnahan* (1883), 4 McCrary, 1 ; 18 Fed. Rep. 62.

That a State has power to regulate the sale of the patented article and of the products of patented processes, see *Patterson v. Com.* (1875), 11 Bush (Ky.), 311.

That a State may require a pedler to take out a license though the articles he sells are patented and he is the patentee, see *People v. Russell* (1883), 49 Mich. 617 ; 25 O. G. 504 ; *Webber v. Virginia* (1881), 103 U. S. 344 ; 20 O. G. 369.

That a State may protect its citizens against unwholesome food by requiring that a label stating its ingredients be placed on each package, and to such a requirement a patent for the composition of matter is no defence, see *Palmer v. State* (1883), 39 Ohio St. 236.

That the States have power to regulate the use of the invention, see *State v. Telephone Co.* (1880), 36 Ohio St. 296.

That where the use of an invention requires an exercise of the right of eminent domain, the State may impose such conditions on the right as it deems necessary, see *State v. Telephone Co.* (1880), 36 Ohio St. 296.

That a State may regulate the use of property resulting from the enjoyment of the invention, see *Halkett v. State* (1885), 105 Ind. 250.

That a State may fix a maximum

charge for the use of patented inventions, see *Central Union Telephone Co. v. Bradbury* (1885), 106 Ind. 1.

That a patent for a medicine does not authorize any person to administer it without obtaining the State license required by law, see *Thompson v. Staats* (1836), 15 Wend. 395 ; *Jordan v. Overseers* (1831), 4 Ham. (Ohio) 294.

That a State law prohibiting lotteries cannot be violated under pretence of exercising a right under the patent laws, see *Vannini v. Paine* (1833), 1 Harr. (Del.) 65.

The summation of the law on this somewhat involved topic seems to be: (1) That the monopoly conferred by the United States upon the patentee is entirely distinct, in law, from his property in the art or instrument protected by the patent, *Bloomer v. McQuewan* (1852), 14 How. 539 ; (2) That States have no power to interfere with the enjoyment or disposition of the monopoly created by the issue of letters-patent ; (3) That States have power to regulate the manufacture, use, and sale of the invention protected by the patent so far as public policy may require ; (4) That States have no power to discriminate against patented inventions on the ground that they are patented ; (5) That contracts between the patentee and others in reference to the invention are governed by State laws.

See also *Wilson v. Sandford* (1850), 10 How. 99 ; § 1242 and notes, *post*.

§ 47. ¹ In *Evans v. Eaton* (1818), 3 Wheaton, 454, as to one of these special acts, Marshall, C. J., said (518) that it is "engrafted on the general act for the promotion of useful arts, and that the

were intended to establish and develop a permanent patent-system, by which the reciprocal rights of the inventor and the public might be carefully determined and thoroughly secured. These, and the decisions of the courts upon them, constitute the body of the American Patent Law.

§ 48. Patent Privilege under General Acts of Congress: History of the Patent System of the United States.

Congress inaugurated the patent system of the United States by an act passed in A. D. 1790.¹ By this act it im-

patent is issued in pursuance of both." 1 Robb, 243 (286).

In *Bloomer v. McQuewan* (1852), 14 How. 539, Taney, J.: (548) "We must take into consideration not only the special act under which the appellant now claims a monopoly, but also the general laws of Congress in relation to patents for useful improvements. . . . They are statutes *in pari materia*; and all relate to the same subject and must be construed together."

§ 48. ¹ The following epitome of the various general acts of Congress, relating to patents for inventions, will show at once the scope of legislation, and the development of positive patent law:—

Act of 1790:—

Sec. 1. Patent to issue to inventor for fourteen years, on application; record to be made thereof.

Sec. 2. Patentee to file a full description, with drawings and model, when applicable.

Sec. 3. Copies of specification, &c., furnished to all persons.

Sec. 4. Penalty for infringement.

Sec. 5. Proceedings to repeal unlawful patents.

Sec. 6. Patents and specifications *prim. facie* evidence of patentee's right to patent; but statements of specification may be disputed by defendant; and, if it be excessive or defective, defendant to prevail.

Sec. 7. Fees for issue of patents.

Act of 1793:—

Sec. 1. Patent to issue to inventor for fourteen years, on application; record to be made thereof.

Sec. 2. Patentee of an improvement not entitled to use original invention, or *vice versa*; changes of form or proportions not invention.

Sec. 3. Patentee to make oath that he believes himself the true inventor, and to file a full specification, with drawings and model when applicable.

Sec. 4. Interest in patent privilege assignable; record of assignment, &c.

Sec. 5. Penalty for infringement.

Sec. 6. Defendant may attack patent on ground of fraudulent excess or defect in specification, or prior use, or publication, or piracy by patentee from prior inventor.

Sec. 7. State patents to be relinquished by patentees of United States.

Sec. 8. Saving existing applications for patents.

Sec. 9. Proceedings in case of interfering applications.

Sec. 10. Proceedings to repeal unlawful patents.

Sec. 11. Fees for issue of patents.

Sec. 12. Repeal of act of 1790, saving existing rights.

Act of 1794:—

Sec. 1. Saving suits commenced under act of 1790 from defeat by its repeal in 1793.

posed upon the Secretary of State, the Secretary of War, and the Attorney-General, or any two of them, the duty of grant-

Act of 1800 :—

Sec. 1. Extends privileges of act of 1793 to resident aliens ; oath to be made by every applicant that to the best of his knowledge the invention was never before known or used in this or any foreign country ; such use to avoid patent if obtained.

Sec. 2. Representatives of deceased inventor may obtain patent in trust for heirs or devisees.

Sec. 3. Penalty for infringement.

Sec. 4. Repeals fifth section of act of 1793.

Act of 1819 :—

Sec. 1. Circuit courts of United States to have original cognizance, at law and equity, of actions under patent laws, with writ of error or appeal to Supreme Court.

Act of 1832, ch. 162 :—

Sec. 1. Annual publication of list of patents for preceding year.

Sec. 2. Proceedings before Congress for an extension.

Sec. 3. Proceedings for reissue of patent on account of defect in original.

Act of 1832, ch. 203 :—

Sec. 1. Extending privilege of alien patentees ; requires actual use in United States within one year after date of patent.

Act of 1836 :—

Sec. 1. Establishes Patent Office under commissioner ; duties of commissioner.

Sec. 2. Duties of chief clerk and other clerks.

Sec. 3. Oath and official bond of commissioner, &c.

Sec. 4. Seal of Office ; copies of records.

Sec. 5. Form of patent.

Sec. 6. Patent to issue to inventor of new and useful art, machine, manu-

facture, or composition of matter, or an improvement thereon, not before known or used by others, or in public use or on sale at time of application, provided full specification, drawings, and model be filed ; oath required that patentee believes himself the first inventor, and does not know of its prior use or knowledge.

Sec. 7. Commissioner to have examination made as to novelty of the invention, and inform applicant of result thereof ; fees to be paid ; appeal from this finding regulated.

Sec. 8. Proceedings when application interferes with an existing patent ; foreign patent to same applicant no bar to one in the United States within six months after issue of former ; when patent may be dated.

Sec. 9. Fees for patents.

Sec. 10. Representatives of deceased inventor may take out patent in trust for heirs or devisees.

Sec. 11. Patents to be assignable ; record thereof.

Sec. 12. Proceedings as to *caveat* ; effect of and proceedings under same ; judgment in Patent Office not binding on courts on question of validity of patents.

Sec. 13. Proceedings as to reissues ; improvements subsequently invented may be annexed to existing patents.

Sec. 14. Penalty for infringement.

Sec. 15. Notice of special defences ; fraudulent specification ; patentee not first inventor ; prior publication ; prior public use or sale ; piracy of the invention by patentee from another ; failure of alien patentee to introduce the invention into public use in the United States in due time ; provides that if prior use or knowledge abroad is without the cognizance of patentee, the patent shall be good.

ing to every inventor, whose discovery they deemed sufficiently useful and important, a patent securing to him the exclusive

Sec. 16. Proceedings to repeal interfering patent by rival patentee or applicant; and to obtain patent when interfering application rejected by Patent Office.

Sec. 17. Original jurisdiction of all actions, under the patent laws, to be in circuit courts of the United States with writ of error or appeal to Supreme Court.

Sec. 18. Proceedings in Patent Office for an extension.

Sec. 19. Provides for Patent Office Library.

Sec. 20. Models and specimens to be classified and arranged for public inspection.

Sec. 21. Repeals all former patent laws; saving pending actions and applications.

Act of 1837, passed in part to remedy evils caused by destruction of Patent Office by fire Dec. 15, 1836:—

Sec. 1. Patents issued before Dec. 15, 1836, and assignments thereof, to be recorded in Patent Office without charge; drawings may be reproduced; clerks of courts to furnish copies to Patent Office of all such patents, &c., in their possession.

Sec. 2. Copies of such record to be *prima facie* evidence; originals not to be evidence unless recorded.

Sec. 3. New patent to issue on deposit of a duplicate, as near as may be, of the model, drawings, and specifications of the old; copies and new patents made evidence.

Sec. 4. Models destroyed to be duplicated where important.

Sec. 5. Provides for reissue of several patents for the different inventions embraced in the original; models and drawings to be deposited if former ones were destroyed.

Sec. 6. Patent may issue to assignee

at request of, and on application by, inventor.

Sec. 7. Proceedings in disclaimer.

Sec. 8. Application for reissue, or to annex an improvement to an existing patent, to be subject to same examination as original.

Sec. 9. Patent not invalid for what is properly claimed, by reason of excessive claim; costs and disclaimer.

Sec. 10. Agents to receive and forward models, &c., to Patent Office.

Sec. 11. Additional clerks.

Sec. 12. If application of foreigner rejected, fees, in part, refunded.

Sec. 13. Oath and affirmation of patentee.

Sec. 14. Funds of Patent Office; annual list of patents to be published, &c.

Act of 1839:—

Secs. 1 and 2. Additional examiners and clerks.

Sec. 3. Publication of classified and alphabetical list of all patents heretofore granted.

Secs. 4. and 5. Appropriations.

Sec. 6. Foreign patent for same invention within previous six months not to defeat an application, if there has been no public use in the United States; in such cases domestic patent to run fourteen years from date of foreign patent.

Sec. 7. Owner of an invention, before application by the inventor for a patent, may continue its use or sale after patent granted; no patent invalid by reason of such prior ownership, use, or sale, unless invention were abandoned by inventor, or were in use or sale more than two years before his application.

Sec. 8. Assignments, &c., recorded without charge.

Sec. 9. Appropriation for agricultural purposes.

benefits of his invention for a period not exceeding fourteen years. The same act prescribed the mode in which the

Sec. 10. Bill in equity for a patent, when application is refused by Patent Office.

Sec. 11. Appeal from commissioner to Chief-Justice of District Court for District of Columbia.

Sec. 12. Commissioner to make rules for taking evidence in cases in the Patent Office.

Sec. 13. Appropriation.

Act of 1842 :—

Sec. 1. Fees paid by mistake refunded.

Sec. 2. Act of 1837, sec. 3, extended to patents issued prior to Dec. 15, 1836, but subsequently lost.

Sec. 3. Patents may be granted for new designs for seven years.

Sec. 4. Before whom patentee may make oath.

Sec. 5. Penalty for marking "patented," &c., on unpatented articles, or for imitating the mark of a patentee.

Sec. 6. Patented articles to be marked with date of patent.

Act of 1846 :—

Sec. 1. Payment and deposit of funds for Patent Office.

Act of 1848 :—

Sec. 1. Additional examiners ; power to extend patents vested in commissioner.

Sec. 2. Recording fee of assignments, &c.

Sec. 3. Additional clerks.

Sec. 4. Commissioner to have freedom of mails for distributing annual reports.

Act of 1849, chap. 108 :—

Sec. 2. Patent Office removed to the Interior Department.

Act of 1852 :—

Sec. 1. Appeals, now made to Chief-Justice of District Court of United States for the District of Columbia, may be also taken to either of the assistant-

judges of the Circuit Court for said district.

Sec. 2. Compensation of such judges.

Sec. 3. Repeals sec. 13, act of 1839.

Act of 1861, chap. 37 :—

Sec. 1. Writ of error or appeal from Circuit Court to Supreme Court in patent cases, at instance of either party.

Act of 1861, chap. 88 :—

Sec. 1. Proceedings in taking testimony for use in Patent Office.

Sec. 2. Examiners-in-chief "of legal knowledge and scientific ability," appointed to revise decisions of examiners when necessary, &c.

Sec. 3. Except in interference cases no appeal allowed to examiners-in-chief till application has been twice rejected by examiners, &c.

Sec. 4. Salaries.

Sec. 5. Models may be restored to rejected applicants.

Sec. 6. Sec. 10, act of 1837 repealed.

Sec. 7. Commissioner may appoint new examiners.

Sec. 8. Commissioner may require illegible applications, &c., to be printed ; may refuse to recognize any person as a patent solicitor, subject to approval of President.

Sec. 9. No fees to be refunded.

Sec. 10. Revision of fee-table.

Sec. 11. Inventors of new designs may patent the same for three and a half years, seven years, or fourteen years as they desire ; fees established ; existing design patents may be extended.

Sec. 12. Applications for patents to be regarded as abandoned when not completed and prepared for examination within two years after filing, unless cause shown ; time of filing applications for extensions.

Sec. 13. Patented articles to be so marked on article or package ; otherwise

application for a patent should be made, the conditions on which it should be granted, the proceedings by which it might be annulled, and the remedies for its violation by infringement. In A. D. 1793 the duty of issuing these patents was confided to the Secretary of State, subject to the approval of the Attorney-General. In A. D. 1836, the necessities of inventors having outgrown the capacity of the State Department as then constituted, a sub-department was created, known as the Patent Office, to which the powers and duties of the Secretary, in reference to patents, were transferred. At the same time the entire system was reconstructed, many new and valuable elements were added, and the rights and obligations of inventors were established very nearly as they now exist. In A. D. 1849 the Patent Office was removed to the Department of the Interior, a division of which it has ever since remained. In A. D. 1870 a further improvement of the law took place, which was confirmed and re-enacted in the Revision of 1874. Besides these acts, others of minor importance have from time to time been passed, amending or extending the subordinate provisions of the law.

infringer not liable to pay damages unless he knew of his infringement; sec. 6, act of 1842 repealed.

Sec. 14. Printing and disposal of ten copies of each patent, specification, and drawings.

Sec. 15. Printed copies of patent, duly sealed and certified by the commissioner to be legal evidence.

Sec. 16. Term of patents to be seventeen years; and no extension of such patents.

Sec. 17. Repeal of inconsistent acts.

Act of 1863:—

Sec. 1. Renewal of oath on appeal as required by sec. 7, act of 1836, unnecessary.

Sec. 2. Compensation of examiners, &c.

Sec. 3. Every patent to be dated not later than six months after notice of its allowance to patentee or his agent; if

final fees not paid within the six months, the invention to become public property.

Act of 1865:—

Sec. 1. When final fee unpaid in due time, a new application may be filed within two years from date of allowance of original application.

Act of 1868:—

Chap. 227. Examiner-in-chief of longest official experience to act as commissioner in case of absence or disability of commissioner.

Act of 1870:—

This act — as amended in act of 1871, chaps. 5 and 132, and joint resolution of 1871, No. 5 — is still in force, and forms part of the Revision of 1874.

The foregoing summary does not include acts whose sole purpose was the appointment of officials or the granting of appropriations.

§ 49. Condition of the Patent System of the United States before the Act of 1836: Patents Granted without Examination.

The principal features of the present patent system had their origin in the act of 1836. This act marked a new epoch in patent legislation in this country, and has been of inestimable benefit both to inventors and the public. Under the English law patents were granted upon the simple application of the inventor, and without investigation as to the novelty or utility of his invention.¹ The same practice prevailed in the United States until the act in question, the patentee receiving his grant entirely at his own risk of its subsequent defeat by the proof of any use or knowledge of the invention prior to his own, and yet having no method of ascertaining whether such use existed, except the tedious, expensive, and uncertain one of private inquiry.² A patent thus situated was necessarily of small commercial value. Few men would risk their capital on the chance of its validity; and if, as often was the case, the patentee was without means to develop his invention, it became either wholly useless to himself as well as to the public, or gave him his reward after long years of suffering and discouragement.

§ 49. ¹ Simonds : (222) "No examination is made as to novelty, or utility, and the patent issues as a matter of course, unless some private person enters an opposition and shows good reason why a patent should not be granted."

² Under the act of 1790, the patent was to issue upon the simple application of the inventor, alleging and describing his discovery, if the Secretary of State, Secretary of War, and the Attorney-General, or any two of them, deemed it sufficiently useful and important.

Under the act of 1793, the patent issued on application and publication, with oath of the inventor as to novelty.

On complying with these conditions the applicant was entitled to his patent as matter of right.

In *Grant v. Raymond* (1832), 6 Peters, 218, Marshall, C. J. : (241) "The Secretary of State may be considered, in issuing patents, as a ministerial officer. If the prerequisites of the law be complied with, he can exercise no judgment on the question whether the patent shall be issued." 1 Robb, 604 (632). See also *Pennock v. Dialogue* (1829), 2 Peters, 1; 1 Robb, 542; *Whitney v. Emmett* (1831), Baldwin, 303; 1 Robb, 567.

§ 50. Changes introduced by the Act of 1836: Patents granted only after due Examination.

By the act of 1836 Congress undertook to relieve inventors from this difficulty, as far as possible, by providing a tribunal before which the right of the inventor to his patent might be examined and determined prior to its issue, and at a minimum of trouble and expense. For this purpose it established a bureau, or department of the government, having both executive and judicial powers, and imposed on it the duty of thoroughly investigating all the questions on which the validity of the proposed patent might depend, and of granting it to the inventor only when such investigation disclosed no probability of its defeat by subsequent litigation.¹ A patent thus granted could, of course, be reasonably trusted. The capitalist might venture his fortune in developing the inventions which it protects, with as much security as attends ordinary commercial operations. The meritorious inventor was no longer condemned to interminable waiting and unrewarded self-sacrifice. The discoverer of anything pronounced by the Patent Office to be new and useful acquired thereby a property which had market value, and to which he could give a title as reliable as that to any other form of personal estate.²

§ 50. ¹ Act of 1836, § 7. On the filing of the application and description "the Commissioner shall make or cause to be made an examination of the alleged new invention or discovery; and if on any such examination it shall not appear to the Commissioner that the same had been invented or discovered by any other person in this country prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication in this or any foreign country, or had been in public use or on sale with the applicant's consent or allowance prior to the application, if the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor. But whenever, on such examination it shall appear to the Commissioner that the ap-

plicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented or discovered, or patented or described in any printed publication in this or any foreign country, as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him, briefly, such information and references as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new."

² The confidence hitherto engendered by the supposed reliability of patents which have sustained the scrutiny of the Patent Office is not likely to be long preserved, if certain positions now asserted receive permanent indorsement in

§ 51. Organization of the Patent Office: Its Officers and their Duties.

The organization of the Patent Office consists of a Commissioner of patents, an assistant-commissioner, a board of examiners-in-chief, and a large staff of subordinate clerks, examiners, draughtsmen, and attendants. It is the duty of the Commissioner, acting personally or through the assistant, to superintend or perform all operations concerning the issuing of patents as directed by law, and to have charge of all the records, apparatus, and other property belonging to the Office.¹

the courts. If every decision of the Commissioner which involves a question of law is open to review; if every reissue is liable to be declared invalid because the court before which it is attacked cannot find in the original a claim for the invention embraced in the reissue; if the public use of an invention by a rival but later inventor, without the knowledge of the first and true inventor, more than two years before the latter's application for a patent, is *ipso facto* a bar to the issue of such patent, though no fault of omission or commission can be imputed to the true inventor; if the opinion of a judge upon the bench, who however skilled in law must seldom be profoundly versed in the chemical or mechanic arts, can outweigh the deliberate judgment of trained experts in the Patent Office on the question of the presence of inventive as distinguished from mechanical skill, and that upon his mere inspection without evidence, as certain cases hold, — the value of a patent is too precarious to warrant large investments on the faith of its validity. Not even multitudinous decisions in its favor can much increase the confidence of capitalists, since it may often happen that after every meritorious defence has been exploded, some obscure event, whose sole importance is dependent on a technical construction of the statutes, will become a pebble in the judicial sling to smite a gigantic but

beneficent monopoly into the dust. See *Andrews v. Hovey* (1887), 123 U. S. 267; 42 O. G. 1284.

§ 51. ¹ Rev. Stat. 1874, sec. 475. "There shall be in the Department of the Interior an office known as the Patent Office, where all records, books, models, drawings, specifications, and other papers and things pertaining to patents shall be safely kept and preserved."

Sec. 476. "There shall be in the Patent Office a Commissioner of Patents, one Assistant Commissioner, and three examiners-in-chief, who shall be appointed by the President by and with the advice and consent of the Senate. All other officers, clerks, and employees authorized by law for the Office shall be appointed by the Secretary of the Interior, upon the nomination of the Commissioner of Patents."

Sec. 481. "The Commissioner of Patents under the direction of the Secretary of the Interior shall superintend or perform all duties respecting the granting and issuing of patents directed by law; and he shall have charge of all books, records, papers, models, machines, and other things belonging to the Patent Office."

Under § 178, in the absence of the Commissioner from any cause, his assistant, deputy, or chief clerk becomes the "Acting Commissioner." Patents certified and signed by the "Acting Commissioner" are of the same force as

He has power to establish such regulations, not inconsistent with law, as he may, from time to time, deem proper for the conduct of proceedings in his department.² He is the final judge, so far as the Patent Office is concerned, of all controverted questions arising in the Office, and in granting or withholding patents he is not bound by the decisions of his inferiors.³ The examiners-in-chief are by law required to be persons of competent legal knowledge and scientific ability. It is their duty, on the written application of the inventor, to revise and determine upon the correctness of such decisions of the subordinate examiners as may be alleged to be erroneous,

if issued by the Commissioner himself, and the presumption is that the officer so certifying is the "Acting Commissioner," and that sufficient reason existed for his appointment as such. *Wilson v. Rousseau* (1846), 4 How. 646; 2 Robb, 372; *Woodworth v. Hall* (1846), 1 W. & M. 389; 2 Robb, 517; *York & Mary. R. R. Co. v. Winans* (1854), 17 How. 30; *Dorsey Co. v. Marsh* (1873), 6 Fisher, 387.

² Rev. Stat. 1874, § 483. "The Commissioner of Patents, subject to the approval of the Secretary of the Interior, may from time to time establish regulations, not inconsistent with law, for the conduct of proceedings in the Patent Office."

The rules established by the Commissioner are, until abrogated, as binding as the law itself, not only upon him and his inferior officers, but also upon parties doing business with his department. If they contravene a statute, however, the statute prevails. Law Dig. (Rules of Patent Office); *Stone v. Greaves* (1879), 17 O. G. 260; *Brown v. La Dow* (1880), 18 O. G. 1049.

³ Rev. Stat. 1874, § 4893. "On the filing of any such application and the payment of the fees required by law, the Commissioner of Patents shall cause an examination to be made of the alleged new invention or discovery;

and if on such examination it shall appear that the claimant is justly entitled to a patent under the law, and that the same is sufficiently useful and important, the Commissioner shall issue a patent therefor."

In *Wilder v. McCormick* (1846), 2 Blatch. 31, Betts, J. (34): "The grant of the patent is itself sufficient evidence that all the preliminary steps required by law were properly taken. . . . (35) The question of the regularity of the proceedings in petitioning for and obtaining the patent, and that of the correctness of the judgment of the officer in awarding it . . . cannot be inquired into."

In *Stone v. Greaves* (1880), 17 O. G. 397, Doolittle, A. C. (398): "It has been inferred from the language of section 4893 that the Commissioner can simply direct an examination of an application, and that when by that examination it shall appear to the subordinate person or tribunal who has made the examination that the claimant is justly entitled to a patent under the law, the Commissioner, *nolens volens*, shall issue the patent. This is a strained construction of the section and one opposed to the language of the other sections cited. The power to direct an examination under the section in question is incidental to the general powers conferred upon the Commissioner by

and to perform such other similar labors as the Commissioner may assign to them.⁴ The qualifications and duties of the remaining clerks, examiners, and other officers of the department are left to the discretion of the appointing power and the Commissioner.

§ 52. Functions of Patent Office: Examination of Inventions claimed to be Patentable.

The principal functions of the Patent Office, in addition to the formal issuing of letters-patent, are three: (1) To determine whether an alleged invention is in itself patentable; (2) To settle the disputes arising between rival claimants of the same invention; (3) To disseminate among the public the best and most exhaustive information concerning the

section 481 concerning 'all duties respecting the granting and issuing of patents directed by law.' The section does not state whom the Commissioner shall cause to make the examination, nor does it require that it shall be made to appear to the examiner, or other person than the Commissioner, that the claimant is justly entitled to a patent; and in this absence of control or exercise of final judgment expressly given any other officer of the question of patentability, it is both reasonable and necessary to conclude that such control and judgment should be exercised by the officer causing the examination to be made, who alone is permitted to issue the patent, and . . . that the Commissioner can and should stay the grant or issuance of a patent at any time before its delivery if convinced that such issuance would be contrary to any requirement of law."

See also *Hull v. Com.* (1875), 2 McArthur, 90; 7 O. G. 559; *Ex parte Neale* (1879), 15 O. G. 511; *Hoe v. Cottrell* (1880), 18 O. G. 59; 17 Blatch. 546; 1 Fed. Rep. 597; 5 Bann. & A. 256; *McKay, Tr. v. Dibert* (1881), 19 O. G. 1351; 5 Fed. Rep. 587.

⁴ Rev. Stat. 1874, § 482. "The examiners-in-chief shall be persons of competent legal knowledge and scientific ability, whose duty it shall be, on the written petition of the appellant, to revise and determine upon the validity of the adverse decisions of examiners upon applications for patents, and for reissues of patents, and in interference cases; and, when required by the Commissioner, they shall hear and report upon claims for extensions, and perform such other like duties as he may assign them."

§ 4910. "If such party is dissatisfied with the decision of the examiners-in-chief, he may, on payment of the fee prescribed, appeal to the Commissioner in person."

In *Snowden v. Pierce* (1861), cited Law Dig. (Examiners, 6-9), it was held that before the act of 1861 all judicial acts done in the Patent Office were in intendment of law done by the Commissioner. But under the act of 1861 the examiners-in-chief became judicial officers, independent of the Commissioner, to whom their proceedings may be brought for review by appeal.

existing state of the industrial arts. Of these three functions the former is at once the most onerous and the most important. The number of applications yearly filed exceeds twenty thousand. The inventions described in them belong to every division and subdivision of human employments. The patentable difference between any one of these and preceding inventions may be difficult of detection and yet really exist. Its discovery may involve the examination of every article of the same species used in this country, or patented or described in any printed publication at home or abroad. Such an investigation requires not only the services of a large body of skilled examiners, but also the most thorough systemization of their labor.

§ 53. Functions of Patent Office : Mode of Examining Inventions.

To secure the necessary accuracy and expedition in this work all known industries are divided into classes, embracing almost every species of material products. These classes are again grouped into divisions, cognate classes being kept as far as possible in the same division, and each division is assigned to certain examiners who are familiar with the classes of products of which it consists. On the receipt of a new application it is referred to the appropriate examiner, and the result of his investigation is reported to the applicant. If the invention is found patentable, and no rival claims to be the first inventor, the patent is allowed; if found not patentable, a further hearing can be had upon appeal. This examination results in the final rejection of about one third of all the applications filed. On the assumption that these rejections are on sufficient grounds, the public are thus saved from the infliction of several thousand worthless patents every year, while the applicants and their business associates escape the losses and disappointment which the issue of such patents, and their subsequent destruction by judicial action, would involve.¹

§ 53. ¹ It would appear from the 1887 that about 14,000 applications Annual Report of the Commissioner for were in that year rejected.

§ 54. **Functions of Patent Office: Adjudicating between Rival Inventors: Interferences.**

The disputes arising in the Patent Office between rival claimants of the same invention are determined by a proceeding known as an interference.¹ Such interference is declared whenever two or more applications are filed covering the same invention, or when an applicant, whose petition is rejected on the ground of an outstanding patent in another, asserts that he is nevertheless the first inventor. In the former case each of the several applicants, and in the latter the applicant and the patentee, are notified to file in the Office within a given time written statements, under oath, and duly sealed from observation, specifying the dates at which the invention was conceived and perfected by them. At the time appointed these statements are opened, and if from them it appears who has priority the patent is awarded to him; if not, such further hearing will be had as may be necessary to ascertain the fact. Where the contestants are all merely applicants, the issue of a patent to one of them is a denial of it to the others. Where one of the contestants is already a patentee, this proceeding does not affect his patent, but if the other party proves his own priority he receives a patent also, and they are both left to pursue the controversy in the courts.

§ 54. ¹ Rev. Stat. 1874, § 4904.
 "Whenever an application is made for a patent which, in the opinion of the Commissioner, would interfere with any pending application, or with any unexpired patent, he shall give notice thereof to the applicants, or applicant and patentee, as the case may be, and shall direct the primary examiner to proceed to determine the question of priority of invention. And the Commissioner may issue a patent to the party who is adjudged the prior inventor, unless the adverse party appeals from the decision of the primary examiner, or of the board of examiners-in-chief, as the case may be, within such time, not less than twenty days, as the Commissioner shall prescribe."

See also Rules of Patent Office: Interferences.

In *Nicholson v. Bennett* (1879), 16 O. G. 631, Paine, Com. : (631) "Interferences between patents cannot be adjudicated in the Patent Office; but interferences between one or more applications and two or more patents can be adjudicated here, and priority awarded to one of the patents or to an application, according to the facts. Such adjudication is conclusive upon all parties so far as the interference in the Patent Office is concerned, but it is not conclusive as to the relative rights of the patentees outside of the Patent Office."

§ 55. Functions of Patent Office: Disseminating Information concerning Patented Inventions.

The duty of disseminating information to the public concerning the current progress of the industrial arts has always been recognized and prescribed by Congress. The act of 1790 directed the Secretary of State to furnish copies of the description, model, and drawings of any invention to every person who would pay the cost of making them. The act of 1836 provided that the models and specimens of existing inventions, duly classified, should be arranged in suitable galleries and kept open for the inspection of the public. In A. D. 1837 the annual publication of a list of the patents granted during the preceding year was ordered. In A. D. 1839 a classified and alphabetical list of all patents theretofore granted was prepared and issued. In A. D. 1871 complete copies of the specifications and drawings of each patent subsequently issued were directed to be placed at the Capitol of every State and Territory, in the Clerk's office in each Judicial District, in the Congressional Library, and in every other public library which would pay the cost of binding and transportation, and secure freedom of access to them for the public. In A. D. 1872 was commenced the publication of the "Official Gazette," a weekly journal containing a list of all patents issued during the preceding week, with abstracts of their specifications, copies of their drawings, transcripts of their claims, and the names and residences of the patentees. Decisions of the Commissioner on questions of practice, and of the United States Courts on matters of Patent Law are also given, making annually about two thousand pages, with some thirteen thousand illustrations, two hundred reported cases, an index of patentees and patents, and an excellent digest of decisions. The extensive circulation of this journal now puts into the hands of every inventor, manufacturer, and capitalist interested in industrial pursuits, full information in regard to all that is accomplished in the numerous fields of inventive effort, and suggests to alert and thoughtful minds many of those ideas which are finally embodied in actual improvements in mechanics and the arts.

§ 56. Functions of Patent Office : Caveats : Disclaimers : Reissues.

In furtherance of the advantages thus offered by the patent system to inventors, there are three collateral proceedings, designed to meet peculiar exigencies in the history of an invention. Where an inventor, who is still engaged in reducing his discovery to practice, fears that another, laboring in the same direction, may first obtain a patent, he can file a caveat in the Office and thereby protect himself during the residue of his experiments, and secure a hearing on the question of priority before a patent issues to any one for the invention.¹ If a patent, as already granted, is defective on account of its excessive claims, the error may be cured by simply filing a disclaimer.² When, through the inadvertence

§ 56. ¹ Rev. Stat. 1874, § 4902. "Any citizen of the United States who makes any new invention or discovery, and desires further time to mature the same, may, on payment of the fees required by law, file in the Patent Office a caveat setting forth the design thereof, and of its distinguishing characteristics, and praying protection of his right until he shall have matured his invention. Such caveat shall be filed in the confidential archives of the Office and preserved in secrecy, and shall be operative for the term of one year from the filing thereof; and if application is made within the year by any other person for a patent with which such caveat would in any manner interfere, the Commissioner shall deposit the description, specification, drawings, and model of such application in like manner in the confidential archives of the Office, and give notice thereof, by mail, to the person by whom the caveat was filed. If such person desires to avail himself of his caveat, he shall file his description, specifications, drawings, and model within three months from the time of placing the notice in the post-office in Washington, with the usual time required for transmitting it to the caveator

added thereto; which time shall be endorsed on the notice. An alien shall have the privilege herein granted, if he has resided in the United States one year next preceding the filing of his caveat, and has made oath of his intention to become a citizen."

See also Rules of Patent Office : Caveats.

² Rev. Stat. 1874, § 4917. "Whenever, through inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, a patentee has claimed more than that of which he was the original or first inventor or discoverer, his patent shall be valid for all that part which is truly and justly his own, provided the same is a material or substantial part of the thing patented; and any such patentee, his heirs or assigns, whether of the whole or of any sectional interest therein, may, on payment of the fee required by law, make disclaimer of such parts of the thing patented as he shall not choose to claim or to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent. Such disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office; and it

or mistake of the inventor, his patent fails to cover any part of his invention, as he attempted to describe and publish it in his specification, the patent may be surrendered and a new one, remedying the deficiency, may be procured.³

shall thereafter be considered as part of the original specification to the extent of the interest possessed by the claimant and by those claiming under him after the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing it."

See also Rules of Patent Office: Disclaimer.

³ Rev. Stat. 1874, § 4916. "Whenever any patent is inoperative or invalid, by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, if the error has arisen by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, the Commissioner shall, on the surrender of such patent and the payment of the duty required by law, cause a new patent for the same invention, and in accordance with the corrected specification, to be issued to the patentee, or, in case of his death or of an assignment of the whole or any undivided part of the original patent, then to his executors, administrators, or assigns, for the unexpired part of the term of the original patent. Such surrender shall take effect upon the issue of the amended patent. The Commissioner may, in his discretion, cause several patents to be issued for distinct and separate parts of the thing patented, upon demand of the applicant, and upon payment of the required fee for a reissue for each of such reissued letters patent. The specifications and claim in every such case shall be subject to revision and restriction in the same manner as

original applications are. Every patent so reissued, together with the corrected specification, shall have the same effect and operation in law, on the trial of all actions for causes thereafter arising, as if the same had been originally filed in such corrected form; but no new matter shall be introduced into the specification, nor in case of a machine patent shall the model or drawings be amended, except each by the other; but when there is neither model nor drawing, amendments may be made upon proof satisfactory to the Commissioner that such new matter or amendment was a part of the original invention, and was omitted from the specification by inadvertence, accident, or mistake, as aforesaid."

See also Rules of Patent Office: Reissues.

In *Smith v. Merriam* (1881), 19 O. G. 601, Lowell, J. : (602) "The most natural construction of this law would perhaps be that, if a patent should be inoperative by reason of a defective specification or invalid for claiming too much, the defect might be supplied or the excessive claim be reduced by reissue; but the courts have given a different interpretation, much wider in most respects and narrower in only one. They do not permit a defective specification to be supplied excepting from the drawings or model; but they do permit the claim to be varied, provided the same invention is described in both patents, and hold that the decision of the Office that the occasion had arisen for granting a reissue is final. 'The law is extremely liberal, perhaps too much so, and has been much abused.'" 6 Fed. Rep. 713 (716).

§ 57. Patent Privilege Conferred only on Inventors.

The Constitution of the United States authorizes the grant of patents only to inventors. Under the construction given to the word "inventors" by the English courts, it comprehended not only those who by their ingenuity had discovered, and by their labors or expenditures had reduced to practice, some new art or manufacture, but all those who had introduced into the realm any new trade or industry from foreign lands.¹ This construction was never recognized in the United States. An inventor, in the meaning of the Constitution, is one who has himself conceived the fundamental idea of the invention, and has embodied it in tangible materials. To him and to him only can a patent lawfully be granted.²

§ 58. Patent Privilege Conferred only on the First and Original Inventor.

To what inventors and for what inventions patents may be issued, is determined by the acts of Congress. For any one invention but one valid patent can exist; and of several distinct inventors of the same invention, one only is entitled to receive a grant of the exclusive right. This one is the original and first inventor.¹ An original inventor is a creator,

§ 57. ¹ In the case of *Edgebury v. Stephens* (1691), 2 Salk. 447, it was held that "if the invention be new in England a patent may be granted, though the thing was practiced beyond sea before; for the statute speaks of new manufactures within this realm; so that if it be new here, it is within the statute; for the act intended to encourage new devices useful to the kingdom, and whether learned by travel or by study, it is the same thing." 1 Web. 35; 1 Abb. P. C. 8.

² In *Livingston v. Van Ingen* (1812), 9 Johns. 507, Kent, C. J. : (583) "It seems to be admitted that Congress are authorized to grant patents only to the *inventor* of the useful art. . . . There cannot, then, be any aid or encouragement, by means of an exclusive right

under the law of the United States, to importers from abroad of any useful invention or improvement."

In *Pitts v. Hall* (1851), 2 Blatch. 229, Nelson, J. : (234) "A person, to be entitled to the character of an inventor, within the meaning of the Act of Congress, must himself have conceived the idea embodied in his improvement. It must be the product of his own mind and genius, and not of another's."

See also *Washburn v. Gould* (1844), 3 Story, 122; 2 Robb, 206; *Sparkman v. Higgins* (1846), 1 Blatch. 205.

§ 58. ¹ Rev. Stat. 1874, §§ 4886, 4920. In *Bedford v. Hunt* (1817), 1 Mason, 302, Story, J. : (304) "The first inventor, who has put the invention in practice, and he only, is

not a borrower or copyist, of the invention.² The first inventor is that original inventor whose inventive act, in point of time, preceded the inventive acts of others.³ According to the earlier statutes, a first inventor must have been such as to all the world.⁴ However meritorious an applicant might

entitled to a patent. Every subsequent patentee, although an original inventor, may be defeated of his patent right upon proof of such prior inventions being put into use. The law in such case cannot give the whole patent right to each inventor, even if each be equally entitled to the merit of being an original and independent inventor; and it therefore adopts the maxim, *qui prior est in tempore, potior est in jure.*" 1 Robb, 148 (150).

See also *Lowell v. Lewis* (1817), 1 Mason, 182; 1 Robb, 131; *Thomas v. Weeks* (1827), 2 Paine, 92; *Reed v. Cutter* (1841), 1 Story, 590; 2 Robb, 81; *Allen v. Blunt* (1846), 2 W. & M. 121; 2 Robb, 530.

² The term "original inventor," is sometimes used by the courts as synonymous with "first inventor." See *Odiorne v. Winkley* (1814), 2 Gallison, 51; 1 Robb, 52; *Thomas v. Weeks* (1827), 2 Paine, 92; *Allen v. Blunt* (1846), 2 W. & M. 121; 2 Robb, 530.

In other cases the judges make a distinction between the "original" and the "first" inventor, giving the former title to every true inventor, and the latter only to the foremost among true inventors. See *Lowell v. Lewis* (1817), 1 Mason, 182; 1 Robb, 131; *Bedford v. Hunt* (1817), 1 Mason, 302; 1 Robb, 148; *Pennock v. Dialogue* (1829), 2 Peters, 1; 1 Robb, 542; *Reed v. Cutter* (1841), 1 Story, 590; 2 Robb, 81; *Roemer v. Simm* (1874), 5 O. G. 555.

³ In *Pennock v. Dialogue* (1829), 2 Peters, 1, Story, J. : (23) "It gives the right to the first and true inventor and to him only; if known or used before his supposed discovery he is not

the first, although he may be a true inventor." 1 Robb, 542 (566).

In *Reed v. Cutter* (1841), 1 Story, 590, Story, J. : (599) "He is the first inventor in the sense of the Act, and entitled to a patent for his invention, who has first perfected and adapted the same to use; and until the invention is so perfected and adapted to use, it is not patentable. . . . In a race of diligence between two independent inventors, he, who first reduces his invention to a fixed, positive, and practical form, would seem to be entitled to a priority of right to a patent therefor. The clause of the fifteenth section (Act of 1836; Rev. Stat. 1874, § 4920), now under consideration, seems to qualify that right, by providing that, in such cases, he who invents first shall have the prior right, if he is using reasonable diligence in adapting and perfecting the same, although the second inventor has, in fact, first perfected the same, and reduced the same to practice in a positive form. It thus gives full effect to the well known maxim, that he has the better right, who is prior in point of time, namely, in making the discovery or invention." 2 Robb, 81 (90, 91).

⁴ In the act of 1790, the invention to be patentable, must have been one "not before known or used;" no limit to the time or place of user being mentioned. In the act of 1793, it must have been one "not known or used before the application;" no limit of place being here established. In pursuance of these acts, the courts held that the inventor must be the first inventor as to all the world, in order to be entitled to a patent.

be, he could obtain no valid patent for the fruits of his own ingenuity, if his discovery had been anywhere anticipated, even without his knowledge. The act of 1836 removed this hardship, and provided that he who first conceived and reduced to practice an invention which was not before known or used in the United States, and nowhere had been patented or described in any printed publication, should be regarded as its first as well as an original inventor.⁵

§ 59. Patent Privilege Conferred only for Certain Classes of Inventions.

Not everything that in itself is new is an invention, nor is every invention patentable under the existing law. Invention implies something more than change of form, or of arrangement, or of mode of use. It is the result of inventive as distinguished from mechanical skill. An operation of the intellect, not following the beaten track but striking out into some new direction and achieving some new triumph over matter, is involved in its production. It is perhaps incapable of exact definition, and the line between it and what the

In *Reutgen v. Kanowrs* (1804), 1 Wash. 168, Washington, J. : (170) "If it appears that the plaintiff was not the original inventor, in reference to other parts of the world as well as America, he is not entitled to a patent." 1 Robb, 1 (4).

In *Dawson v. Follen* (1808), 2 Wash. 311, Washington, J. : (311) "To entitle the plaintiff to recover [the jury] must be satisfied that he was the original inventor, not only in relation to the United States, but to other parts of the world." 1 Robb, 9 (9).

"If a patentee is not the first or original inventor, in reference to all the world, he is not entitled to a patent even although he had no knowledge of the previous use or previous description." Law Dig. (Inventor, B. 32). See also *Whitney v. Emmett* (1831), Baldwin, 303 ; 1 Robb, 567.

⁵ Act of 1836, §§ 7, 15. By § 7,

the applicant for a patent was entitled to receive it unless, on due examination, it appeared that the same invention had been previously invented or discovered by some other person *in this country*. And § 15 provided that a patent should not be void on account of the invention or any part thereof having been before known or used in any foreign country. See also Rev. Stat. 1874, § 4886.

"The provision of § 6 and § 15 of the act of 1836 introduced an important modification into the law of patents, designed to protect the American inventor against the injustice of being thrown out of the fruits of his ingenuity, by the existence of a secret invention or discovery abroad, — that is, a discovery not patented, and not described in any printed publication." Law Dig. (Inventor, B. 33), citing 5 Opin. 21 (1848).

Patent Law regards as a mere imitation is often very difficult to draw.¹ Among recognized inventions, however, only certain classes are entitled to protection. These lie almost entirely within the domain of the industrial arts. The act of 1790 enumerated them as "any useful art, manufacture, engine, machine, or device, or any improvement therein."² The act of 1793 describes them as "any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement" on the same.³ To these the act of 1842 added "any new and original design" for a manufacture or to be worked into or imprinted on a manufacture.⁴ Beyond these narrow limits no discovery, whatever its utility or novelty, is patentable.⁵

§ 60. Form of Letters-Patent.

The form of letters-patent in the United States has undergone but little change. Under the acts of 1790 and 1793 they were simple grants of the exclusive right to the invention, for a term not exceeding fourteen years, and contained recital of the petition and a full description of the discovery

§ 59. ¹ In *Ransom v. Mayor of New York* (1856), 1 Fisher, 252, Hall, J. : (265) "Invention, in the sense of the patent law, is the finding out, contriving, devising, or creating something new and useful, which did not exist before, by an operation of the intellect."

In *Clark Patent S. & F. R. Co. v. Copeland* (1862), 2 Fisher, 221, Shipman, J. : (227) "With regard to the degree of mental labor and inventive skill required in the work of invention, the law has no nice or rigid standard. There must be some inventive skill exercised, but the degree of that skill is not material."

In *Woodman v. Stimpson* (1866), 3 Fisher, 98, Lowell, J. : (103) "The difficulty is in drawing the line and showing what is invention and what is mere construction."

In *Kirby v. Beardsley* (1867), 3 Fisher, 265, Shipman, J. : (278) "I am well aware that it is often no easy task to draw the true line of distinction between invention, the product of original thought, and mere obvious manual changes following the beaten track of mechanical experience." 5 Blatch. 438, (453).

² Act of 1790, § 1.

³ Act of 1793, § 1.

⁴ Act of 1842, § 3.

⁵ Rev. Stat. 1874, § 4886. In *Singer v. Walmsley* (1860), 1 Fisher, 558, Giles, J. : (562) "It seems, then, that whatever may be the extent of the terms of the grant under the Constitution, the only power that Congress has exercised is the power to give a patent for a 'new and useful art, machine, manufacture, or composition of matter.'"

of the inventor.¹ The act of 1836 substituted for this full description in the patent a short description or title of the invention, and required the annexation to the patent of a complete copy of the description and the claims, as contained in the application.² The act of 1837 directed that a copy of the drawings, if any existed, should also be appended to the patent.³ In A. D. 1861 the term of patents was extended to seventeen years.⁴ A patent, as now issued, thus contains a grant of the exclusive right to the patented invention during seventeen years, a short description or title of the art or thing invented, and a copy of the description, claims, and drawings which form the basis of the grant.

§ 61. Rights Embraced in Patent Privilege.

The patent privilege, in the United States, includes the exclusive right to make, use, or sell the patented invention and the exclusive right to empower others to make and use and sell it.¹ These rights are separable from each other and may

§ 60. ¹ Act of 1790, § 1 ; Act of 1793, § 1.

Under these statutes the patent itself gave substantial notice of the character of the invention. The applicant, in his petition, was compelled to set forth the fact and nature of his discovery, and the allegations and suggestions of the petition were recited in the patent. If the specification and petition were filed at the same time, the former was regarded as part of the latter, and by reference was made a portion of the description given in the patent. See *Evans v. Chambers* (1807), 2 Wash. 125 ; 1 Robb, 7 ; *Hogg v. Emerson* (1847), 6 How. 437 ; 2 Robb, 655.

² Act of 1836, § 5.

This change in the language of the statutes, describing the requisites of the patent, was adopted in order to make the law itself conform to the usage, which had grown up under the prior acts, of inserting the whole descriptive

portion of the petition in the patent, and which sometimes led to misconstructions. See *Hogg v. Emerson* (1847), 6 How. 457 ; 2 Robb, 655.

³ Act of 1837, § 6.

⁴ Act of 1861, § 16.

§ 61. ¹ Rev. Stat. 1874, § 4884.

In *Gayler v. Wilder* (1850), 10 How. 477, Taney, C. J. : (494) "Now the monopoly granted to the patentee is for one entire thing ; it is the exclusive right of making, using, and vending to others to be used, the improvement he has invented, and for which the patent is granted."

In *Bloomer v. McQuewan* (1852), 14 How. 539, Taney, C. J. : (549) "The franchise which the patent grants, consists altogether in the right to exclude every one from making, using, or vending the thing patented, without the permission of the patentee. This is all that he obtains by the patent."

be transferred, either singly or together, by the patentee.² They constitute his property in the invention, and are the measure of the reward conferred upon him for the service he has rendered to the public.³

§ 62. Remedies for Infringement.

The law provides two methods by which the injuries to these rights of patentees may be redressed: (1) An action on the case; (2) A bill in equity for an injunction, an account, and damages.¹ The former was once the ordinary method, but in recent times has been almost wholly superseded by the latter. Original jurisdiction over these proceedings resides exclusively in the Circuit Courts of the United States, subject to an appeal or writ of error to the Supreme Court.²

² Rev. Stat. 1874, § 4898.

In *Blanchard v. Eldridge* (1849), 1 Wall. Jr. 337, Grier, J. : (339) "As the grants of the crown were, at common law, construed with the greatest strictness, the privileges granted by a patent for a monopoly, would probably not have been treated as capable of assignment, unless made so by the letter of the grant. . . . But the Act of Congress of 1836 has regulated the assignment of patents. . . . (340) This statute also renders the monopoly capable of subdivision in the category of its locality, but in no other way. The patentee is not allowed to carve out his monopoly, which is an unity, into a hundred or more, all acting in the same place, and liable to come into conflict." 2 Robb, 737 (739, 740). See also *Gayler v. Wilder* (1850), 10 How. 477; *Suydam v. Day* (1846), 2 Blatch. 20.

³ In *Brown v. Duchesne* (1856), 19 How. 183, Taney, C. J. : (195) "The right of property which a patentee has in his invention, and his right to its exclusive use, is derived altogether from these statutory provisions; and this court have always held that an inventor has no right of property in his

invention, upon which he can maintain a suit, unless he obtains a patent for it, according to the acts of Congress; and that his rights are to be regulated and measured by these laws, and cannot go beyond them."

In *Blandy v. Griffith* (1869) 3 Fisher, 609, Swayne, J. : (620) "The rights secured by a patent for an invention or discovery are as much property as anything else, real or incorporeal."

In *Densmore v. Scofield* (1880), 102 U. S. 375, Swayne, J. : (378) "Patents rightfully issued are property, and are surrounded by the same rights and sanctions which attend all other property." 19 O. G. 289 (289).

That an inventor's property consists in his exclusive right to practise the invention, see *Brush v. Naugatuck R. R. Co.* (1885), 32 O. G. 894; 24 Fed. Rep. 371; 23 Blatch. 277.

§ 62. ¹ Rev. Stat. 1874, §§ 4919, 4921.

² Rev. Stat. 1874, §§ 629, 699, 711.

State courts, however, can entertain questions arising under the patent laws of the United States when collaterally drawn into discussion in cases within their jurisdiction. See *Sherman v.*

§ 63. Increase of Inventions under the Patent System of the United States.

The patent system of the United States completed the ninety-eighth year of its existence on the tenth day of April, A. D. 1888. During this period the number of patents issued has been over three hundred and eighty thousand; an average of more than ten per day. Under the stimulus afforded by the protection given to the inventor, and by the vast fortunes realized by successful patentees, the inventive genius of the nation has been rapidly developed, and is increasing at an almost incredible rate.¹ Before A. D. 1837 the whole number of patents granted was about ten thousand; less than two hundred and twenty per year. The following table shows the rate of issue since that date, given in decades including 1876:

1837	to	1846	5,019
1847	"	1856	12,572
1857	"	1866	50,094
1867	"	1876	130,240

That this increase has been out of all proportion to the increase of population is evident from the following table, in which appears the population at each census year in the preceding decades, the number of patents granted in that year, and the ratio of patents to population:—

Census Year.	Population.	Patents.	Ratio.
1840	17,069,453	473	1 to 36,088
1850	23,191,876	993	1 " 23,308
1860	31,443,321	4,778	1 " 6,525
1870	38,558,371	13,333	1 " 2,894

In other words, the rate of the development of inventive genius in the United States, as exhibited by the operations of the Patent Office from 1840 to 1850 was six times, from 1850 to 1860 was nine times, and from 1860 to 1870 was thirteen times as great as the rate of increase in population.

Champlain Trans. Co. (1858), 31 Vt. 162; Rich v. Atwater (1844), 16 Conn. 409; and §§ 854-866, 1256, 1257 and notes, *post*. § 63. ¹ See statement of the Progress of the Patent System of the United States in Commissioner's Report for 1887, 42 O. G. 616.

§ 64. Increase of Inventions due to Patent System.

Whatever other influences have contributed to this extraordinary increase in the efforts and triumphs of inventors, a powerful and permanent cause has undoubtedly existed in the patent system itself. A system which constantly calls the attention of the public to the progress of the industrial arts, and as constantly suggests new wants and new fields for investigation; which secures the inventor against the issue of a patent to another claimant until he has been heard as to his prior rights; and which affords him a thorough examination as to the novelty and usefulness of his invention by skilled and learned experts at an expense scarcely exceeding the week's wages of a laborer, may fairly be credited with a large proportion of that benefit which the nation has received from the inventions and discoveries of its citizens. History does not present a better illustration of the vast results which may flow from a few acts of wise and far-sighted legislation.

§ 65. Subdivisions of Patent Law.

In examining the details of this patent system, and attempting to define and classify the principles and rules of law by which its several departments are controlled, the following division of the subject will be pursued:—

- I. OF PATENTABLE INVENTIONS.
- II. OF INVENTORS AND PATENTEES.
- III. OF LETTERS-PATENT.
- IV. OF WRONGS AND REMEDIES.

To each of which a separate Book will be devoted.

REGISTERED PATENT
OFFICE
WASHINGTON, D. C.
MAY 10 1880

BOOK I.
OF PATENTABLE INVENTIONS.

BOOK I.
OF PATENTABLE INVENTIONS.

PRELIMINARY ANALYSIS.

§ 66. Patents Grantable only to the Persons and for the Objects Prescribed by Law.

THE right of an inventor to a patent depends entirely upon the provisions of positive law.¹ However valuable his discovery, however meritorious the service he has thereby rendered to the public, unless his invention falls within the scope of these provisions, it becomes, immediately upon its disclosure, the property of all mankind. That in peculiar cases great apparent hardship results from an adherence to this rule is no doubt true;² but such exceptional evils necessarily

§ 66. ¹ This proposition is as correct in reference to the English patent system as in reference to our own. Whatever considerations of private justice or of public policy may have sustained the grant of letters-patent at common law, the statute of James I. abolished all such grants except in certain special cases. The effect of this exception in the statute was to place the excepted cases on the same footing as if no right existed, unless created by express statute; for though the statute has been uniformly regarded as declaratory of the common law, it has nevertheless been interpreted in this respect as a negative statute, excluding from this privilege every invention on which the privilege itself was not in terms conferred. The same severe interpretation has been properly applied to our

own statutes, which rest entirely upon the positive provisions of the Constitution of the United States. This proposition, however, has no reference to rights *under* a patent, which are determined, in part at least, by the inherent nature of the subject and the fundamental principles of the common law. See § 10 and notes.

² Rarely in any case, within the history of the Patent Law, has the rigor of this rule been more apparent than in that of *Morton v. The N. Y. Eye Infirmary* (1862), 5 Blatch. 116. The plaintiff had discovered a method of rendering patients insensible to pain during surgical operations, and had thereby conferred inestimable benefits upon the whole race of man. Having procured a patent for his method, and attempted to enforce his apparent rights

attend all regulations which depart from the great principles of natural law, and seek by arbitrary measures to promote the common good.

§ 67. Patents Grantable only to Inventors: and to them only for Certain Inventions.

In this country the positive law, from which this right of the inventor is derived, is contained in the Constitution of the United States and in the Acts of Congress, as interpreted by the decisions of the Federal Courts. According to the Constitution, Congress has no power to grant a patent to any one but an inventor, and to him only for his own invention.¹ Even this limited power has been exercised by Congress only in respect to certain classes of inventions, and the privilege of the inventor is thus practically confined to particular results of his inventive skill.² Under our laws, therefore, as

against the defendant, the validity of his patent was disputed, *inter alia*, on the ground that such a discovery could not be protected under any existing provision of the law. In rendering a decision against the plaintiff upon this point, Shipman, J., said: (127) "But the beneficent and imposing character of the discovery cannot change the legal principles upon which the law of patents is founded, nor abrogate the rules by which judicial construction must be governed. These principles and rules are fixed, and uninfluenced by shades and degrees of comparative merit. They secure to the inventor a monopoly in the manufacture, use, and sale of very humble contrivances, of limited usefulness, the fruits of indifferent skill and trifling ingenuity, as well as of those grander products of his genius which confer renown on himself and extensive and lasting benefits on society. But they are inadequate to the protection of every discovery, by securing its exclusive control to the explorer to whose eye it may be first disclosed. A discovery may be brilliant

and useful, and not patentable. No matter through what long, solitary vigils, or by what importunate efforts, the secret may have been wrung from the bosom of nature, or to what useful purposes it may be applied. Something more is necessary. The new force or principle brought to light must be embodied and set to work, and can be patented only in connection or combination with the means by which, or the medium through which, it operates." 2 Fisher, 320 (329).

See also the opinion of the Attorney-General (1856), 8 Op. Atty. Gen. 269.

Further, that an inventor has no exclusive right at common law but only by statute, see *Comstock v. White* (1860), 18 How. Pr. 421; *Dudley v. Mayhew* (1849), 3 Comst. 9; *Higgins v. Strong* (1836), 4 Blackf. (Ind.) 182.

§ 67. ¹ Const. U. S. art. 1, § 8.

² Act 1790, § 1, "art, manufacture, engine, machine, or device, or any improvement therein." Act 1793, § 1, "art, machine, manufacture, or composition of matter," or an improvement therein. Act 1836, § 6, "art, machine,

they now exist and always have existed, the grantee of a patent must be an inventor, and its subject-matter must be one of those inventions which are specifically mentioned in the Acts of Congress.

§ 68. No Object can be an Invention unless it Results from an Inventive Act: no Person an Inventor unless he has Performed an Inventive Act.

An invention is the result of an inventive act; and an inventor is a person by whom an inventive act has been performed. The terms "invention" and "inventor" had acquired a definite legal meaning before our Constitution was adopted. It was in favor of "inventors" that the exception in the statute of James I. was made. In several early cases it was held that this name included only those who either by their own ingenuity and study had created, or by their researches in foreign countries had discovered and had then imported, something worthy of protection by the law.¹ The reason for thus

manufacture, or composition of matter," or improvement therein. Act 1870, § 24; Rev. Stat. 1874, § 4886.

§ 68. ¹ At common law the importer and the inventor were regarded as of equal merit, since each gave to the public some useful manufacture which they did not before possess. Thus in *Darcy v. Allin* (1602), Noy, 173, the law is thus stated: (182) "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 furtherance of a trade, that never was used before, . . . the king may grant to him a monopoly patent . . . in consideration of the good he doth bring by his invention to the commonwealth, &c;" instancing Hastings's patent granted in 1567 "in consideration that he brought in the skill of making frisadoes as they were made in Harlem and Amsterdam," &c; also Matthey's patent, granted still earlier, for the sole making of knives with bone hafts, &c., "because . . . he brought the first use

thereof from beyond seas." 1 Web. 5 (6); 1 Abb. P. C. 1.

The Smalt patents, granted 1606, were in consideration that the patentees had undertaken to manufacture in England "a blue stuff called smalt," which should be "as good, perfect, and merchantable as the same or like stuff called smalt, made, wrought and compounded in the parts beyond the seas and brought into this realm," &c.

Dudley's patent, granted 1622, was in consideration that Dudley had "at his great travail and industry and after many chargeable experiments found out the mystery, art, way, and means of melting iron ore . . . with sea coals or pit coals in furnaces with bellows, of as good condition as hath been heretofore made of charcoal," &c.

Mansell's patent, granted 1624, was in consideration of his having expended his whole fortune in developing the invention of one Percival for making glass with coal instead of wood.

Then came the stat. Jac. I., 1624,

placing an importer on the same plane of merit with a creator, if it ever was sufficient, ceased to be so when intimate commercial intercourse made the improvements of one nation the immediate property of others; but in the English law this classification has not changed, and the importer is still entitled to a patent. In the United States, however, the importation, by one man, of that which is accessible to all, has never been regarded as meriting the right to its exclusive public use, and hence the word "inventors" is in our law em-

authorizing a patent to the "first and true inventor or inventors of such manufactures," but excepting alike from the repealing clause of the statute, the Smalt patents, the Dudley and the Mansell patents, as being on the same ground of merit. This phrase in the statute received its construction in *Edgebury v. Stephens* (1691), 1 Web. 35; 2 Salk. 447, Holt and Pollexfen, JJ., saying: "The act intended to encourage new devices useful to the kingdom and whether learned by travel or by study it is the same thing." 1 Abb. P. C. 8. Following this ruling, Lombe's patent, granted 1719, was in consideration that he "did with the utmost difficulty and hazard, and at a very great expense, discover the arts of making and working the three capital engines made use of by the Italians to make their organzine silk, and did introduce those arts and inventions into this kingdom," &c.

This doctrine was constantly admitted in the courts by counsel and recognized in practice. In later cases it has also been affirmed. Thus in *Walton v. Bateman*, (1842), 1 Web. 613, Cresswell, J.: (615) "The party obtaining the patent must be the true and first inventor in this country. If he import from a foreign country that 'which others at the time of making of such letters-patent and grants did not use,' it will suffice." So, also, in *Lamenaude's Patent* (1850), 2 Web.

164, Lord Brougham: (169) "You may have a patent as the importer of a foreign invention, because that is the construction that the courts have put upon the statute that you are the *quasi* inventor, if you import it for the first time." See *Lewis v. Marling* (1829), 1 Web. 493; 1 Abb. P. C. 421; *Minter v. Wells* (1834), 1 Carp. 622; 2 Abb. P. C. 26; *Stead v. Williams* (1843), 2 Web. 126; *Beard v. Egerton* (1846), 3 C. B. 97; *Nickels v. Ross* (1849), 8 C. B. 679.

The extent to which this doctrine has been carried may be gathered from the decision in *Wirth's patent* (1879), L. R. 12 Ch. 303, where it was held that an alien resident abroad may take a patent in England for an invention communicated to him by another alien resident abroad; though one who learns the invention in England from another is neither an inventor nor an importer. See *Marsden v. Saville Co.* (1878), L. R. 3 Ex. D. 203.

At the same time, the actual difference between the merit of the inventor and importer is in some cases recognized, especially in reference to the extension of the patent privilege beyond the first life of the patent; the claims of an inventor being in such cases regarded as entitled to greater consideration. See *Soames' Patent* (1843), 1 Web. 729.

See also *Coryton*, chap. iii.; *Norman*, chap. vi.

ployed in its first meaning only, and is confined to those by whom creative skill and genius have been exercised.² It is the exercise of this creative skill alone which is here recognized as an inventive act, and only the result of such an act, so far perfected as to be available for public use, is an invention. In every question whether or not a given person is an inventor, or a given thing an invention, the test is, therefore, found in the nature of the act performed by the one, or resulting in the other. If the act is what the law regards as an inventive act, the actor is an inventor and the result is an invention. If the act is not in law an inventive act, neither the actor nor his production are entitled to the protection afforded by a patent.

§ 69. No Invention Patentable unless Embraced within one of the Prescribed Classes.

Before our patent system was established, the line was also clearly drawn between those results of the inventive act which constitute the proper subject-matter of a patent, and those to which the law gives no protection. The English statute

² In this exclusion of the importer from the privilege of a patent Congress inaugurated that departure from the fundamental idea of the English courts, concerning the true relation between the inventor and the public, which has exercised such an important influence over many of our subsequent ideas. Under the English theory the merit of the inventor was not in the exercise of his inventive genius creating new manufactures, but in the rendering of new manufactures, by whomsoever created, accessible to the public. The consideration, therefore, for the issue of the patent was simply publication, not creation; and this principle colors the decisions of the courts on all questions of prior use, prior knowledge, abandonment, etc., as well as those of novelty. But, in this country, a different principle has been established. The act of 1790 authorized a patent

to inventors only for something "not before known or used," and this phrase being regarded by the courts as including knowledge or use at any time or in any country, no mere importer could receive a patent, since the invention must have been at some time and somewhere "before known and used." The privilege was thus restricted to inventors proper; that is, to those who had created that which did not before exist, and the merit of creation was thus substituted in the American theory for that of publication, though not, as we shall see hereafter, to the total exclusion of the latter. The effect of this change of theory is manifest in our doctrines of prior use and publication, of novelty in the thing invented, and of priority of right as between rival inventors. See Phillip: 59; Godson, 54-56.

groups the former under the general name of "manufacture," but this was early held to include not merely a vendible product of inventive skill, but also a method of applying physical forces to the production of physical effects.¹ Congress adopted the same ideas in its description of the inventions for which patents might be granted. It enumerates them as an art, a machine, a manufacture, a composition of matter, a

§ 69. ¹ In *Boulton v. Bull* (1795), 2 H. Bl. 463, Eyre, C. J. : (492) "It was admitted in the argument at the bar, that the word '*manufacture*' in the statute (21 Jac. I., c. 3), was of extensive signification, that it applied not only to things made, but to the practice of making, to principles carried into practice in a new manner, to new results of principles carried into practice. Let us pursue this admission. Under things made, we may class in the first place, new compositions of things, such as manufactures in the most ordinary sense of the word; secondly, all mechanical inventions, whether made to produce old or new effects, for a new piece of mechanism is certainly a thing made. Under the practice of making we may class all new artificial manners of operating with the hand, or with instruments in common use, new processes in any art, producing effects useful to the public." 1 Abb. P. C. 59 (87).

This classification of C. J. Eyre evidently includes an art, machine, manufacture, and composition of matter. That a design is an invention relating to the industrial arts, and consequently the proper subject-matter of a patent, was a subsequent conception both in the American and English law. The patentability of an improvement upon an existing invention was, in the earlier history of the law, denied. Lord Coke, who was chairman of the Committee on the passage of the stat. Jac. I., commenting upon that statute in 3

Inst. 184, says: "The privilege must not be contrary to law; such a privilege as is consonant to law must be substantially and essentially newly invented, but if the substance was *in esse* before, and a new addition thereunto, though that addition make the former more profitable, yet it is not a new manufacture in law; and so was it resolved in the Exchequer Chamber, Pasch. 15 Eliz. in *Bircot's* case, for a privilege concerning the preparing and melting, &c., of lead ore, for there it was said that it was but to put a new button to an old coat, and it is much easier to add than to invent; and it was there also resolved, that if the new manufacture be substantially invented according to law, yet no old manufacture in use before can be prohibited." This position was controverted by Lord Mansfield in *Morris v. Bransom* (1776), Bull. N. P. 76 c.; 1 Web. 51; 1 Abb. P. C. 21; and by Buller, J., in *Boulton v. Bull* (1795), 2 H. Bl. 463 (488); 1 Abb. P. C. 59 (83), and the error attributed to the ignorance of the age concerning the true nature of an invention, since which decision the patentability of an improvement as well as an original invention has been generally recognized.

For further classifications of patentable inventions under the English law, see Godson, 58; Holroyd, 33; Web. Law and Prac. Supp. 1, &c.; Coryton, 57; Norman, 7; Lund, 6; *Morgan v. Seaward* (1837), 1 Web. 187; 2 Abb. P. C. 419.

design, and an improvement upon some art, machine, manufacture, composition of matter, or design.² All other discoveries and inventions, however valuable and important, are subject to the operation of the natural law.

§ 70. No Invention Patentable unless New and Useful.

A further limitation on the patentability of inventions is found in the provision of the statute of James I. that a manufacture is entitled to protection only when it is "new,"¹ and

² The admirable classification contained in the present American statute was not reached without previous futile endeavors to enumerate the objects covered by the spirit and purpose of the law. In the act of 1790 they were described as an "art, manufacture, engine, machine, or device, or any improvement thereon." The terms here employed were evidently chosen without reference to their exact meaning, and have a remarkable correspondence to some of those then current in the English courts. The words "engine" and "device" convey no idea not embraced in "manufacture" and "machine," and no phrase is introduced which clearly covers a substance formed by the intermixture of ingredients, though this could have been here, as it was in England, included under "manufacture." During the interval between this act and that of 1793, the matter was sufficiently elucidated to enable Congress in the latter act to specify the great classes of inventions, according to their radical distinctions, and to arrange their statement in an order expressing their scientific relations to each other, — a classification unsurpassed by that of any other patent system, and probably, in the very nature of things, incapable of improvement. See *Ex parte Blythe* (1884), 30 O. G. 1321.

§ 70. ¹ Under the stat. Jac. I., the patentable subject-matter was the "sole

working or making of any manner of new manufacture within this realm." Whether the phrase "within this realm" was intended to qualify the "working or making" and thus define the territorial limits of the patent privilege, or to make patentable any manufacture which was new within the realm, is not apparent from the language of the statute. The courts, assuming that the former rule needed no expression, adopted the latter interpretation, and regarded every manufacture not already known in the kingdom as new, however well known it might be in other lands. This doctrine required a wider extension of the term "inventor" than is embraced within its ordinary meaning, and a limitation of the further provision "which others at the time of the making of such letters-patents and grants did not use" to the people of the realm, although no words to that effect appear in the statute. If the courts had held the phrase "within the realm" as referring to the scope of the monopoly instead of the locality within which the invention must be new, and consistently with this view had insisted that the manufacture must not have been before in use by any person in any country, and that the patentee must have been its actual inventor, in the sense of its creator, the English statute would have substantially represented our own law as it stood until the act of 1836.

neither "contrary to the law, nor mischievous to the state, by raising prices of commodities at home, or hurt of trade, or generally inconvenient."² Our statute has expressed the same idea in the phrase "new and useful,"³ making the novelty and utility of the result of the inventive act additional conditions of its patentability. The language of our courts might sometimes lead the incautious reader to imagine that the novelty and utility here required were to be taken as the tests by which the presence or the absence of the inventive act could always be determined.⁴ Yet such is not the case.

² The language of the stat. Jac. I., in reference to this requisite of a patentable invention is particularly significant. It was designed to exclude from protection not only every illegal manufacture, and those which tended to raise the price of commodities or to injure trade, but all those which on any ground were generally inconvenient. Lord Coke, in commenting on this requirement in 3 Inst. 184, instances an invention of labor-saving machinery, whereby persons hitherto employed were deprived of work, as falling within the prohibition, because "it was holden inconvenient to turn so many laboring men to idleness." Unreasonable as this may now appear, it illustrates the fundamental theory of the law, that the patent privilege exists for the public benefit and not for that of the inventor, and that whatever merit his discovery may possess in itself, if the community are not advantaged by its use, the government is not justified in encouraging the inventor to disclose it by offering him the protection of a patent.

³ In the act of 1790 the word "new" is not applied adjectively to the invention, the idea being represented by the verbs "invented or discovered," and the qualifying phrase "not before known or used." It appears, however, in the act of 1793 and

in all subsequent statutes. That the invention must be "useful" has always been expressly stated.

⁴ Where the advantage derived by the public from an invention is considered as the only or the chief reason for the allowance of the patent privilege, the presence of inventive skill is either not regarded or is inferred from the utility and novelty of the invention. In England, therefore, it is generally presumed when the art or article is found to possess the statutory requisites for patentability. In this country, until recently, the same position has been maintained. In the learned work of Mr. Curtis (edition of 1867), § 32, the view then entertained of this subject is stated in the following sentences: "It may be doubted, whether all the different forms of stating or investigating the question of sufficiency of invention are anything more than different modes of conducting the inquiry, whether the particular subject of a patent possesses the statute requisites of *novelty* and *utility*, both of which qualities must be found uniting in it. . . . While the law does not look to the mental process by which the invention has been reached, but to the character of the result itself, it may still require that the result should be such as not to exclude the possibility of some skill or ingenuity having been exercised. It

Inventive skill may be involved in the production of an object which, though hitherto unknown to the inventor, is already in possession of the public; and even greater genius may be manifested in devising mischievous and destructive agencies than in creating those which aid in the advancement of mankind. But in order to entitle an inventor to a patent the inventive act must not merely be performed; it must be performed in such a manner and for such a purpose as to benefit the public by bestowing something on them which they do not before possess, and which when they receive it will tend to their advantage; or, in the briefer phrase, the result of the inventive act must be both "new and useful."

§ 71. No Invention Patentable if already Abandoned to the Public.

Finally, the patent privilege undergoes another limitation in the provision that no invention, which has already passed from the control of the inventor into the possession of the public, is entitled to protection. The English statute expresses this condition in the declaration that the "manufacture" must be such as "others, at the time of making such letters-patent

requires this, because it requires that the subject-matter of a patent shall be something that has not substantially existed before, and is useful in contradistinction to being frivolous."

The later American cases, however, have drawn the line sharply, as will be shown hereafter (§§ 78-86 and *notes*), between those new and useful productions which could have resulted from the exercise of mechanical or constructive skill and those to which the employment of the inventive faculties is necessary. Thus it is no longer the rule that where the nature of the invention does not exclude the exercise of the creative powers its origin in them will be presumed (Curt. §§ 32, 34, 36, 40). On the contrary, it must affirmatively appear that the inventive faculties alone could have produced the

art or article, and for this purpose its novelty and utility may be considered, not as direct evidence, but as the minor premiss of a syllogism whose major asserts that if mechanical genius could provide an instrument or operation of such value and importance in the arts it would have long before been in existence and subjected to the use of man.

The distinction between "intrinsic novelty" and "legal novelty" drawn in § 113 *post*, is here important. The confusion of the two is evident in the last portion of the citation from Curtis, *ante*. The "statute requisite of novelty" is not the same as that novelty which consists in the fact that the invention "has not substantially existed before."

and grants, shall not use.”¹ The Acts of Congress, though varying from time to time the terms of this requirement² as well as their description of the conduct by which the abandonment of the invention to the public may be indicated, have uniformly recognized this rule, and made the inventor’s retention of control over his own discovery an essential element in his right to its protection. The reason of this rule is evident, since if the inventor has already dedicated his invention to the public, he cannot afterwards bestow it upon

§ 71. ¹ The doctrine that the “abandonment” of an invention, or its dedication to the public, is fatal to the claim of the inventor for a patent is as well recognized in the English law as in our own, although the technical language of our statutes gives greater prominence to the rule. The stat. Jac. I., by excluding from the privilege all inventions except those “which *others* at the time of the making of such letters-patents and grants *did not use*,” can scarcely have been intended to repeat the previous requirement, that a patentable manufacture must be “new.” But as an invention, however new at the date of its conception or importation, might easily have passed into use by others, and thus have become public property, before the patent had been granted, it was essential to provide that no issue of a patent should deprive the public of the advantage they already had attained, by making it a condition of the grant that no such use should have occurred. This view of the provision has uniformly been enforced in the British courts. *Wood v. Zimmer* (1815), Holt, N. P. 160; 1 Abb. P. C. 202; *Househill Co. v. Neilson* (1843), 1 Web. 673. In the latter case Lord Brougham says: “The statute excludes from a patent the true inventor who shall have made the invention so public that others, at the time of granting the patent, shall use the invention” (note 719).

² Act of 1790, “not before known or used.”

Act of 1793, “not known or used before the application.” In several cases this phrase has been treated as relating to the question of novelty rather than that of abandonment, and as in effect a repetition of the adjective “new,” already stated in the act to be an essential condition of patentability. *Morris v. Huntington* (1824), 1 Paine, 348; 1 Robb, 448; *Mellus v. Silsbee* (1825), 4 Mason, 108; 1 Robb, 506; *Treadwell v. Bladen* (1827), 4 Wash. 703; 1 Robb, 531, &c. In others its relation to the doctrine of abandonment more definitely appears. *Whitney v. Emmet* (1831), Baldwin, 303; 1 Robb, 567; *Shaw v. Cooper* (1833), 7 Peters, 292; 1 Robb, 643, &c.

Act of 1836, “not, at the time of his application for a patent, in public use or on sale, with his consent or allowance.”

Act of 1839, “no patent shall be held to be invalid by reason of such purchase, sale, or use prior to the application, . . . except on proof of abandonment of such invention to the public; or that such purchase, sale, or prior use has been for more than two years prior to such application for a patent.”

Act of 1870, “not in public use or on sale for more than two years prior to his application, unless the same is proved to have been abandoned.”

them as a consideration for the grant to him of its exclusive use.⁸

§ 72. **Essential Characteristics of a Patentable Invention.**

The characteristics of a patentable invention, as they appear from this analysis of the provisions of the law, are these: (1) It must be the result of an inventive act, so far perfected as to become available for public use; (2) It must belong to one of those great classes of inventions, which Congress has declared to be the subjects-matter of a patent; (3) It must be new; (4) It must be useful; (5) It must not have been abandoned to the public by the inventor.¹ Hence in considering inventions in detail, and in examining the various principles and rules by which their patentability is to be determined, these topics will require attention:—

- I. Of the nature and result of the inventive act.
- II. Of the classes of inventions legally entitled to protection.
- III. Of novelty.
- IV. Of utility.
- V. Of the abandonment of the invention to the public.

⁸ 1 Web. (720, n.): “What has once been given to the public cannot be resumed; the public being in possession of any species of knowledge, there is no consideration for the exclusive privileges granted by subsequent letters-patent; there is no fresh knowledge to be communicated to the public through the medium of the specification, to constitute the consideration upon which the letters-patent are granted; such knowledge being the price and bargain for the grant, or that which the public get in return for the limited monopoly.”

The necessity for this rule is so evident, and the reasons on which it is based are so forcible, that in its application the courts have been inclined to restrict even the rights which grow out of priority of inventive act and of good faith on the part of the inventor, when they come in conflict with an already

acquired possession of the invention by the public. See § 357 and notes.

§ 72. ¹ In *Earle v. Sawyer* (1825), 4 Mason, 1, Story, J.: (6) “The thing to be patented is not a mere elementary principle, or intellectual discovery, but a principle put in practice, and applied to some art, machine, manufacture, or composition of matter. It must be *new*, and not *known* or *used* before the application; that is, the party must have found out, created, or constructed some art, machine, &c., or improvement on some art, machine, &c., which had not been previously found out, created, or constructed by any other person. . . . It must also be useful, that is, it must not be noxious or mischievous, but capable of being applied to good purposes; and perhaps it may also be a just interpretation of the law that it meant to exclude things absolutely frivolous and foolish.” 1 Robb, 490 (495).

§ 73. Difficulties of the Subject Caused by Failure to Apprehend the True Nature of an Invention.

In discussing these topics we shall encounter certain difficulties, inseparable from any system of positive law which attempts to regulate matters relating to imperfectly understood mental or physical facts. Such systems are not the development of evident and necessary truths, but are built up through the interpretations given by the courts to the terms in which the arbitrary will of the legislative body is expressed; terms not always carefully selected, nor accurately adapted to the subjects which they are intended to control.¹ In all such cases, the nature of the fact to which the law relates, as well as the reason of the law and the principles by which its application must be governed in order that the system may be permanent and beneficial to the state, are of gradual and late discovery; and the efforts of the courts to grasp and formulate them are characterized by many apparent

§ 73. ¹ In reference to no body of law can this proposition be more true than in regard to the English and American law of patents. The law itself was formulated at a period when the fact to which it relates was comparatively little understood, and though the language used was in itself sufficiently clear, the interpretations of it which became necessary, in order to carry out its spirit and intent, depended too much on the essential characteristics of its subject-matter not to suffer in precision and completeness from the general want of exact information in reference to the real nature of an invention. The law itself undertook to protect an invention in the hands of its inventor for a certain time, in consideration of its disclosure to the public; and all its terms and implications were, therefore, to be construed in such a manner as to accomplish this result. In every general interpretation of the law the questions presented were: What is an invention? What is an inventor? and What is a bestowal of the invention

on the public? In every special application of the law the courts were called upon to determine whether the object protected was an invention; whether the patentee was an inventor, and whether he had fulfilled his duty by rendering the invention accessible to the public. All of these are questions of fact, reducible in most instances to one; viz., Is that which the patentee has created or imported and published, an invention? To answer this question a thorough knowledge of the nature of an invention, as a fact in the arts, is of course essential. Whatever legal learning may accomplish in the effort to construe and apply the language of the law, it is evident that no reliable result can be attained without this knowledge. And an examination of the cases chronologically will satisfy the investigator that the development of this legal system has been dependent upon and determined by the development of knowledge concerning the true essential characteristics of the subject-matter to which the law relates.

contradictions, by much uncertainty of language, and by the frequent confusion of ideas which are, in themselves, essentially dissimilar. These difficulties are perhaps less formidable in the present system than in any other, owing partly to its narrow limits, partly to the fortunate expressions which are contained in both the American and English statutes, but they nevertheless exist; and hence, in the examination of the text-books and reported cases, the exercise of constant caution becomes necessary, lest by the overlapping and interlacing of propositions which are really distinct, or by the substitution of the rules governing one branch of the subject for those which properly control another, the reader should be needlessly misled. To remedy as far as possible these evils, our own examination of the system will begin with an endeavor to ascertain the nature and essential attributes of an invention.

CHAPTER I.

OF THE NATURE AND ESSENTIAL ATTRIBUTES OF AN INVENTION.

§ 74. **An Invention is an Unchangeable Fact to which the Law must Conform: Its Comprehension essential to a Comprehension of the Law.**

The one unchangeable factor in all legal questions relating to inventions is the invention itself. An invention is either a physical operation or a physical instrument, and as such its essential characteristics are determined by the laws of nature. No human legislation, no judicial interpretation, can increase, modify, or diminish its necessary attributes, and no legal doctrine concerning it can be correct which is based upon a partial or erroneous view of those inherent qualities that differentiate it from all other actual or possible inventions. What is thus true of individual inventions is true of all inventions, considered as a class of agencies employed by man for the production of physical effects. An invention, in that it is an invention, possesses certain attributes without which it could not be an invention, — attributes which the law cannot alter, and which it cannot ignore with any prospect of arriving at reliable conclusions upon any problem that relates to inventions. A clear and accurate apprehension of these necessary attributes is, therefore, the first step in any investigation of the principles and rules of Patent Law, as well as the only guide to the solution of those difficulties which the practical application of that law presents.

§ 75. **True Nature of an Invention but Recently Disclosed.**

It is not the least remarkable feature in the history of our Patent Law, that this fundamental conception has been the latest in definition and development of any connected with inventions. The earlier courts contented themselves with the

construction of the statutes, and with the decision of the individual cases presented to them, according to the crude notions of physical agencies which then prevailed. As new questions arose, not of law merely but of law as interpreted by the subject-matter to which it related, they were compelled to penetrate more and more deeply into the mysteries of nature and examine the inherent properties of the instruments and operations whose identity or diversity was to be determined, until within the past few years the essential characteristics of an invention itself have been elucidated and established as the foundation on which the entire structure of legislation and interpretation rests. To our own courts, and to certain of their able and experienced judges whose opinions will be freely cited in the following pages, is this great advancement toward a correct and exhaustive knowledge of the law of patents for inventions largely due.

§ 76. **Nature of an Invention Ascertained by Examining the Inventive Act from which it Results.**

No apprehension of an effect can be more perfect than that which is obtained through an examination of its cause. An invention is the effect of an inventive act, and it has been by passing from the study of the invention — the effect, to that of the inventive act — its cause, that the great progress in our modern understanding of the subject has been achieved. Every invention has its origin in man. It is his addition to the agencies already existing in nature, and owes to him its generation, its birth, its growth, and its application to the purposes for which it was designed. Beyond the brain which conceives and the hand which fashions it human investigation cannot penetrate. We must be satisfied to pause when we have discerned the mental processes and manual operations which result in an invention, and have learned from them the essential characteristics which every invention must possess. To the inventive act we therefore turn our attention, as furnishing to us a correct and definite apprehension of the attributes which must be found in every true invention.

§ 77. **Inventive Act Twofold: Mental and Physical.**

Every invention contains two elements: (1) An idea conceived by the inventor; (2) An application of that idea to the production of a practical result.¹ Neither of these elements is alone sufficient. An unapplied idea is not an invention. The application of an idea, not original with the person who applies it, is not an invention. Hence, the inventive act in reality consists of two acts; one mental, the conception of an idea; the other manual, the reduction of that idea to practice.² It is especially in the mental act that the questions which confront us find their answer.

SECTION I.

OF THE MENTAL PART OF THE INVENTIVE ACT.

§ 78. **Mental Part of Inventive Act Includes an Exercise of the Creative Faculties, Generating a new Idea.**

The mental faculties employed in the inventive act are the *creative* not the *imitative* faculties.¹ An invention is the

§ 77. ¹ In *Horton v. Mabon* (1862), 12 C. B. N. S. 437, Willes, J.: "The invention consists in the idea, and the mode in which the idea is made of practical utility." *Cited Higgins*, § 88.

² That the inventive act consists in conceiving an idea and reducing it to practice, see *Adams v. Edwards* (1848), 1 Fisher, 1; *Thomas v. Weeks* (1827), 2 Paine, 92.

§ 78. ¹ In *May v. County of Fond du Lac* (1886), 27 Fed. Rep. 691, Dyer, J.: (695) "To be patentable, a thing must not only be new and useful, but must amount to an invention or discovery."

In *Rosenwasser v. Berry* (1885), 22 Fed. Rep. 841, Colt, J.: (843) "Not every improvement is invention; but to entitle a thing to protection it must be the product of some exercise of the inventive faculties, and it must involve

something more than what is obvious to persons skilled in the art to which it relates."

In *Conover v. Roach* (1857), 4 Fisher, 12, Hall, J.: (16) "An invention in the sense of the patent law, as I understand it, means the finding out — the contriving, the creating . . . of something which did not exist, and was not known before, and which can be made useful and advantageous in the pursuits of life, or which can add to the enjoyment of mankind."

In *Ransom v. The Mayor of New York* (1856), 1 Fisher, 252, Hall, J.: (265) "Invention, in the sense of the patent law, is the finding out, contriving, devising, or creating something new and useful, which did not exist before, by an operation of the intellect."

That not every new thing is an in-

product of original thought. It involves the spontaneous conception of some idea not previously present to the mind of the inventor. Industry in exploring the discoveries and acquiring the ideas of others; wise judgment in selecting and combining them; mechanical skill in applying them to practical results; none of these are creation, none of these enter into the inventive act.² Only when the mind of

vention, see *Landesmann v. Jonasson* (1887), 32 Fed. Rep. 590.

² In *Hollister v. Benedict Mfg. Co.* (1884), 113 U. S. 59, Matthews, J. : (73) "As soon as the mischief became apparent, and the remedy was seriously and systematically studied by those competent to deal with the subject, the present regulation was promptly suggested and adopted, just as a skilled mechanic, witnessing the performance of a machine, inadequate, by reason of some defect, to accomplish the object for which it had been designed, by the application of his common knowledge and experience, perceives the reason of the failure, and supplies what is obviously wanting. It is but the display of the expected skill of the calling, and involves only the exercise of the ordinary faculties of reasoning upon the materials supplied by a special knowledge, and the facility of manipulation which results from its habitual and intelligent practice; and is in no sense the creative work of that inventive faculty which it is the purpose of the Constitution and the patent laws to encourage and reward."

In this opinion the same justice accurately defines inventive skill as "that intuitive faculty of the mind put forth in the search for new results, or new methods, creating what had not before existed, or bringing to light what had lain hidden from vision," as opposed to a "suggestion of that common experience which arose spontaneously and by a necessity of human reasoning in

the minds of those who had become acquainted with the circumstances with which they had to deal."

In *Atlantic Works v. Brady* (1883), 107 U. S. 192, Bradley, J. : (199) "The process of development in manufactures creates a constant demand for new appliances, which the skill of ordinary head-workmen and engineers is generally adequate to devise, and which, indeed, are the natural and proper outgrowth of such development. Each step forward prepares the way for the next, and each is usually taken by spontaneous trials and attempts in a hundred different places. To grant to a single party a monopoly of every slight advance made, except where the exercise of invention, somewhat above ordinary mechanical or engineering skill, is distinctly shown, is unjust in principle and injurious in its consequences. The design of the patent laws is to reward those who make some substantial discovery or invention, which adds to our knowledge and makes a step in advance in the useful arts. Such inventors are worthy of all favor. It was never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures." 23 O. G. 1330 (1332).

In *Smith v. Elliott* (1872), 1 O. G. 331, Woodruff, J. : (332) "The law, however, gives no monopoly to industry, to wise judgment, or to mere me-

the inventor originates an idea new to himself, if not to

mechanical skill in the use of known means, nor to the product of either if it be not new. These are within the proper field of competition, and open to all. In general they will in that competition be justly appreciated, and will command their proper remuneration if usefully employed. It is invention of what is new, and not comparative superiority or greater excellence in what was before known, which the law protects as exclusive property, and it is that alone which is secured by patent.

. . . (333) On that subject it should be observed that there are many changes which may be suggested by the judgment or taste of the manufacturer, or by the particular uses to which the article produced is to be applied, which are not invention; and many exhibitions of superior skill in producing an article of greater excellence, which are not invention. Thus, if a fabric be already known and in use, change of color, change of mere material, change in its degree of fineness, or in the fineness of the parts thereof, if these changes involve nothing new in construction, nor in the relations of its parts, nor in the office or function of either part, the whole do not constitute invention, although for many purposes these may constitute the greater excellence of the fabric." 9 Blatch. 400 (403); 5 Fisher, 315 (318).

In *Tatham v. Le Roy* (1852), 2 Blatch. 474, Nelson, J. : (488) "In order to ascertain and determine whether the change in the arrangement and construction of an existing machine is to be considered as a substantial change or not, you must ascertain and determine whether the change is the result of mechanical skill, worked out by mechanical devices — of a knowledge that belongs to that department of labor — or whether the change is the result

of mind, of genius, of invention, in which you discover something more than mere mechanical skill and ingenuity. A change in the arrangement and construction is not substantial, unless you find embodied in it, over and beyond the skill of the mechanic, that inventive element of the mind which is to be found in every machine or improvement that is the proper subject of a patent. If you find that, then the change is a substantial one, that entitles the party to a patent."

That the exercise of inventive as distinguished from mechanical skill is essential to constitute an inventive act, see *Leonard v. Lovell* (1886), 29 Fed. Rep. 310; *Celluloid Mfg. Co. v. Comstock & Cheney Co.* (1886), 27 Fed. Rep. 358; 36 O. G. 1356; *Aron v. Manhattan Ry. Co.* (1886), 26 Fed. Rep. 314; 34 O. G. 1508; *Hartford Woven Wire Mattress Co. v. Peerless Wire Mattress Co.* (1885), 23 Blatch. 227; *Washburn & Moen Mfg. Co. v. Grinnell Wire Co.* (1885), 24 Fed. Rep. 23; *Ames v. Carlton Spring Bed Co.* (1885), 24 Fed. Rep. 785; 32 O. G. 1238; *Kappes v. Hartung* (1885), 23 Fed. Rep. 187; 32 O. G. 652; 23 Blatch. 152; *Phillips v. Carroll* (1885), 23 Fed. Rep. 249; 31 O. G. 265; *Hollister v. Benedict Mfg. Co.* (1885), 113 U. S. 59; *Celluloid Mfg. Co. v. Chrolithion Collar & Cuff Co.* (1885), 23 Fed. Rep. 397; 31 O. G. 519; 23 Blatch. 205; *Rosenwasser v. Berry* (1885), 22 Fed. Rep. 841; *Mosler Safe & Lock Co. v. Mosler* (1885), 31 O. G. 1689; 22 Fed. Rep. 901; *Spill v. Celluloid Mfg. Co.* (1884), 21 Fed. Rep. 631; 22 Blatch. 441; *Nicodemus v. Frazier* (1884), 19 Fed. Rep. 260; *Thompson v. Boisselier* (1884), 114 U. S. 1; 31 O. G. 377; *Estey v. Burdett* (1884), 109 U. S. 633; 26 O. G. 637; *Morris v. McMillin* (1884), 112 U. S. 244; 29 O. G. 951; *Phillips v. Detroit*

all the world, does he call into exercise his own inventive

(1884), 111 U. S. 604; *Double Pointed Tack Co. v. Two Rivers Mfg. Co.* (1883), 109 U. S. 117; 25 O. G. 1075; *National Mfg. Co. v. Myers* (1883), 23 O. G. 1443; 15 Fed. Rep. 237; *Wood v. Packer* (1883), 17 Fed. Rep. 650; *Slawson v. Grand St. R. R. Co.* (1883), 107 U. S. 649; 24 O. G. 99; *Clark Pomace Holder Co. v. Ferguson* (1883), 21 Blatch. 376; 17 Fed. Rep. 79; 24 O. G. 1090; *Wallace v. Noyes* (1882), 23 O. G. 435; 21 Blatch. 83; 13 Fed. Rep. 172; *Mackay v. Jackman* (1882), 22 O. G. 85; 12 Fed. Rep. 615; 20 Blatch. 466; *Atlantic Works v. Brady* (1882), 107 U. S. 192; 23 O. G. 1330; *Bruce v. Marder* (1882), 22 O. G. 1039; 20 Blatch. 355; 10 Fed. Rep. 750; *Packing Co. Cases* (1881), 105 U. S. 566; 21 O. G. 1689; *Pratt v. Rosenfeld* (1880), 21 O. G. 866; 3 Fed. Rep. 335; 18 Blatch. 234; 5 Bann. & A. 488; *Pearce v. Mulford* (1880), 102 U. S. 112; 18 O. G. 1223; *Dunbar v. Myers* (1876), 94 U. S. 187; 11 O. G. 35; *Stimpson v. Woodman* (1869), 10 Wall. 117.

That inventive skill and mechanical skill are not easily distinguishable, though the former creates a new idea while the latter employs an old one, see *New York Belting & Packing Co. v. Magowan* (1886), 27 Fed. Rep. 362; 34 O. G. 1159.

That small discoveries may involve inventive skill, see *Hobbie v. Smith* (1886), 27 Fed. Rep. 656.

That study, effort, and experiment are not alone enough to constitute inventive skill, see *Butler v. Steckel* (1886), 27 Fed. Rep. 219; 36 O. G. 455.

That good judgment is not inventive skill, see *Estey v. Burdett* (1884), 109 U. S. 633; 26 O. G. 637.

That reasoning processes are not inventive processes, see *Watson v. Cincinnati, I., St. L. & C. R. R. Co.* (1885), 23 Fed. Rep. 443.

That to use well known materials in conjunction with each other, as mechanics usually do, may show judgment but is not invention, see *Welling v. Crane* (1882), 23 O. G. 189; 14 Fed. Rep. 571.

That to relieve an existing invention from long known and grievous defects is invention, see *Asmus v. Alden* (1886), 27 Fed. Rep. 684; 36 O. G. 231.

That a mere working caution or direction, though if followed it will improve existing modes of operation, is not an invention, see *Patterson v. Gas Light & Coke Co.* (1876), L. R. 2 Ch. 812.

That a mere mode of packing is not an invention, see *Forncrook v. Root* (1884), 29 O. G. 774; 21 Fed. Rep. 328; *King v. Gallun* (1883), 109 U. S. 99; 25 O. G. 980.

But that a mode of packing, producing useful results, may be an invention, see *Eppinger v. Richey* (1877), 14 Blatch. 307; 12 O. G. 714; 3 Bann. & A. 69.

That a mode of arranging and presenting for sale is not an invention, see *Pratt v. Rosenfeld* (1880), 5 Bann. & A. 488; 21 O. G. 866; 18 Blatch. 234; 3 Fed. Rep. 335; *King v. Frostel* (1879), 4 Bann. & A. 236; 8 Bissell, 510; 16 O. G. 956; *Reed v. Reed* (1875), 8 O. G. 193; 12 Blatch. 366; 1 Bann. & A. 515; *Langdon v. De Groot* (1822), 1 Paine, 203; 1 Robb, 433.

That the making of part of a known thing is not invention, see *Seligman v. Day* (1876), 2 Bann. & A. 467; 14 Blatch. 72.

That the mere casting in one piece what was formerly cast in two is not invention, see *Ormson v. Clarke* (1862), 13 C. B. N. S. 337.

That to employ the instinct of animals to apply force to existing machines is not an invention, see *Merrill v. Cousins* (1866), 26 U. C. Q. B. 49.

skill, and perform the mental portion of the inventive act.³

That the discovery of a method of arranging patterns on the material so as to cut it up for use without waste is not invention, see *Walker v. Rawson* (1879), 4 Bann. & A. 128.

That using the same thing on a larger scale is not invention, see *Brainard v. Evening Post Association* (1884), 22 Blatch. 61 ; 19 Fed. Rep. 422.

That to increase power by substituting compound for simple levers is not invention, see *Puetz v. Bransford* (1887), 31 Fed. Rep. 458.

³ In *Earle v. Sawyer* (1825), 4 Mason, 1, Story, J., apparently disputes the doctrine of intellectual creation, and refers the creative act to the actual machine or other instrument produced. Thus he says, speaking of the claims of the defendant, which he overrules: (5) "The whole argument, upon which this doctrine is attempted to be sustained, is, if I rightly comprehend it, to this effect. It is not sufficient, that a thing is new and useful, to entitle the author of it to a patent. He must do more. He must find it out by mental labor and intellectual creation. If the result of accident, it must be what would not occur to all persons skilled in the art, who wished to produce the same result. There must be some addition to the common stock of knowledge, and not merely the first use of what was known before. . . . An invention is the finding out by some effort of the understanding." He then denies this proposition as follows: "It did not appear to me at the trial, and does not appear to me now, that this mode of reasoning upon the metaphysical nature, or the abstract definition of an invention, can justly be applied to cases under the Patent Act. That Act proceeds upon the language of common sense and common life, and has

nothing mysterious or equivocal in it. . . . (6) The thing to be patented is not a mere elementary principle, or intellectual discovery, but a principle put in practice, and applied to some art, machine, manufacture, or composition of matter. It must be *new*, and not *known* or *used* before the application; that is, the party must have found out, created, or constructed some art, machine, &c., . . . which had not been previously found out, created, or constructed by any other person. It is of no consequence, whether the thing be simple or complicated; whether it be by accident, or by long, laborious thought, or by an instantaneous flash of the mind, that it is first done. The law looks to the fact, and not to the process by which it is accomplished. It gives the first inventor, or discoverer of the thing, the exclusive right, and asks nothing as to the mode or extent of the application of his genius to conceive or execute it." 1 Robb, 490 (494).

If the difference between the court and counsel were other than a mere verbal one, it is evident, in the light of later decisions, that the views of the learned judge were incorrect. The patent in question was for a combination of old elements. The defendants contended that the combination was so simple that it did not require inventive skill to make it. The court held that, being new and useful, it was patentable without reference to the intellectual processes involved in its production. The opinions of the court also seem somewhat colored by the then prevailing ideas in the English courts, that the law could take notice only of the concrete practical invention and not of the abstract ideas which lie behind it. Modern judges would probably have sustained the patent on the ground that, while

§ 79. **Mental Part of Inventive Act Includes a Conscious Perception of the Idea Generated by the Creative Faculties.**

Moreover, no exercise of the creative faculties can form a part of the inventive act, unless the idea resulting from such exercise is fully apprehended by the mind of the inventor. To create by accident without a recognition of the fact or nature of his own creation, and consequently without the power to repeat the same creative act, is not invention.¹

intellectual inventive skill is necessary, the novelty and usefulness of the invention were sufficient evidence of its employment. Be this, however, as it may, the necessity of inventive skill, as distinguished from every other "application of genius," is now thoroughly established.

See also the following cases. *Edham v. Washburn* (1874), 4 Clifford, 254; 7 O. G. 649; 1 Bann. & A. 537; *Reed v. Reed* (1874), 12 Blatch. 366; 8 O. G. 193; 1 Bann. & A. 515; *Smith v. Elliott* (1872), 9 Blatch. 400; 5 Fisher, 315; 1 O. G. 331; *Spaulding v. Tucker* (1869), Deady, 649; *Blake v. Stafford* (1867), 3 Fisher, 294; *Woodman v. Stimpson* (1866), 3 Fisher, 98; *Wooster v. Crane* (1865), 2 Fisher, 583; 5 Blatch. 282; *Case v. Brown* (1864), 2 Wall. 320; *Forbes v. Barstow Stove Co.* (1864), 2 Clifford, 379; *Clark Patent Steam & Fire Regulator Co. v. Copeland* (1862), 2 Fisher, 221; *Ransom v. Mayor of N. Y.* (1856), 1 Fisher, 252; *Tatham v. Le Roy* (1852), 2 Blatch. 474.

That mechanical skill must be estimated as it existed at the date of the invention, see *Wilcox v. Bookwalter* (1887), 31 Fed. Rep. 224; 39 O. G. 1200.

That the standard of mechanical skill is being constantly raised and the field of invention narrowed, see *Wilcox v. Bookwalter* (1887), 39 O. G. 1200; 31 Fed. Rep. 224.

§ 79. ¹ In *Ransom v. The Mayor of*

New York (1856), 1 Fisher, 252, Hall, J. : (265) "If there was, at any time, or under any circumstances an accidental combination similar in character to that which the plaintiffs have patented — if that combination was made accidentally or otherwise, under such circumstances that the public obtained no knowledge of the invention — obtained no knowledge of the mode in which (it) could be made available, then the invention was not made by the parties who produced this combination. In other words, if the parties who made the combination, although seeing with the eye, perceived not, or hearing with the ear, understood not what would be the result of this combination, they added nothing to their own stock of knowledge; and the fact if observed by other men, (if they understood it not), added nothing to the knowledge of science upon that subject. Therefore the invention was not made until the parties contriving, or others observing, the existing combination, saw that it could be made available for the purpose of producing a result."

In *Househill Co. v. Neilson* (1843), 1 Web. 673, Hope, J. : (690) "It is not sufficient to show that others, in experiments or incidental trials, had hit upon the same idea, not having made public the principle and the application of it to the same processes. . . . I have to repeat, that the originality of the invention is not destroyed by proof, that, in the history of the arts and trades of

While previous intention to create in this especial form, or even to create at all, is not required, it is essential to the inventive act that the inventor should not only *conceive*, but should also *perceive* his original idea, and should do both so clearly as to make this idea an actual addition to his fund of knowledge, and to be able to communicate it to the public.

§ 80. Mental Part of Inventive Act Complete only when the Idea Generated is Sufficiently Developed for Practical Application.

Again, the idea in which this exercise of the creative faculties results must be complete and capable of practical application. To recognize a public want, to entertain vague notions of some mode in which that want may be supplied, to put forth efforts which approach, however nearly, to the solution of the problem and yet leave it unsolved, are not enough. Such operations never pass beyond the line of mere conjecture or of unsuccessful experiment. They *create* nothing; and though they tend to stimulate and aid creative genius, they are in themselves useless both to the inventor and the public.¹ To

this country, some one or two or even more persons may have apparently had some glimpse of the same conception, in occasional and insulated experiments, which were not prosecuted, nor made known, and from which, so far as the rest of the world were concerned, no result or change followed on former practice."

That unless the idea of the invention is fully present to the mind of the inventor, inventive skill has not been exercised, and no invention has been made, see *Andrews v. Hovey* (1883), 5 McCrary, 181; 26 O. G. 1011; 16 Fed. Rep. 387; *Boyd v. Cherry* (1883), 4 McCrary, 70.

That to make a thing by chance, without the ability to reproduce it, is not invention, see *Maxheimer v. Mayer* (1881), 20 Blatch. 17; 9 Fed. Rep. 460; 20 O. G. 1162; *Andrews v. Carman* (1876), 13 Blatch. 307; 9 O. G.

1011; 2 Bann. & A. 277; *Pelton v. Waters* (1874), 1 Bann. & A. 599; 7 O. G. 425; *Harrison v. Railway Co.* (1860), 6 Jur. N. S. 993; *Minter v. Mower* (1835), 1 Web. 138; 2 Abb. P. C. 178.

That to accidentally produce, without perceiving and comprehending the nature of the result or the mode of producing it, is not invention, see *Libbey v. Mt. Washington Glass Co.* (1886), 26 Fed. Rep. 757; 36 O. G. 572; *Boyd v. Cherry* (1883), 4 McCrary, 70.

That incidental ideas, not discerned by the inventor, are not within the scope of his conception, see *Boyd v. Cherry* (1883), 4 McCrary, 70.

§ 80. ¹ In *Winans v. The New York and Harlem R. R. Co.* (1855), 4 Fisher, 1, Nelson, J. : (9) "Now, the circumstance that a person has had an idea of an improvement in his head, or has sketched it upon paper — has drawn it,

him alone whose mind conceives the perfect, practical, operative idea, — that idea which, when embodied in tangible materials, will accomplish the desired result, — belongs the right of the inventor and the credit of performing the inventive act.²

and then gives it up — neglects it — does not, in judgment of law, constitute or have the effect to constitute him a first and original inventor. It is not the person who has only produced the idea, that is entitled to protection as an inventor, but the person who has embodied the idea into a practical machine, and reduced it to practical use. He who has first done that is the inventor who is entitled to protection. A kindred principle, also, it may be proper to state here, which is, that where a person engaged in producing some new and useful instrument or contrivance, and who has embodied it into a machine, and endeavored to reduce it to practice by experiments — if those trials fail — if he fail in success and abandon it, or give it up, that consideration affords no impediment to another person, who has taken up the same idea or class of ideas, and who has gone on perseveringly in his studies, trials, and experiments, until he has perfected the new idea, and brought it into practical and useful operation. He is the person — the meritorious inventor — who is entitled to the protection of the law.”

In *Goodyear v. Day* (1852), 2 Wall., Jr., 283, Grier, J. : (299) “It is usually the case, when any valuable discovery is made, or any new machine of great utility has been invented, that the attention of the public has been turned to that subject previously; and that many persons have been making researches and experiments. Philosophers and mechanics may have, in some measure, anticipated, in their speculation, the possibility or probability of such discovery or invention; many ex-

periments may have been unsuccessfully tried, coming very near, yet falling short of the desired result. They have produced nothing beneficial. The invention, when perfected, may truly be said to be the culminating point of many experiments, not only by the inventor, but by many others. He may have profited indirectly by the unsuccessful experiments and failures of others; but it gives them no right to claim a share of the honor or the profit of the successful inventor. It is when speculation has been reduced to practice, when experiment has resulted in discovery, and when that discovery has been perfected by patient and continued experiments — when some new compound, art, manufacture, or machine, has been thus produced, which is useful to the public, that the party making it becomes a public benefactor, and entitled to a patent.”

As it is evident that no idea can be embodied in a practical art or instrument until it is sufficiently developed in the mind of the inventor to be thus applied, the rule requiring reduction to practice necessitates the complete development of the idea.

That to have invented a person must not be merely experimenting in the direction of a result, but must have matured his conception into an operative means, see *Voelker v. Gray* (1885), 30 O. G. 1091.

² That to suggest that a given result may be obtained, without indicating the method of obtaining it, is not invention, see *Graham v. Gammon* (1877), 3 Bann. & A. 7; 7 Bissell, 490.

That any mere experiment, as distinguished from practical use, is not

§ 81. **Mental Part of Inventive Act Complete though the full Value of the Idea Generated is not Perceived.**

But while the idea of the invention must thus exist, complete and comprehended, in the mind of the inventor, it is not necessary that he should have fathomed all its possibilities.¹ An invention, though made only for one purpose, is sometimes capable of serving many. In the development of the industrial arts, every really valuable invention finds numerous applications outside the scope of that for which it was originally devised; and some of these are often vastly more important to the public, and more profitable to the inventor, than those which occupied his mind in the performance of the creative act. That these modes of employing his invention are unforeseen does not affect his position or his rights as an inventor, so far as his invention is concerned.² The law regards him as the owner of the invention for any and every purpose to which it can be applied, and thus secures to him the entire benefit of his original idea.³

invention, see *Many v. Sizer* (1849), 1 Fisher, 17.

That if an invention will not answer its purpose without further invention it is not patentable, and a patent for it is void, see *Burrall v. Jewett* (1830), 2 Paige (N. Y.), 134.

§ 81. ¹ That an inventor need not understand all the uses to which his invention may be applied, see *Stow v. Chicago* (1882), 104 U. S. 547; 21 O. G. 790; *Eagleton Mfg. Co. v. West, Bradley & Cary Mfg. Co.* (1880), 17 O. G. 1504; 18 Blatch. 218; 2 Fed. Rep. 774; *Woodbury Patent Planing Mach. Co. v. Keith* (1879), 4 Bann. & A. 100; *Welling v. Rubber Coated Harness Trimming Co.* (1874), 7 O. G. 606; 1 Bann. & A. 282; *Wells v. Jacques* (1874), 1 Bann. & A. 60; 5 O. G. 364.

² That an inventor is entitled to all the benefits of his invention, see *New Process Fermentation Co. v. Koch* (1884), 21 Fed. Rep. 580; 29 O. G.

535; *Union Stone Co. v. Allen* (1882), 15 Phila. 508; *Stow v. Chicago* (1882), 104 U. S. 547; 21 O. G. 790; *Burke v. Partridge* (1878), 58 N. H. 349.

³ The proposition stated in this paragraph must not be so extended as to conflict with two others, which are equally correct. These are: (1) That where the same concrete invention may serve as the embodiment of two distinct ideas, the use of such invention as the expression of one of those ideas is not the use of the invention as the expression of the other; (2) That when the new use of an existing invention involves the exercise of inventive skill, beyond that which was exercised in creating the invention, this new use is itself a new invention, and not included in the invention as originally created.

The scope of the doctrine of this paragraph is, therefore, limited to such benefits as the inventive skill of the inventor in question has actually conferred upon the public, and which are

§ 82. **Mental Part of Inventive Act Complete though the Scientific Principles Underlying the Idea are not Understood.**

Nor is it necessary, on the other hand, that he should comprehend the scientific principles on which the practical effectiveness of his invention rests.¹ The relations that subsist between his idea and the effect which it produces when embodied in an operative form, can be really understood by no one. Human knowledge goes no further than to recognize that when a given action is performed a given event follows; but the tie which binds the action and event together evermore escapes investigation; and when we speak of "laws of nature," or of "causes and effects," we use the language of convenience, not of necessary truth. No deeper insight is required of the inventor in regard to his original idea. If that idea, when practically applied, is followed by the desired result the law is satisfied, whether or not the inventor can explain, or whether any one can understand, the reason of its operation, or state the principle on which the correspondence of effect and cause depends.

thereby made accessible to them without any further exercise of the creative faculties. All these belong to him, whether or not he recognizes their existence, and though they may become apparent only after long use of his invention. A new inventor, conceiving an essentially different idea and expressing it through the same tangible embodiment, does not avail himself of the same invention. And though new inventors devising, by their creative genius, new uses for his old invention cannot employ it for these uses without his consent, the uses they have thus produced do not belong to him, but are their separate and complete inventions.

§ 82. ¹ In *Andrews v. Hovey* (1883), 5 McCrary, 181, Shiras, J. : (194) "Indeed, it is not necessary that the inventor, to be entitled to a patent, should himself understand the abstract principle which his invention brings into use. It is sufficient if he is the inventor of a

means whereby a new and useful application of the abstract principle is brought about." 16 Fed. Rep. 387 (396); 26 O. G. 1011 (1014).

That the inventor need not understand the scientific truths underlying his invention, see *Andrews v. Cross* (1881), 19 O. G. 1705; 8 Fed. Rep. 269; 19 Blatch. 294; *St. Louis Stamping Co. v. Quinby* (1879), 4 Bann. & A. 192; 16 O. G. 135; *Stow v. Chicago* (1877), 3 Bann. & A. 83; 8 Bissell, 47; *Piper v. Brown* (1870), Holmes, 20; 4 Fisher, 175; *Treadwell v. Parrott* (1866), 3 Fisher, 124; 5 Blatch. 369.

But that where his invention purports to be a process consisting in the application of the laws of nature to effect a certain object, the conception of the idea is impossible without a previous perception of the physical laws which it employs, see *Andrews v. Hovey* (1883), 16 Fed. Rep. 387; 26 O. G. 1011; 5 McCrary, 181.

§ 83. Mental Part of Inventive Act Complete whether Prolonged or Instantaneous.

The law draws no distinction between those operations of the creative faculties which manifest themselves in long-continued study and experiment, and those which reach their end by sudden intuition or apparent accident.¹ Here also is a

§ 83. ¹ In *Anilin v. Cochrane* (1879), 16 Blatch. 155, Wheeler, J. : (160) "An invention is not like a will, depending on intention. It is a fact, and, if the fact exists, it does not appear to be material whether it came by design, or accidentally without being bidden." 4 Bann. & A. 215 (221).

In *Blake v. Stafford* (1868), 6 Blatch. 195, Shipman, J. : (205) "If no inventive skill, but only mechanical dexterity, was necessary to produce it, then it is not patentable. Originality is the test of invention. If that is successfully exercised, its product is protected; and it is immaterial whether it is displayed in greater or less degree, or whether the new idea revealed itself to the inventor by a sudden flash of thought, or slowly dawned on his mind after groping his way through many and dubious experiments." 3 Fisher, 294 (305).

In *Middletown Tool Co. v. Judd* (1867), 3 Fisher, 141, Shipman, J. : (146) "Whenever a change or device is new, and accomplishes beneficial results, courts look with favor upon it. The law, in such cases, has no nice standard by which to gauge the degree of mental power or inventive genius brought into play in originating the new device. A lucky casual thought, involving a comparatively trifling change, often produces decided and useful results, and though it be the fruit of a very small amount of inventive skill, the patent law extends to it the same protection as if it had been brought forth after a lifetime devoted to the profoundest thought and the most ingenious experiment to attain it."

In *The Magic Ruffle Co. v. Douglass* (1863), 2 Fisher, 330, Shipman J. : (338) "A subject-matter to be patentable must require invention, but is not necessarily the result of long and painful study, or embodied alone in complex mechanism. A single flash of thought may reveal to the mind of the inventor the new idea, and a frail and simple contrivance may embody it. Some inventions are the result of long and weary years of study and labor, pursued in the face of abortive experiments and baffled attempts, and finally reached after the severest struggles, while others are the fruit of a single happy thought."

In *Crane v. Price* (1842), 1 Web. 393, Tindal, C. J. : (411) "In point of law, the labor of thought, or experiments, and the expenditure of money, are not the essential grounds of consideration on which the question, whether the invention is or is not the subject-matter of a patent ought to depend. For if the invention be new and useful to the public, it is not material whether it be the result of long experiments and profound research, or whether by some sudden and lucky thought, or mere accidental discovery." Utility to the public, and the fact that the public received the invention from the patentee, being in England the real basis of the patent, it was of course immaterial whether the patentee was an inventor or an importer, and if an inventor, whether his inventive act were sudden and easy or laborious and prolonged. Where, as in this country, the inventive act is regarded as also a ground,

region in which human knowledge is at fault. Indeed, it may well be doubted whether the creative act is over otherwise than instantaneous and intuitive, and whether research and reflection ever do more than clear the way for, and dispose the mind toward those sudden apprehensions of the truth to which in literature and the arts we give the names "invention" and "discovery." The law does not attempt to settle questions which thus lie beyond the reach of mental science. Wherever the creative faculties have evidently been at work, it inquires neither as to the method nor the duration of their exercise.² The patient labors of a lifetime, the unpremeditated flash of an original thought upon the mind, the revelation made to an appreciative intellect by some trivial accident,³ all stand upon an equal footing both in character and merit, and are entitled to the same reward.

§ 84. Mental Part of Inventive Act Complete though Aided by External Suggestions.

Nor does the law take notice of the aid which the inventor has derived from the suggestions, writings, or experiments of others, provided the creative act be truly his.¹ Unless the

perhaps the principal ground, of merit, the doctrine of this case can be maintained, as it has always been, only for the reason that the character of the inventive act is not dependent upon its difficulty or duration, but on its employment of the creative faculties of the human mind.

² That the degree of inventive skill is immaterial, see *Furbush v. Cook* (1857), 2 Fisher, 668; *Carr v. Rice* (1856), 1 Fisher, 198. (See also cases cited in § 85, note 2.)

³ Some valuable and remarkable inventions are said to have thus owed their origin to accident or the instantaneous conception of the mind. One of the most interesting cases upon this point is that of the "Water Tabbies." A workman, having spat on the floor, put his hot iron upon it, and observed

that it spread into a kind of flower. He afterwards tried the experiment upon linen and found it produced the same effect. He then obtained a patent, and lived to make a considerable fortune. 1 Web. 54, note.

§ 84. ¹ In *Hall v. Johnson* (1883), 23 O. G. 2411, Marble, Com. : (2412) "Mere suggestions, even if they point toward a result, are not sufficient to entitle one making them to be considered the inventor. In order that he may claim the benefit of what another does his suggestions must leave nothing for the mechanic to do but to work out what has been suggested."

In *The Union Paper Bag Machine Co. v. Pultz and Walkley Co.* (1878), 15 O. G. 423, Shipman, J. : (424) "Knowledge of prior experiments by another will not defeat the claim of the

idea which constitutes the spirit of his invention has been obtained by him from other persons, complete and capable of

patentee to an invention if it appears that, after those experiments were abandoned, he first perfected and adapted the invention to actual use; but he will not be an original inventor, and his claim to originality will be defeated if the knowledge or information which he derived from the abandoned models or experiments was sufficiently definite and clear to enable him to construct the improved thing which was the subject of his alleged invention.

. . . (425) The patentee has a right to take up the improvement at the point where it was left by his predecessor, and if, by the exercise of his own inventive skill, he is successful in first perfecting and reducing to practice the invention which his predecessor undertook to make, is entitled to the merit of such improvement as an original inventor. . . . And if he is an original inventor of the improvement he is entitled to the benefit of unsubstantial variations and modifications in form of the principle of his invention, notwithstanding such modifications may run into and include the forms of mechanism shown in the abandoned experiments of which he had knowledge." 15 Blatch. 160 (165, 166); 3 Bann. & A. 403 (407, 408).

In *The United Nickel Co. v. Anthes* (1872), 1 O. G. 578, Shepley, J. : (581) "However suggestive the experiments of others may have been . . . they cannot be made available to defeat a patent granted to one who, after all the experimenters had failed to secure a practical and successful result beneficial to the community and a valuable contribution to the useful arts, first succeeded so as to be able to disclose to the public a practically useful and successful process, by him first brought

to perfection and first made capable of useful application." Holmes, 155 (160); 5 Fisher, 517 (523).

In *Judson v. Moore* (1859), 1 Fisher, 544, Leavitt, J. : (555) "Mere conversations about the practicability of an improvement, or suggestions as to the manner in which it might be carried out or accomplished, will not of themselves defeat the claims to originality of him who perfects the idea and secures a patent. Neither will experiments defeat, even if known to the patentee, if it appear that he prosecuted such experiments to final success; but any information to a patentee, sufficient to enable him to construct the thing itself, would destroy the originality of the invention. But that knowledge must be definite and tangible; it should be sufficient of itself to enable the party to whom it was imparted, to construct the improvement." 1 Bond, 285 (298).

In *O'Reilly v. Morse* (1853), 15 How. 62, Taney, C. J. : (111) "Neither can the inquiries he made, or the information or advice he received, from men of science in the course of his researches, impair his right to the character of an inventor. No invention can possibly be made, consisting of a combination of different elements of power, without a thorough knowledge of the properties of each of them, and the mode in which they operate on each other. And it can make no difference, in this respect, whether he derives his information from books, or from conversation with men skilled in the science. If it were otherwise, no patent, in which a combination of different elements is used, could ever be obtained. For no man ever made such an invention without having first obtained this information, unless it was

practical application, it is his own creation and not theirs, however closely their imperfect notions may approach to his.

discovered by some fortunate accident."

In *Pitts v. Hall* (1851), 2 Blatch. 229, Nelson, J. : (234) "Now, there is no doubt that a person, to be entitled to the character of an inventor, within the meaning of the Act of Congress, must himself have conceived the idea embodied in his improvement. It must be the product of his own mind and genius and not of another's. . . . At the same time, it is equally true that, in order to invalidate a patent on the ground that the patentee did not conceive the idea embodied in the improvement, it must appear that the suggestions, if any, made to him by others, would furnish *all* the information necessary to enable him to construct the improvement. . . . If they simply aided him in arriving at the useful result, but fell short of suggesting an arrangement that would constitute a complete machine, and if, after all the suggestions, there was something left for him to devise and work out by his own skill or ingenuity, in order to complete the arrangement, then he is, in contemplation of law, to be regarded as the first and original discoverer. On the other hand, the converse of the proposition is equally true. If the suggestions or communications of another go to make up a complete and perfect machine, embodying all that is embraced in the patent subsequently issued to the party to whom the suggestions were made, the patent is invalid, because the real discovery belongs to another." See also *International Tooth Crown Co. v. Richmond* (1887), 30 Fed. Rep. 775.

That an inventor may employ the mechanical skill of others and take their suggestions, see *Yoder v. Mills* (1885), 25 Fed. Rep. 821 ; 34 O. G. 1048.

That if the entire idea of the invention as a practical working means is derived from the suggestions of others, the alleged inventor is not entitled to a patent for it, see *Atlantic Works v. Brady* (1882), 107 U. S. 192 ; 23 O. G. 1330 ; *Spaulding v. Tucker* (1869), Deady, 649 ; *Thomas v. Weeks* (1827), 2 Paine, 92.

That mere suggestions of others do not show a want of inventive skill unless they suggest the entire invention, see *Butch v. Boyer* (1871), 8 Phila. 67 ; *Hubbell v. United States* (1869), 5 Court of Claims, 1 ; *Slemmer's Appeal* (1868), 58 Pa. St. 155.

That suggestions of part of the idea do not indicate want of inventive skill as to the whole, see *Celluloid Mfg. Co. v. Chrolithion Collar & Cuff Co.* (1885), 23 Fed. Rep. 397 ; 31 O. G. 519 ; 23 Blatch. 205 ; *Hall v. Johnson* (1883), 23 O. G. 2411 ; *Worden v. Fisher* (1882), 21 O. G. 1957 ; 11 Fed. Rep. 505 ; *National Feather Duster Co. v. Hibbard* (1881), 11 Bissell, 76 ; 21 O. G. 635 ; 9 Fed. Rep. 558.

That suggestions are not inconsistent with inventive skill unless they are so complete that it is unnecessary, see *Watson v. Belfield* (1886), 26 Fed. Rep. 536 ; 35 O. G. 1112.

That if, in addition to the ideas derived from such suggestions, inventive skill of his own was necessary in order to produce an operative means, he is the true inventor and entitled to a patent, see *Worden v. Fisher* (1882), 11 Fed. Rep. 505 ; 21 O. G. 1957 ; *National Feather Duster Co. v. Hibbard* (1881), 11 Bissell, 76 ; 9 Fed. Rep. 558 ; 21 O. G. 635 ; *Union Paper Bag Mach. Co. v. Pultz & Walkley Co.* (1878), 15 Blatch. 160 ; 15 O. G. 423 ; 3 Bann. & A. 403 ; *United Nickel Co.*

The law can draw no line between the ideas suggested to his mind by such external objects, and those which his mind generates from these suggestions. It can look only to the words and things from which his ideas may have been derived, and if it cannot find in them, apparent to the public view, the entire original idea as claimed by the inventor, it does not venture to dispute his right.

§ 85. Mental Part of Inventive Act Complete though the Idea Generated be of Small Value.

Lastly, the magnitude of the results which flow from the inventive act furnish no test by which its merits are determined. The advance made by the inventor may be slight, the benefit conferred upon the public may be small, but though these considerations influence the recompense which he eventually receives, they do not affect the intrinsic character of the

v. Anthes (1872), 5 Fisher, 517 ; 1 O. G. 578 ; *Holmes*, 155 ; *Waterbury Brass Co. v. Miller* (1871), 5 Fisher, 48 ; 9 Blatch. 77 ; *Matthews v. Skates* (1860), 1 Fisher, 602 ; *Bell v. Daniels* (1858), 1 Fisher, 372 ; 1 Bond, 212 ; *O'Reilly v. Morse* (1853), 15 How. 62 ; *Pitts v. Hall* (1851), 2 Blatch. 229 ; *Alden v. Dewey* (1840), 1 Story, 336 ; 2 Robb, 17.

That inventive skill may exist though the invention were suggested by the defective operation of previous devices, see *Heysinger v. Crawford* (1883), 16 Phila. 568.

That suggestions derived from the unsuccessful experiments of others do not exclude the exercise of inventive skill, see *Consolidated Valve Co. v. Crosby Valve Co.* (1885), 113 U. S. 157 ; 30 O. G. 991 ; *Whittlesey v. Ames* (1880), 18 O. G. 357 ; 9 Bissell, 225 ; 5 Bann. & A. 96 ; 13 Fed. Rep. 893 ; *Roberts v. Dickey* (1872), 4 Brews. (Pa.) 260 ; 1 O. G. 4 ; 4 Fisher, 532 ; *Spaulding v. Tucker* (1869), Deady, 649 ; *Hubbell v. United States* (1869),

5 Court of Claims, 1 ; *Agawam Co. v. Jordan* (1868), 7 Wall. 583 ; *Haselden v. Ogden* (1868), 3 Fisher, 378 ; *Matthews v. Skates* (1860), 1 Fisher, 602 ; *Bell v. Daniels* (1858), 1 Bond, 212 ; 1 Fisher, 372 ; *Pitts v. Hall* (1851), 2 Blatch. 229.

That the employment of ideas gathered from books is not inconsistent with inventive skill, see *O'Reilly v. Morse* (1853), 15 How. 62.

That the application of ideas suggested in prior patents, if not sufficiently explained therein to render the whole invention accessible to the public, does not exclude inventive skill, see *Baldwin v. Schultz* (1871), 5 Fisher, 75 ; 9 Blatch. 494 ; 2 O. G. 315 ; *Graham v. Mason* (1869), 5 Fisher, 1 ; 4 Clifford, 88.

That to reorganize an old invention, which is based on wrong principles, and render it successful is invention, see *Cammeyer v. Newton* (1874), 12 Blatch. 122 ; 5 O. G. 753 ; 1 Bann. & A. 294.

creative act.¹ The exercise of the inventive faculties in the production of a practical result having been once conceded, the degree and quantity of inventive skill which it involves are immaterial.² It falls within the purview of the law as an

§ 85. ¹ In *Pearl v. Ocean Mills* (1877), 2 Bann. & A. 469, Shepley, J. : (476) "No more difficult task is imposed upon the court in patent causes than that of determining what constitutes invention, and of drawing the line of distinction between the work of the inventor and the constructor. The change from the old structure to the new may be one which one inventor would devise with the expenditure of but little thought and labor, and another would fail to accomplish after long and patient effort. It may be one, which one whose mind is fertile in invention will suggest almost instantaneously, when the skilled hand of the constructor will fail to reach the apparently simple result by the long and toilsome process of experiment. It may be one which, viewed in the light of the accomplished result, may seem so simple as to be obvious almost to an unskilled operative, and yet the proof may show that this apparently simple and obvious change has produced a result which has for years baffled the skill of the mechanical expert, eluded the search of the discoverer, and set at defiance the speculations of inventive genius." 11 O. G. 2 (4).

In *Soames' Patent* (1843), 1 Web. 729, Brongham, J. : (735) "It is very fit their lordships should guard against the inference being drawn, from the small amount of any step made in improvement, that they are disposed to undervalue that in importance; if a new process is invented, if new machinery is invented, if a new principle is found out and applied so as to become the subject of a patent right, embodied in a manufacture, then, how-

ever small it may be in advance of the state of science or of art previous to the period of that step being made, that is no reason whatever for undervaluing the merits of the person who makes a discovery in science or an invention in art, because the whole history of science, from the greatest discoveries down to the most unimportant . . . is one continued illustration of the slow progress by which the human mind makes its advance in discovery; it is hardly perceptible, so little has been made by any one step in advance of the former state of things, because generally you find that just before there was something very nearly the same thing discovered or invented. Therefore it is no argument whatever in general, if there is a new principle, or a novel invention."

² That if inventive skill is actually exercised the degree of it is immaterial, see *Washburn & Moen Mfg. Co. v. Haish* (1880), 10 Bissell, 65; 4 Fed. Rep. 900; 19 O. G. 173; *Strobridge v. Lindsay* (1880), 18 O. G. 62; 5 Bann. & A. 411; 2 Fed. Rep. 692; *Pearl v. Ocean Mills* (1877), 2 Bann. & A. 469; 11 O. G. 2; *Potter v. Holland* (1858), 4 Blatch. 238; 1 Fisher, 382; *Many v. Sizer* (1849), 1 Fisher, 17; *Earle v. Sawyer* (1825), 4 Mason, 1; 1 Robb, 490.

That, on the contrary, the simplicity of the invention increases the merit of the inventive act, see *Yates v. Ry. Co.* (1877), 24 Grant Ch. (Can.) 495; *Summers v. Abell* (1869), 15 Grant Ch. (Can.) 532; *Powell v. Begley* (1867), 13 Grant Ch. (Can.) 381; *Muntz's Patent* (1846), 2 Web. 113.

invention, and is entitled to the same protection as if it were the most important of discoveries.

§ 86. **Mental Part of Inventive Act Defined.**

These characteristics of the mental part of the inventive act lead to the following as its definition: It is an exercise of the creative faculties, generating an idea which is clearly recognized and comprehended by the inventor, and is both complete in itself and capable of application to a practical result. Of the nature of the idea thus generated, and of the mode in which this exercise of the creative faculties is indicated, it next becomes our province to inquire.

SECTION II.

OF THE NATURE AND FACTORS OF THE IDEA GENERATED BY THE MENTAL PART OF THE INVENTIVE ACT.

§ 87. **The Generated Idea an Idea of Means, not an Idea of End.**

Two ideas are present to the mind of an inventor during his performance of the inventive act: (1) The idea of an end to be accomplished; (2) The idea of a means by which that end can be attained. The same ideas are manifest in the invention when reduced to practice and engaged in the production of its appropriate result.¹ In one or both of these ideas, therefore, resides the essence of the invention,—that characteristic principle on which its individuality depends, and by whose presence or absence its identity must be determined.² And here arise the fundamental questions upon

§ 87. ¹ In *Curtis v. Platt* (1863), cited in note to *Adie v. Clark* (1876) L. R. 3 Ch. 135, Wood, V. C. : (136) "In all discoveries of course there are two things—there is an object to be achieved and a means of achieving that object."

² In discussing an abstract as distinguished from a concrete invention, certain radical differences between them

must be remembered, or confusion will inevitably result. The abstract invention is the mental conception of the inventor. The concrete invention is that mental conception embodied in some operative art or instrument. In the abstract invention the end and means are inseparable from each other; the idea of means being unthinkable except in connection with the idea of

whose answer all other doctrines of the Patent Law are based : What is the essence of an invention ? What is the idea whose generation in the mind of the inventor constitutes the mental part of the inventive act ? Is it the idea of end, or is it the idea of means, or does it include both ? The rule, defined and analyzed in the last section, affords us a sufficient guide to the solution of this question. That rule excludes from the inventive act every mental operation which does not involve the exercise of the creative faculties. The application of this rule will demonstrate that the idea of means alone, and not the idea of end, is the result of the inventive act and, therefore, is the essence of the invention.

§ 88. **Idea of End Perceived but never Generated by the Inventor.**

The end to be accomplished by the invention is the satisfaction of a public want. This want is an existing fact. It grows inevitably out of the relations which man occupies to the external world. It can be satisfied only by such a change in those relations as will supply or terminate the want. The satisfaction of a want thus consists in a new condition of affairs, substituted for that in which the want originates.¹ Each of these two conditions is necessarily the antithesis or converse of the other, and hence whenever either is perceived the other is immediately suggested. Neither the idea of the want nor that of its satisfaction, therefore, is created or conceived by the inventor. As intellectual entities each has perpetual

that end to which it is a means. But the concrete invention does not usually express the idea of the end to be accomplished. It represents the idea of the means alone, the end coming into view only as the art or instrument is practically employed. Hence in speaking of the invention as it lies in the mind of the inventor, the end may properly be treated as a necessary subject for consideration as interpreting and defining the idea of means, although the latter is not yet embodied in tangible materials nor capable of producing

any practical results. But in discussing the concrete invention, the end must be regarded as unknown until by actual use of the invention the effect which it accomplishes can be ascertained.

§ 88. ¹ The word "satisfaction" admits of two significations : (1) The new condition of things, in which the want disappears ; (2) The method or operation by which the new condition is substituted for the old. In this sentence it is used in the former sense ; i. e., as *an effect produced*.

existence. To him may come the first perception of the want, and also the first idea of that condition of affairs in which the want will be extinguished, but thus far he has only seen what lies before the unconscious eyes of all mankind. Not until he endeavors to devise a means by which this change in his relations to the external world can be accomplished, and the new state of satisfaction be substituted for the state of want, do his creative faculties commence their operations. And this is true in reference to the satisfaction of his artificial wants, as well as in regard to those which are of common and continual recognition. These wants are all existing facts, suggesting their own satisfactions. However limited and special in itself, every artificial need is only one phase of a greater and once universal need which has been narrowed and divided by the successive triumphs of human ingenuity. Each new invention brings into clearer light the subordinate necessities which still remain, points out the new state of affairs in which the satisfaction of the want consists, and demands for its accomplishment a new exertion of inventive skill.² He who

² It is hardly possible to believe that a proposition so simple and self-evident as this could ever be forgotten or ignored. Yet many of the difficulties encountered in the development of Patent Law seem to have their origin just here. As we go forward it will be seen that an invention is a means, and a means only; and, therefore, that in determining the scope of any given invention it is, first of all, necessary to draw the line between such invention, as a means, and the effect which it produces. But in many cases the careful student will discover that this line has been missed, through a failure of the courts to recognize the truth that every want, and consequently every satisfaction of a want (i. e., every new condition in which a want disappears), is an existing fact; a fact to be perceived, not a thing or state to be conceived or created; and hence that judges have had recourse to doctrines not properly

applicable to the case at bar in order to support what evidently merited a patent, or to reject what certainly was not entitled to protection under the law. Instances of this are especially frequent in those cases which have been decided upon the doctrines of double use, or of the non-patentability of a principle. But it is evident that even the narrowest and most technical invention must have been devised to meet some want existing in the art to which the invention belongs, and that the invention is not itself the satisfaction but the means by which the satisfaction is produced. The want may never have been apparent until some previous invention, partially or imperfectly satisfying the more universal want, disclosed this subordinate and narrower need; but the need was nevertheless a fact, open to the observation of all men, and sure to be perceived by those skilled in the art and interested in its development.

perceives these new necessities and satisfactions, and devises means by which the state of satisfaction is substituted for the

Thus it was once impracticable for men to hold communication with each other at remote distances, without the aid of messengers, passing between one and the other. This universal want was limited in scope when blazing fires from lofty hilltops were adopted as signals mutually understood; thereby revealing the new, narrower want of some more certain, rapid, and intelligible mode by which information might be conveyed. In answer to this want the Semaphore, with its movable shutters, was devised, taking the place of the beacon-fire upon the hilltops, and affording sixty-three distinct messages, where but one or two had before been possible. This new device, however, only served to make still clearer the necessity for some mode of communication, by which the intermediate hill-top stations could be dispensed with, and the character of the messages be indefinitely varied; and the capabilities of the Semaphore being exhausted, attention was directed to the electric force as a means for the supply of this late-felt demand. The electric telegraph was not directed to the satisfaction of the old, original, universal want. That had ceased to exist in its fulness; for mankind were already in possession of the system of communicating by intelligible signals. The telegraph was a new method of forming such signals, having many advantages in efficacy and economy over the one then in use. With its introduction the want of communicating power at great distances without intermediate stations disappeared, and narrower wants became visible, relating to the more accurate and rapid operation of the instruments employed. Every successive improvement of the telegraph has substituted a better condition of affairs for a worse, but at the

same time has made evident the imperfections which remain to be removed, and has thus called for new exertions of inventive skill. In each case, as the end has become narrower and more special, the scope of the means devised to meet it has been correspondingly contracted; but wherever any want has become known it has been only as the subject of observation, the means by which its satisfaction was accomplished alone being the product of creative power. The same may be said of the development of every other great original invention, — the Steam-engine, the Smelting-furnace, the Sewing-machine, &c., — every advance in which has been made in obedience to some new need, disclosed by previous advances, and supplied by further triumphs of the inventive faculties. This truth is the foundation of the rule that all inventions must be studied in the light afforded by the state of the art, to which they belong, at the time the invention was made. By an examination of this art the exact want which the invention was intended to supply is ascertained, and in the attributes of the invention as adapted to that end, and in its operation while fulfilling it, the real character and purpose of the invention are disclosed. Regarded from this stand-point, the tests of novelty, utility, and the presence of inventive as distinguished from mechanical skill, may be applied to it with ease and accuracy, and the danger of erroneously awarding or denying the protection of the law to the invention is avoided.

That to perceive a hitherto unperceived quality in a known substance is not the invention of the substance nor of the quality, see *Ansonia Brass & Copper Co. v. Electrical Supply Co.* (1887), 32 Fed. Rep. 81; 42 O. G. 1168.

state of want, is a true inventor; but he who merely sees the want and its antithesis performs no part of the inventive act.

§ 89. **Idea of Means Necessarily Generated by some Inventor.**

The means by which man satisfies a want arising out of his relations to the external world is, on the contrary, invariably the result of the creative act. The idea which underlies it is necessarily *conceived* by one before it can be *perceived* by any. However great the want, however simple the method by which it is supplied, that method can originate only through the exercise of faculties which produce new operations or devices, and not merely discern and imitate the old. When man first came in contact with material nature, he found awaiting him the means of satisfying his most urgent if not all of his essential needs. Fruit offered itself to him for his food, water for drink, the caves and forests for his shelter. Beyond what nature thus spontaneously provided, he could not pass without employing his inventive skill, and every step in his material advancement has consisted in the creation of new means by which his constantly suggested wants could be supplied. The process by which he first generated artificial light or heat was thus as truly an invention as his last conquest over the difficulties of petroleum or electricity. The first rude car, on which he carried burdens previously borne upon his shoulders, embodied his creative act as fully as the ponderous engine whose glittering wheels transport the wealth of nations across continents with ceaseless energy and lightning speed.

§ 90. **Every Concrete Invention a Means, not an End.**

Judged by this test it is apparent that an invention, considered in itself, is neither an end nor a combination of both means and end, but is a means for the attainment of an end;¹

§ 90. ¹ In *Electric Railroad Signal Co. v. Hall Railway Signal Co.* (1885), 114 U. S. 87, Matthews, J. : (96) "The thing patented is the particular means devised by the inventor by which that

result is attained, leaving it open to any other inventor to accomplish the same result by other means." 31 O. G. 515 (517).

In *Fuller v. Yentzer* (1876), 94 U. S.

and though the idea of means cannot be contemplated by the mind apart from the idea of end, the end must be referred to only for the purpose of more fully comprehending the real nature of the means employed. An art or process, for example, is a means devised for the production of a given result. Its essence, the creative thought which it expresses, may be more clearly ascertained by studying the result accomplished than by examining the means itself in actual operation; but as an art or process it is complete, apart from any end which

288, Clifford, J. : (288) "The invention, if any, within the meaning of the patent act, consists in the means or apparatus by which the result is obtained." 11 O. G. 551 (551).

In *Corning v. Burden* (1853), 15 How. 252, Grier, J. : (268) "It is for the discovery or invention of some practicable method or means of producing a beneficial result or effect, that a patent is granted, and not for the result or effect itself."

In *O'Reilly v. Morse* (1853), 15 How. 62, Taney, C. J. : (119) "Whoever discovers that a certain useful result will be produced, in any art, machine, manufacture, or composition of matter, by the use of certain means, is entitled to a patent for it; provided he specifies the means he uses in a manner so full and exact, that any one skilled in the science to which it appertains, can, by using the means he specifies, without any addition to, or subtraction from them, produce precisely the result he describes. And if this cannot be done by the means he describes, the patent is void. And if it can be done, then the patent confers on him the exclusive right to use the means he specifies to produce the result or effect he describes, and nothing more."

In *Whittemore v. Cutter* (1813), 1 Gallison, 478, Story, J. : (480) "A patent can, in no case, be for an effect only, but for an effect produced in a given manner, or by a peculiar operation.

For instance, no patent can be obtained for the admeasurement of time, or the expansive operations of steam; but only for a new mode or new application of machinery, to produce these effects." 1 Robb, 40 (42).

In *Curtis v. Platt* (1863), cited in note to *Adie v. Clark* (1876), L. R. 3 Ch. 135, Wood, V. C. : (136) "In all discoveries of course there are two things — there is an object to be achieved and a means of achieving that object. . . . No novelty is required as to the object, the novelty may be in the means for effecting the object whether old or new."

Further, that the means, and not the end, is the invention, see *New American File Co. v. Nicholson File Co.* (1887), 31 Fed. Rep. 289; *Aron v. Manhattan Ry. Co.* (1886), 26 Fed. Rep. 314; 34 O. G. 1508; *New Process Fermentation Co. v. Maus* (1884), 20 Fed. Rep. 725; *Ex parte Blythe* (1884), 30 O. G. 1321; *McMillin v. Rees* (1880), 5 Bann. & A. 269; 1 Fed. Rep. 722; 17 O. G. 1222; *Henderson v. Cleveland Co-operative Stove Co.* (1877), 2 Bann. & A. 604; 12 O. G. 4; *Burr v. Cowperthwaite* (1858), 4 Blatch. 163; *American Pin Co. v. Oakville Co.* (1854), 3 Blatch. 190; *Holden v. Curtis* (1819), 2 N. H. 61.

That different means for the same end are different inventions, see *Hubbell v. United States* (1885), 20 Ct. of Claims, 354.

it achieves. The same is true of every other species of invention.² Each is a means designed to serve a purpose, to satisfy a want; and in its nature as a means, and a means only, reside those attributes on which its individuality and identity depend.

§ 91. Idea of Means Includes the Ideas of a Force, an Object, and a Mode of Application.

The idea resulting from the mental processes involved in the inventive act being thus purely an idea of means, the nature of this idea, as it lies in the mind of the inventor and is exhibited in his concrete invention, becomes a matter of the highest consequence. A moment's reflection will disclose that this idea must necessarily consist of three subordinate ideas: (1) The idea of an operating force; (2) The idea of an object operated on; (3) The idea of a mode of application through which the force is enabled to operate upon the object.¹

² That an art or process, in itself, satisfies no public want, but is . . . mere means of producing a state of things in which the want is satisfied, needs no argument. That a machine, though in operation, benefits no one unless it produces results in some physical substance, and that it is the result so produced which is really useful to the public, and not the machine or means itself, is also sufficiently apparent. In reference to manufactures and compositions of matter, however, the truth of this characterization is not, at first glance, quite so evident. Still the slightest examination shows that neither of those inventions is of any value to mankind until applied to some useful purpose as a means, and that even then the true benefit conferred by each is not in the manufacture or the compound, but in the effect which it produces upon the external substances to which it is applied. A dye-stuff or a leverage-chair, for example, satisfy no want while the one remains in the unbroken package or

the other in the storehouse of the manufacturer. If they could be employed for their respective purposes without affecting any other objects than themselves, they would still be utterly unprofitable to the human race. It is the substitution of one color for another effected by the one, and the ease and comfort to the human body afforded by the other, which constitute their real value to the public, — a value which no otherwise relates to them than as they are the means by which these changes of condition are produced. And it is as this means, and this means only, that they can be regarded as inventions and as embodying the efforts of creative power.

§ 91. ¹ In this and the succeeding paragraphs of this section, with the exception of § 105, the abstract invention is alone under discussion. As the idea of end is inseparable from the idea of means, the idea of the object which is to be acted on by the means in accomplishing its end, is necessarily present to the

For every change in material conditions is produced by the application of some physical force to some physical object; and the nature of this change depends upon the nature of the force, the method of its application, and the character of the object upon which it terminates. In conceiving his idea of the means, whereby such a change in material conditions is to be accomplished, the inventor must, therefore, contemplate some specific force, applied in a specific manner to a specific object and producing in the object the change proposed.

§ 92. Generation of Idea of Means does not Require the Generation of these Subordinate Ideas: The Force is a Fact Perceived, not Created, by the Inventor.

A closer examination will, moreover, demonstrate that the conception of an idea of means does not require that either the force, the mode of application, or the object, separately considered, should have been created by the inventor. A force is either natural or artificial. A natural force is a property of matter, as it exists and operates in nature independently of human aid, and though it may be discovered and employed by man, it cannot be the fruit of his inventive skill. An artificial force is a natural force, so transformed in character or energies by human power as to possess new capabilities of action. This transformation of a natural force into a force practically new involves a true inventive act. It is accomplished by applying to the natural force, as an object, some other force through some mode of application, and is

mind of the inventor whenever the idea of the means itself is entertained. As the concrete invention, however, embodies only the idea of means, it does not usually disclose to an observer the object upon which it is intended to exercise its functions until it is put in practical operation. In certain instruments even the idea of force is not apparent. A machine, for instance, as it stands unemployed, merely exhibits the idea of a mode of application, the force which impels it and the object upon which it acts being neither expressed, nor perhaps suggested, by the concrete invention. But when the essential character of the invention is in question, and it becomes necessary to pass through the concrete embodiment to the idea of means, all these subordinate ideas must be presented to the mind, and be considered as the inherent and indispensable factors of which the idea of means is itself composed.

thus in itself an independent and complete invention, of which a later inventor may avail himself as the operative force to be employed by him in the conception of his own idea of means.¹ Hence, as the idea of means lies in the mind of the inventor, it is of no importance whether the force which forms the first factor of this idea is natural or artificial; or if artificial, whether it resulted from his own or from another's inventive act. In either case it is a completed fact in nature or the arts, whose capabilities are to be discovered and utilized by him as a subordinate element in the new means which he endeavors to create.

§ 93. The Object is a Fact Perceived, not Created, by the Inventor.

The second factor, the object to be acted on, stands in the same relation to the new idea of means. This object is also either natural or artificial. If natural, its existence, character, and susceptibilities are facts to be discovered, not invented. If artificial, the inventive act in which it had its origin is already past, the object has become a part of the material world, and occupies the same position, in reference to the invention now proposed, as if it had proceeded from the author of the universe himself.

§ 92. ¹ The doctrine of the "unity of inventions," hereafter to be more fully explained, rests upon the scientific fact that every means, however limited in operation or subordinate to other means, is necessarily a complete invention in itself, and is neither enlarged nor restricted by its employment in connection with other inventions. Hence when an inventor has transformed a natural force into a new artificial force, since this new force is a new means he has completed one inventive act. If he thereafter discovers in this new artificial force certain capabilities of action hitherto unknown, and unites them with any mode of application by which they can be made practically useful in the arts, this is an additional means, and the result of an

additional inventive act. If further discoveries reveal to him that certain objects possess susceptibilities which enable him to produce valuable results by subjecting them to the operation of his new force, this is still another means and is attained by a different inventive act. Thus any past invention may become the subject of discovery during the performance of a subsequent inventive act, and so form one of the factors of the new invention.

That a change in the condition of a natural force is an invention, and that the force in such changed condition is a new means and patentable when practically applied, see *Dolbear v. American Bell Telephone Co.* (1888), 43 O. G. 377.

§ 94. **The Mode of Application is a Fact Perceived, not Created, by the Inventor.**

The same truth may be predicated of the third factor, or the mode of application.¹ The action of a force upon an object depends not only upon their inherent qualities, but upon the relation which naturally or artificially exists between them. This relation may reside in simple contiguity, or it may result from the interposition of material agencies through which the force is brought to bear upon its object. The method by which this relation between the force and object is established is the mode of application. It may manifest itself by fugitive acts applying the force to the object, or by the employment of permanent instruments through which the force operates upon the object. But whatever may be its essential character it is either a natural or an artificial means, existing antecedently to the conception of the idea of which it forms a part, and consequently is not originated by the same mental process which results in this new idea of means.

§ 95. **Generation of Idea of Means Consists in Conceiving a New Union of the Force, Object, and Mode of Application.**

The creative genius of the inventor not being employed in the production of either one of the three factors of his idea of means, its sphere of operations must be limited to the union of these factors in that idea. This union consists in bringing the force into such relations with its object, through the mode of application, that the force will operate upon the object to produce the desired effect. Such union is rendered possible by the existence of certain capabilities in the force which enable it to act upon the object, of certain susceptibilities in the object which qualify it to receive the action of the force, and of certain availabilities in the mode of application which fit it for the direction of the force upon the object. All these

§ 94. ¹ What is here called the method in which the force is brought, "mode of application" is essentially *through the instrumentalities adopted by the inventor*, into connection with the object. See § 163, note 1, note to case The "mode of application" is the cited.

the inventor must perceive in order to effect this union. If this perception is derived from other persons his union of these factors requires no exercise of his creative faculties, since the direction of known capabilities upon known susceptibilities through known availabilities is a mere matter of industrial skill. But if his perception is the reflex of his own conception, if the capabilities of the force, or the susceptibilities of the object, or the availabilities of the mode of application have become known to him through his own original efforts, then the union of these factors, and the idea of means produced by such union, owe their existence to his creative faculties and are the fruit of his inventive skill.

§ 96. **Generation of Idea of Means Involves two Mental Processes : Discovery and Construction.**

It is thus evident that the conception of an idea of means by an inventor includes two mental processes: a process of discovery, and a process of construction. The process of discovery consists in the finding out, by his own endeavors, of those qualities in the force, the object, or the mode of application, which render their union possible. The process of construction consists in combining the three factors into the idea conceived. Without the former process, the latter would demand no exercise of the inventive faculties.¹ Without the

§ 96. ¹ That the act of discovery is an essential part of the inventive act has been recognized from the earliest history of Patent Law, and finds expression in numerous modes of statement, some direct, some circuitous. Among the most recent is that of Blatchford, J., in *Thompson v. Boisselier* (1885) 114 U. S. 1: (11) "The beneficiary must be an inventor, *and he must have made a discovery.*" Also in the same case (11) "So, it is not enough that a thing shall be new, in the sense that in the shape or form in which it is produced it shall not have been before known, and that it shall be useful, but it must, under the Constitution and the statute, amount to an in-

vention or discovery." 31 O. G. 377 (379).

In *Wooster v. Blake* (1881), 22 O. G. 1132, Blatchford, J.: (1133) "The invention consists primarily in finding out what mechanical operation is necessary to produce the practical result arrived at. When such operation is hit upon the mechanical work is easy. It is easy when the mechanical operation is seen to say that it was obvious that certain mechanical arrangements would effect it; but mechanical arrangements are tried and tried in vain to reach a practical result, because the mechanical operation which is to effect such a result is not yet seen. In looking at the completed thing the mechanical