PATENT LAW

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PREFACE

Law is often defined as the rules by which courts will decide controversies. If this be correct, the art of practice is in forecasting how courts will decide particular cases. Decisions are no longer, even in theory, mere repetitions of precedent, nor even purely logical development of precedent to fit new circumstance. The practical effect of one decision or another has openly, or, more often, covertly, drawn many a judge from the straight path of abstract logic. Primarily, of course, a practitioner must be familiar with precedent and must be trained so to analyze it as to perceive to the uttermost thread that web of ever fining principles which constitute the rules of law. But beyond this, in order to prognosticate the future pattern which his threads will weave, he must observe, in addition to the pattern of the past, the extraneous factors which influence judicial decisions; he must know to what extent declared principles have been deduced through logic and how far merely supported by it. He must comprehend the ideas of policy and the pragmatic reasoning which permeate all the modern law. It is partly because it can at least suggest this background that a proper text-book has an informational value greater than that of either digest or encyclopedia. But more particularly does the text book serve a special purpose in so showing the derivation of a rule, in expounding and explaining it in relation to other rules, as to indicate its probable direction and application. I have endeavored to do this so far as possible without getting into either speculation or philosophic discoursiveness, but, partly in consequence thereof, some propositions of law are not so categorically stated as one might like. Since law is what will be developed from what has been determined, one can be quite positive and define only as to the past and, in regard to some matters, even that can not be formulated into a rule. In occasional instances I have not hesitated to state what I believe ought to be the rule, where the

actual decisions leave it uncertain, or where there are not decisions upon the matter at all, but in no case have I knowingly done so without pointing out the lack of actual authority.

The comparatively small size of the book is not due to any conscious superficiality of treatment nor omission of pertinent subject matter. It purports to cover only the substantive law of patents, their nature, validity, effect and their characteristics as property. Matters of procedure in securing patents or suing on them, and the difficult subject of the amount of compensation recoverable by suit, would require a volume for themselves and are not included herein. But of the matter which is included, it has been my desire to present every issue which has come before the courts. Of course I have in no degree cited all the cases, but to the extent that I have accomplished my intention, some part of the discussion will be found applicable to every case. I have sought brevity in such a coordination of propositions and so carefully worked out a sequence of topics as would eliminate duplication of discussion. But for this reason some propositions will not be found under customary headings and reference to the index will be consequently more necessary than is usual.

Although the book is as complete in its field and as thorough as I could make it, it is written primarily for others than patent practitioners. They, presumably, being already trained specialists in this subject, have no longer any need for discussion and exposition of principles. The digests, showing particular applications of the various rules, should be their tools. This book is intended more particularly for the use of inventors, business men, engineers, lawyers in general practice and all that class of laymen who from time to time want information concerning their rights in respect to inventions and patents.

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CHAPTER I

Origin of Patent Rights

The Common Law does not recognize any right of ownership in an invention. If one has conceived a new means of accomplishing a given result his only right to the exclusive use and enjoyment of that new means is by virtue of statutes; he has no such right in the "unwritten law." So long as an inventor can practically keep his idea a secret it remains his property, to be exclusively enjoyed by him, because the law does not compel him to reveal it. Furthermore, if an inventor has revealed his new idea of means to some other person under an express or implied pledge of secrecy, or through a confidential relationship, the law (equity) will enjoin that person under pain of punishment from breaking his pledge of secrecy.[1] If an inventor embodies his new idea in tangible form, that corporeal embodiment itself is his property just as would be any other tangible thing that he might make, or have made, for himself. The mistaken, but not infrequent, assumption that the corporeal embodiment of the new idea is itself the invention, has given rise to occasional statement that the Common Law, because it recognized the maker's ownership of the corporeal chattel, recognized ownership in an invention. The distinction between the "invention," which is an intangible concept, and the wheels, levers, substances and other tangible things by which the idea is given visible form must be kept clearly in mind. Invention is a mental operation, not a physical act, and an invention is an idea, expressed in some form, visible or audible, and not the tangible thing in which it may happen to be demonstrated. Of this, more will be said later.

The idea itself, so soon as it becomes known to others, ceases, so far as the unwritten law is concerned, to be the inventor's property. It is at once open to the use and enjoyment

[1] O. & W. Thum Co. v. Tloczynski, 114 Mich. 149.

of any one. As one judge expressed it, "So long as the originator of the naked idea keeps it to himself . . . it is his exclusive property, but it ceases to be his own when he permits it to pass from him. Ideas of this sort, in their relation to property may be likened to the interest which a person may obtain in bees and birds, and fish in running streams, which are conspicuous instances of (animals) *ferae naturae*. If the claimant keeps them on his own premises they become his qualified property, and absolutely his so long as they do not escape. But if he permits them to go he can not follow them."[2]

The whole matter of ownership of inventions, therefore, depends upon written law; and the statutes of the country are the beginning and the end of an inventor's exclusive right to the use and enjoyment of his invention.

ROYAL GRANTS. The right of sole enjoyment of an invention originated, in England, from grants made by the sovereign to particular inventors. These grants were evidenced by open letters, which were technically called letters patent or merely patents, and by a sort of metonymy the rights themselves thereby evidenced have come to be commonly known as pat-

[2] Bristol v. E. L. A. Society, 52 Hun. 161, 5 N. Y. S. 131; To the same effect are, Stein v. Morris, Va. (1917), 91 S. E. 177; Wilson v. Rousseau, 4 How. 646, 673; Gayler v. Wilder, 10 How. 477; Morton v. N. Y. Eye Infirmary, 5 Blatch. 116; Dudley v. Mayhew, 3 Comstock (N. Y.) 9; Comstock v. White, 18 How. Prac. (N. Y.) 421.

As a matter of fact, the idea of "possession" has been so fundamental in the English concept of "property" that the Common Law has been loath to recognize property rights in anything that is not capable of exclusive physical possession. But while it never recognized an exclusive right to an invention, it has conceded property rights in some intangible ideas. An interesting discussion of an author's exclusive right to the subject matter of his compositions as distinct from his tangible manuscript, is found in the early case of Millar v. Taylor, 4 Burr, 2303, esp. 2336 ff. "The present claim is founded upon the *original* right to this work, as being the *mental labour* of the author; and that the *effect* and *produce* of the labour is *his*. It is a *personal incorporeal* property, saleable and *profitable;* it has *indicia certa:* for though the sentiments and doctrine may be called *ideal*, yet when the same are communicated to the sight and understanding of every man, by the medium of *printing*, the work becomes a distinguishable subject of property, and *not totally* destitute of *corporeal* properties."

ents. Many monopolies and exclusive rights were granted by royal letters patent other than those relating to the use and enjoyment of an invention, but it is with the latter only that we are here concerned.[3]

The practice of the sovereign in granting monopolies was always opposed by the Common Law, on the ground that they were contrary to natural right.[4] The courts could not prevent the sovereign from issuing such grants, but they could punish the procurement of them, and they could refuse to enforce them.[5] They did so refuse in cases of monopolies which they did not believe to be for the good of the realm.

Nevertheless the grants became so numerous and so obnoxious that in 1601 an attempt was made by Parliament to abolish monopolies entirely. A promise by the Queen to lessen the burden of them prevented action at this time, but during the reign of James I. in 1623, a statute was enacted, entitled the statute against Monopolies.[6] This act provided, "that all monopolies, and all commissions, grants, licences, charters and letters patents heretofore made or granted, or hereafter to be made or granted to any person or persons, bodies politick or corporate whatsoever, of or for the sole buying, selling, making, working or using of anything within this realm, . . . are altogether contrary to the laws of this realm, and so are and shall be utterly void and of none effect, and in nowise to be put in use or execution." The act contained, however, an express exception from its operation of those letters patent and grants of privilege, for a limited term, which had been, or should be, given for 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 patents and grants shall not use, so as also they be not contrary to the law, nor mischievous to the

[3] The first letters patent for an invention are said to have been given by Edward III to the inventor of a "philosopher's stone."

[4] Coke, 3rd institute, Cap. 85.

[5] Darcy v. Allin, Noy. 173; 74 Eng. Rep. 1131; The Clothworkers of Ipswich Case, Godbolt No. 351, p. 252, 78 Eng. Rep. 147.

[6] 21 Jac. I. Ch. 3. The date is 1623 or 1624 according to the time at which his reign is assumed to have commenced.

state, by raising prices of commodities at home, or hurt of trade, or generally inconvenient. . . ."

This negative provision, excepting monopoly patents to inventors from the ban of the statute, has generally been thought of as the original foundation of patent law. It is quite clear, however, that royal patents to inventors would not have been invalid, under the Common Law, before the statute, but would have been enforced, as being actually for the good of the realm, and that the exception in the statute was therefore merely declaratory of the Common Law. Lord Coke in his Institutes says specifically that this proviso made such patents no better than they would have been before the act, but only excepted them from the express prohibition of the act.[7] He further suggests as the reason they are good at all, that they benefit the realm by offering a reward for the production of new manufactures.

This is the position consistently taken by all who advocate the propriety of granting monopolies to inventors. The restriction of the natural right of the public to make use of all knowledge revealed to it, is justified on the theory that the grant of a sole right to inventors encourages and instigates the production of knowledge, by stimulating search for it.[8] It is not within the scope of this work to discuss the economic propriety of granting patent monopolies; it is sufficient to say that legal validity of the grant is predicated upon the assumption that it is for the good of the public.[9]

[7] No. 3, Cap. 85.

[8] "It (the patent statute) was passed for the purpose of encouraging useful invention and promoting new and useful improvements by the protection and stimulation thereby given to inventive genius, and was intended to secure to the public, after the lapse of the exclusive privileges granted, the benefit of such inventions and improvements." Bauer v. O'Donnell, 229 U. S. 1, 10.

[9] A discussion of the justification of the patent laws will be found in Robinson on Patents, vol. 1, p. 54 ff; Hopkins on Patents, introduction to Vol. 1; Articles by Fredk. P. Fish, Sci. Am., Sept. 27 and Oct. 4, 1913. An unusual and excellent discussion of the justification of the monopoly given by the patent law is to be found in "Inventors and Money-makers" by F. W. Taussig. His thesis appears to be, that invention flows natur-

This right of the sovereign, as recognized by the Common Law and the Statute of Monopolies, to create by express grant the sole right to enjoy the fruits of invention, became a prerogative of the state governments of this country,[10] and it is possible that they still have power to grant patents for inventions within their own jurisdictions.

The right to issue monopoly patents to inventors is given to the federal government by the Constitution.[11] It authorizes Congress "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." As nothing further is said in the Constitution upon the subject, it would appear that Congress is unhampered as to the character of the right it shall grant, except by the other provisions of the Constitution and, possibly, by the rules of the Common Law.[12] The grants might be made by special act concerning particular inventions, if Congress so desired, instead of by the general laws under which they are in fact secured.[13] The law may also be retrospective as well as prospective for "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."[14]

THE PATENT STATUTES. The first general act providing for the issuance of patents to inventors was that of April 10, 1790.[15] This provided generally for the grant, by the Secre-

ally, in its fullest extent, from the primitive instinct for contrivance, but that the monopoly is necessary to assure the *commercial* development and *practical* perfection of inventions.

[10] Act of 1793, § 7; Livingston & Fulton v. Van Ingen, 9 Johns (N. Y.) 507.

[11] Art. 1, § 8.

[12] Blanchard v. Sprague, 3 Sumner 535.

[13] Bloomer v. McQuewan, 14 How. 539; Evans v. Eaton, 3 Wheat. 454; Graham v. Johnston, 21 Fed. 40.

[14] McClurg v. Kingsland, 1 How. 202.

[15] The sequence of the various patent acts is set out in Root v. Railway Co., 105 U. S. 189.

tary of State, Secretary of War and Attorney General, or any two of them. of a patent, to endure for 14 years, to any inventor who came within the terms of the act. It provided for a particular mode in which application for the patent should be made and proceedings and conditions in accord with which the patent should be issued. By later acts the duty of issuing the patents was imposed upon the Secretary of State,[16] and eventually a sub-department known as the Patent Office was instituted to perform these duties, and the office of Commissioner of Patents was created.[17] In 1870-4 the patent laws were revised and re-enacted in the form which, with some minor changes, is still in effect.[18]

This act provides that [19] "Any person who has invented or discovered any new and useful art, machine, manufacture or composition of matter, or any new and useful improvements thereof, not known or used by others in this country, before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof, or more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law, and other due proceeding had, obtain a patent therefor."

"Every patent shall contain a short title or description of the invention or discovery, correctly indicating its nature and design, and a grant to the patentee, his heirs or assigns, for the term of seventeen years, of the exclusive right to make, use, and vend the invention or discovery throughout the United States and the Territories thereof, referring to the specification for the particulars thereof. A copy of the specification and drawings shall be annexed to the patent and be a part thereof."

[16] Act of 1793.

[17] Act of 1836.

[18] The Commissioner of Patents will furnish, on application, without charge copies of the Patent Laws as they now stand.

[19] § 4886 and 4884.

INTERPRETATION OF THE STATUTES. The greatest bulk of patent litigation has arisen out of controversy as to whether some particular alleged invention was entitled to protection under the terms of this statute and, if so, how far it should be protected.

Our initial investigation, therefore, concerns the degree of strictness with which the terms of the statute shall be construed and unexpressed terms implied; that is to say, whether the construction shall favor the alleged inventor, or the public, whose natural right a valid patent would restrict. Many courts have sought for the answer to this through an examination of the fundamental justification for granting any exclusive right of enjoyment to an inventor. Out of this have arisen three different theories of the justifying purpose of the patent laws. These are best denoted by the expression generally used in reference to them, viz.: 1. The patent is a monopoly. 2. It is a reward. 3. It is a contract between the state and the inventor.

The theory that a patent is a monopoly and should therefore be interpreted most strictly against a patentee and in favor of the public, proceeds upon the assumption that there is in fact no justification for the patent laws; that they are not of economic advantage to the state. This theory is not supported in judicial decision, although there is remarkable conflict of expression as to whether or not a patent right is in name a monopoly. Courts have said with equal positiveness that it is a monopoly[20] and that it is not a monopoly. Indeed the same judge has said in one case,[21] "This (patent) law gives a monopoly, but not in an odious sense," and in another case[22] "Patentees are not monopolists . . . the (patent) law repudiates a monopoly." This conflict is due not to disagreement as to the character of the patent right but to difference in understanding of the word monopoly. In its simplest meaning, monopoly is defined, from its root words *μόνος*, sole, and

[20] "A true and absolute monopoly," Heaton-Peninsular, etc. Co. v. Eureka Specialty Co., 77 Fed. 288.

[21] Brooks v. Jenkins, 3 McLean 432 (1844).

[22] Allen v. Hunter, 6 McLean 303 (1855).

πωλεῖν, barter, sale, as "an exclusive privilege to carry on a traffic." It can not be denied that, in this sense, a patent right is a monopoly since it gives to the patentee an exclusive right to make, use and vend the invention, and it is in this sense that courts speak of it as being a monopoly. But in the usage of the law, as well as of common parlance, the word has acquired a certain odium because of the type of privileges with which it was customarily connected. Coke says[23] "a monopoly is an institution or allowance by the king by his grant, commission, or otherwise, to any person . . . for the sole buying, selling, making, working, or using of anything whereby any person or persons . . . are sought to be restrained of any freedom or liberty that they had before, or hindered in their lawful trade." Blackstone[24] defined it as a grant "whereby the subject in general is restrained from that liberty of manufacturing or trading which he had before." It is to this last phrase, this idea of deprivation of what the public already actually had, that the hatred of monopolies is due. The right of a patentee, however, is in no way a restraint upon the public in anything which they had before; it simply precludes public use, for a limited time, of that which has just been revealed to the public. The courts are thoroughly consistent in holding that a patent right is not a monopoly as defined by Coke or Blackstone. The general opinion is well expressed in Allen v. Hunter,[25] the court saying, "Patentees are not monopolists. This objection is often made, and it has its effect on 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

[23] 3d Institute Cap. 85.
[24] Commentaries Vol. 4-159.
[25] 6 McLean 303, 305.

right can be granted for any thing which the patentee has not invented or discovered. If he claim any thing which was before 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 monopoly.

"It then appears that patentees, so far from being monopolists hanging as dead weights upon the community, are the benefactors of their country."[26]

The patent is therefore treated either as a reward given to the inventor for his success in adding to the stock of public knowledge,[27] or as a contract between the inventor and the state, whereby the latter assures him the exclusive right to his invention for a term of years, in consideration of his revelation of it to the public, which thereby acquires the possibility, through knowledge, of using it after the time has expired.[28]

The courts are not at all definite, however, in their choice of

[26] Bloomer v. Stolle, 5 McLean 158; Kedall v. Winsor, 21 How. 322, 328.

[27] Letters patent are not to be regarded as monopolies, created by the executive authority at the expense and to the prejudice of all the community except the persons therein named as patentees, but as public franchises granted to the inventors of new and useful improvements for the purpose of securing to them, as such inventors, for the limited term therein mentioned, the exclusive right and liberty to make and use and vend to others to be used their own inventions, as tending to promote the progress of science and the useful arts, and as matter of compensation to the inventors for their labor, toil, and expense in making the inventions, and reducing the same to practice for the public benefit . . ."

[28] DeFerranti v. Lyndmark, 3 D. C. App. 417. "While a patent is a contract between the government and the patentee . . ."; Ransom v. Mayor of New York, 1 Fisher Pat. Cas. 252, 259, "when the patent is granted, it becomes, to a certain extent, a contract upon the part of the government with the party named in the patent, that they will, through their Courts, and in the ordinary course of the administration of justice, protect him in the exercise of the exclusive privilege which his patent gives to him. . . ."

terminology between "reward" and "contract." Thus in Grant v. Raymond,[29] one reads, "It (the patent) is the reward stipulated for the advantages derived by the public from the exertions of the individual, and is intended as a stimulus to those exertions." On the following page the court says, "The communication of the discovery to the public has been made in pursuance of law, with the intent to exercise a privilege which is the consideration paid by the public for the future use of the machine." Theoretically there should be a different interpretation and construction, if the intent of the statute is to confer a mere reward, than there would be if it conferred the patent right as the consideration in a contract. The one is a mere gift from the public, to be construed in the giver's favor, the other is an inducement for which a *quid pro quo* is received, and to be construed like all fair contracts. Practically it is impossible to say in just what respect the courts do view it, but a full study of the cases shows clearly the broad proposition that the statute and the proceedings under it will not be construed strictly as against either party, but with so absolute impartiality as possible, so as to render the most nearly equal measure of justice to both parties.[30] This is quite

[29] 6 Peters 217, 241.

[30] The patent "is the reward stipulated for the advantages derived by the public for the exertions of the individual, and is intended as a stimulus to those exertions. The laws which are passed to give effect to this purpose ought, we think, to be construed in the spirit in which they have been made; and to execute the contract fairly on the part of the United States, where the full benefit has been actually received; if this can be done without transcending the intention of the statute, or countenancing acts which are fraudulent, or may prove mischievous. The public yields nothing which it has not agreed to yield; it receives all which it has contracted to receive." Grant v. Raymond, 6 Peters 217. Ames v. Howard, 1 Sumner 482; Brooks v. Fiske, 15 How. 211, 223; Tannage Patent Co. v. Zahn; 66 Fed. 986, 988; Henry v. Dick Co., 224 U. S. 1, 26; Bauer v. O'Donnell, 229 U. S. 1, 10; O H. Jewell Filter Co. v. Jackson, 140 Fed. 340, 343, "A patent is, after all, nothing but a contract by which the government secures to the patentee the exclusive right to vend and use his invention for a few years, in consideration of the fact that he has perfected and described it and has granted its use to the public for ever after. The rules for the construction of contracts apply with equal force to the interpretation of patents."

in accord with the expressed idea that the patent is *both* a reward for the stimulation of invention and a contractual consideration for the revelation of the invention to the public. The subject of construction comes up in so many ways and is so confused with interpretation as between the patentee and an individual not representative of the public, that nothing more than this can be said as a general proposition.

CHAPTER II

What May Be Patented

§ 1. Source

We come now to a discussion of the circumstances under which one is entitled to a patent. The statute reads[31] "Any person who has invented or discovered any new and useful art . . . may . . . obtain a patent therefor." When, then, has a person "invented or discovered" something. This may be considered, first, in connection with the *source* from which the invention or discovery is obtained, disregarding for the present the character of the result.

It may be said broadly that *nothing is invented or discovered, within the meaning of the statute, which has not found its source in the mind of the alleged inventor.* It must be the result of his mental operation upon external stimuli, and not a mere representation or recreation of those stimuli in their original forms.

Importation. It is probable that there has always been a difference in the meaning of the words "inventor" and "importer," but the distinction was formerly one in name only. The two stood on the same plane of merit and were considered together so often and with so little indication of real differentiation that there is at least a little confusion in precisely allocating their respective meaning. By the Common Law and also by the exception in the Statute of Monopolies, the *bringing into the realm* of a new trade or device was considered as meritorious as was the *evolution from the mind* of a new idea for a trade or device. This was, of course, perfectly logical in the days when travel and intercourse were difficult and rare, and knowledge percolated from one country to another but slowly. The knowledge of one nation was not then, as it has since come to be, equally the knowledge of any other

[31] § 4886.

which chooses to note it. One who imported into England knowledge of a trade or a substance from abroad did so, usually, at considerable expense and risk to himself. Consequently we find royal patents granting monopolies of such importations consistently respected and enforced by the courts. Furthermore it is evident from the cases that these importations were sometimes called "inventions" equally with the productions of one's own mind, and were generally not very clearly distinguished therefrom.[32]

The proper application of the name "inventor" came into question so late as 1878 in an English case[33] and it was decided that it did not include a mere "importer." The court sustained the proposition that an importer might be treated legally as an inventor, but maintained that he was not nominally an inventor.[34]

[32] Darcy v. Allin, No. 173, 74 Eng. Rep. 13: The Clothworkers of Ipswich Case, Godbolt p. 252, No. 351, 78 Eng. Rep. 147, "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 traffique for a certain time, because at first the people of the kingdom are ignorant and have not the knowledge or skill to use it."

[33] Marsden v. Sayville Street, etc. Co., L. R. 3 Ex. Div. 203.

[34] "It is difficult to say *a priori* on what principle a person who did not invent anything, but who merely imported from abroad into this realm the invention of another, was treated by the judges as being the first and true inventor. I have never been able to discover the principle, and I could never get a satisfactory answer. The only answer was, It has been so decided, and you are bound by the decisions. . . The grounds on which it is put we do know . . . considering the difficulty which then attended communication from abroad, a man who brought in anything from abroad did it at the peril of his life and consumption of his estate and stock, and it was therefore such a meritorious service done to this kingdom, that the king might lawfully grant him a monopoly. That is the ground it is put upon. Now, there is some reason in that. It does not make him a true and first inventor, but it does show a true and meritorious consideration which warranted an exception from the general rule that monopolies could not be granted." "No doubt it was that use (in the early cases) which induced the judges, after the passing of the statute of James, to treat the man who brought the invention from beyond the seas as being

In the United States the granting of patent monopolies by the colonies had been so infrequent that it may be said there was no established custom before the privilege of granting patents to inventors was conferred upon the federal government by the framers of the Constitution. By that date the facility of communication was such as to have removed completely the reasons because of which patents for importations had been sustained by the Common Law.[35] Nothing is said expressly in the Constitution, or in the patent acts passed thereunder, regarding importation or importers as such, and the only possible right to a patent for an importation would have to depend, therefore, upon a favorable interpretation of the word "invention." The courts have been uniform in holding that "information" is *not* included in "invention."[36]

Discovery. The statute authorizes the issue of a patent to one who has "invented or discovered" certain things. In ordinary usage the verb "discover" has a sense of bringing to light that which before existed but was unknown. In such sense Columbus "discovered" America and Newton "discovered" the law of gravity. It is defined as meaning to "uncover" or "disclose." In the Century Dictionary it is said,

in the same position as the first and true inventor, or as being in an equivalent position, and gradually the language seems to have been changed and he was treated as the true and first inventor." Marsden v. Sayville St. etc. Co., supra. The court then went on to hold that whether the "ordinary or the existing meaning" of the word inventor be used, the particular plaintiff, as the facts lay, did not come within either. In a recent English work (The Laws of England, by the Earl of Halsbury and others, vol. 22, p. 130 ff) it is said "An inventor is a person who discovers or finds out something new, a framer, contriver, or deviser of what was before unknown. Invention is an act of the mind, and a person whose mind performs the act is the true inventor." But almost immediately the writer goes on to say "as the Statute of Monopolies was construed to intend to preserve all monopolies which would have been good at common law, the words "true and first inventor" have always been construed to include "true and first importer."

[35] There seems to have been some belief even at the time the Constitution was adopted that a monopoly for new importations would be desirable. See Story's Commentaries on the Constitution, vol. II, § 1153.

[36] McClain v. Ortmeyer, 141 U. S. 419, 427; and cases infra.

"*Discover, Invent,* agree in signifying to find out; but we *discover* what already exists, though to us unknown; we *invent* what did not before exist." The conjunction of the two words in the statute might seem to imply that one is complementary of the other and that the framers intended to allow patenting of both inventions and discoveries, in the normal sense of the words, provided only that they were not known and used before. The courts have, however, consistently interpreted the statutes as being confined to those things which come within the meaning of "invention" only, and have treated discovery as though it were synonymous therewith instead of an addition to it.

The word "invention" has never been defined with any degree of exactness in delimitation and both courts and writers agree that it can not be. "The truth is," says the Supreme Court, "the word can not be defined in such manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not."[37] But the cases all agree that there can not be invention without *creation.* Mere revelation of something existing but unknown is not sufficient, there must be something produced by operation of the mind.

A PRINCIPLE OR LAW OF NATURE, (that is, the fact that from certain causes certain different results will "naturally" and invariably follow) exists, at least according to many accepted philosophers, whether humanity is aware of it or not.[38] The discovery that a certain result will follow from certain relations of matter is not in any way creation of the result, it is a mere revelation of the causal relation. It is truly *discovery,* in its usual sense, and not *invention.* It is therefore not patentable. Possibly the statutes are defective economically, and unjust also, in not providing rewards for such revelation of important knowledge, but, as interpreted by the

[37] McClain v. Ortmeyer, 141 U. S. 419, 426.

[38] As to whether principles of nature have been given to us by God or by the human beings who first revealed them to us, is entertainingly argued by Gerard and the Doctor in Reade's, "The Cloister and the Hearth."

courts, they do not authorize any reward. The most conspicuous case of unpatentable discovery of a law of nature is that of Morton v. New York Eye Infirmary.[39] The patentee in this case had discovered that the introduction of sulphuric ether to the lungs, that is to say, its inhalation, "would produce insensibility to pain, or such a state of quiet nervous action as to render a person or animals incapable, to a great extent, if not entirely, of experiencing pain while under the action of the knife. . . ." This beneficent effect, the court conceded, had never been known before. It was, however, the only new thing about the alleged invention, the ether itself and the apparatus for applying it being both well known. It was, in short, only the discovery of a result naturally arising from a certain relation of matter. As the court put it, the patent presented nothing new except the *effect* produced by well known agents, administered in well known ways on well known subjects.

The court recognized the ineffable benefit to humanity of this discovery but nevertheless held the patent which had been issued to be invalid, saying "At common law an inventor has no exclusive right to his invention or discovery. That exclusive right is the creature of the statute, and to that we must look to see if the right claimed in a given case is within its terms. The act of Congress provides, 'that any person or persons having discovered or invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter not known or used by others before his or their discovery or invention thereof, and not, at the time of his application for a patent, in public use, or on sale with his consent or allowance as the inventor or discoverer,' shall be entitled to receive a patent therefor. The true field of inquiry, in the present case, is to ascertain whether or not the alleged invention, set forth in this specification, is embraced within the scope of the act. Very little light can be shed on our path by attempting to draw a practical distinction between the legal purport of the words 'discovery' and

[39] 5 Blatch. 116, 2 Fisher 320.

'invention.' In its naked ordinary sense, a discovery is not patentable. A discovery of a new principle, force, or law operating, or which can be made to operate, on matter, will not entitle the discoverer to a patent. It is only where the explorer has gone beyond the mere domain of discovery, and has laid hold of the new principle, force, or law, and connected it with some particular medium or mechanical contrivance of which, or through which, it acts on the material world, that he can secure the exclusive control of it under the patent laws. He then controls his discovery through the means by which he has brought it into practical action, or their equivalent, and only through them. It is then an invention, although it embraces a discovery. Sever the force or principle discovered from the means or mechanism through which he has brought it into the domain of invention, and it immediately falls out of that domain and eludes his grasp. It is then a naked discovery, and not an invention.

"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 purpose it may be applied. Something more is necessary."[40]

The result of the case seems hard, but the exposition of the court demonstrates that the patentee *created* nothing. He could not therefore acquire a reward, because the patent laws have never been construed as rewarding diligence in merely finding out the various possessions with which the Creator of all things has already blessed the world.

Another case which is frequently cited as supporting the rule that a principle of nature can not be patented, even though newly discovered, is that of O'Reilly v. Morse.[41] The patentee, Morse, had discovered that electricity, acting through the electro-magnet, could be used for the transmission of intelligible signals, and he had devised a particular means for utilizing this discovery. The first seven claims of his patent dealt with

[40] The credit for the discovery is attributed to Morton, beyond doubt, in Park's History of Med. 2d ed. p. 312.

[41] 15 How. 61.

this particular idea of means and were sustained by the Supreme Court. The eighth claim was broader, and amounted in reality to a claim of the natural principle or force of electro-magnetism for transmitting intelligible signals. It read "I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims; the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed, for marking or printing intelligible characters, signs, or letters, at any distances, being a new application of that power of which I claim to be the first inventor or discoverer." This claim the court rejected as invalid saying of it, "It is impossible to misunderstand the extent of this claim. He claims the exclusive right to every improvement where the motive power is the electric or galvanic current, and the result is the marking or printing intelligible characters, signs, or letters at a distance. If this claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we now know some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric or galvanic current, without using any part of the process or combination set forth in the plaintiff's specification. His invention may be less complicated—less liable to get out of order—less expensive in construction, and in its operation. But yet if it is covered by this patent the inventor could not use it, nor the public have the benefit of it without the permission of this patentee. No one we suppose will maintain that Fulton could have taken out a patent for his invention of propelling vessels by steam, describing the process and machinery he used, and claimed under it the exclusive right to use the motive power of steam, however developed, for the purpose of propelling vessels. It can hardly be supposed that under such a patent he could have prevented the use of the improved machinery which science has since introduced: although the motive power is steam, and the result is the propulsion of vessels. Neither could the man who first discovered that steam might, by a proper arrange-

ment of machinery, be used as a motive power to grind corn or spin cotton, claim the right to the exclusive use of steam as a motive power for the purpose of producing such effects."[42]

[42] In a sense this statement was dictum since it affected only the costs of the suit and not its merits. Leroy v. Tatham, 14 How. 156; Id. 22 How. 132, 136; Foote v. Silsby, 2 Blatch. 260. An opposite view is set out by Mr. Justice Nelson in his dissenting opinion in Leroy v. Tatham, 14 How. 156, 186. "I shall not pursue a reference to the authorities on this subject any further. The settled doctrine to be deduced from them, I think, is, that a person having discovered the application for the first time of a well-known law of nature, or well-known property of matter; by means of which a new result in the arts or in manufactures is produced, and has pointed out a mode by which it is produced, is entitled to a patent; and, if he has not tied himself down in the specification to the particular mode described, he is entitled to be protected against all modes by which the same result is produced, by an application of the same law of nature or property of matter. And *a fortiori,* if he has discovered the law of nature or property of matter, and applied it, is he entitled to the patent, and aforesaid protection. And why should not this be the law. The original conception—the novel idea in the one case, is the new application of the principle or property of matter, and the new product in the arts or manufactures—in the other, in the discovery of the principle or property, and application, with like result. The mode or means are but incidental and flowing naturally from the original conception; and hence of inconsiderable merit. But, it is said, this is patenting a principle, or element of nature. The authorities to which I have referred, answer the objection. It was answered by Chief Justice Eyre, in the case of Watts's patent, in 1795, fifty-seven years ago; and more recently in still more explicit and authoritative terms. And what if the principle is incorporated in the invention, and the inventor protected in the enjoyment for the fourteen years. He is protected only in the enjoyment of the application for the special purpose and object to which it has been newly applied by his genius and skill. For every other purpose and end, the principle is free for all mankind to use. And, where it has been discovered, as well as applied to this one purpose, and open to the world as to every other, the ground of complaint is certainly not very obvious. Undoubtedly, within the range of the purpose and object for which the principle has been for the first time applied, piracies are interfered with during the fourteen years. But anybody may take it up and give to it any other application to the enlargement of the arts and of manufactures, without restriction. He is only debarred from the use of the new application for the limited time, which the genius of others has already invented and put into successful practice. The protection does not go beyond the thing which, for the first time, has been discovered and brought into practical use; and is no broader than that

PATENTS FOR THE MEANS OF UTILIZING A NATURAL PRINCIPLE have been consistently sustained; indeed it would be difficult to conceive of any mechanical contrivance whose effectuation of a given result, static or dynamic, did not make use of some "natural principle." The conception of a means of utilizing such a principle does, however, involve creation; the means is something which did not before exist, in the ordinary comprehension of existence, and such a concept is therefore within the intended protection of the patent laws.[43]

The courts have experienced considerable difficulty, however, in distinguishing with certainty between the use of a principle, which is not patentable, and the means of utilizing it, which is patentable. The discovery of a new principle is held to entitle the discoverer to a wide range of protection in the means he devises to utilize it. He is secured not merely in the precise form of means he sets out in his patent but in all forms which are essentially similar. The principle itself thus becomes a part, at least, of the device, inasmuch as it is the real distinguishing feature of two otherwise similar devices. The result is that in a certain sense the principle is actually patented, *as part of the entire device.* The difficulty of differentiating between the patenting of a principle, by itself, and the patenting of a device which is distinguished from other devices only by the principle utilized in it, has created much confusion. That the principle may be an essential part of a patented device is sustained by many cases which, if the distinction between a principle by itself, and as part of a device,

extended to every other discoverer or inventor of a new art or manufacture. I own, I am incapable of comprehending the detriment to the improvements in the country that may flow from this sort of protection to inventors. To hold, in the case of inventions of this character, that the novelty must consist of the mode or means of the new application producing the new result, would be holding against the facts of the case, as no one can but see, that the original conception reaches far beyond these. It would be mistaking the skill of the mechanic for the genius of the inventor."

[43] O'Reilly v. Morse, 15 How. 61; Neilson v. Harford, 1 Webs. Pat. Cases, 295. Tilghman v. Proctor, 102 U. S. 707, Leroy v. Tatham, 14 How. 551; Parker v. Hulme, 1 Fish. Pat. Cases 44, Fed. Cas. No. 10740.

be not clearly understood, seem to conflict with the rule that a principle can not be patented. The author suggests, though far from stating it as the accepted rule, that the fundamental difference between an unpatentable law of nature and one which is patentable as part of a concrete contrivance, be it "machine" or "process," is in the self-operative character of the law involved. If it is a principle which will produce the result automatically when merely given substance to operate on it is unpatentable. It is utilized to be sure, but not through the assistance of any means of utilization. But a principle which produces the desired result only through physical manipulation of substances, and as a concomitant of that manipulation, not as a sequent to it, is patentable as *part of the idea of means* whereby the result is produced. Certainly the cases decided recently give credence to the proposition, that while a principle of nature may not be patented as a means and an end in itself, it may be patented as an integral part of an idea of means the substantive part of which, even as an entirety, is old.[44] That is to say, the principle alone could not be patented; neither could the substantive contrivance by itself be patented, for it is already well known; but the *new combination*, of unpatentable principle and old mechanical device, can itself be patented.

An excellent illustration of this is seen in the case of Leroy v. Tatham.[45] Here the patentee had discovered

[44] This is in exact accord also with the theory on which patents are economically justified, if the proposition of Mr. Taussig in "Money-Makers and Inventors" is correct. This proposition is that people will invent and make research to the full extent of their abilities of the creative instinct, and without the stimulation of a legal reward, but that the monopoly of a patent is necessary to induce capital to make inventions commercially practical. If this be so, no reward is necessary to stimulate research and discovery of the principles of nature, and, not being necessary, would not be justifiable. But a reward is necessary to investigate the development of practical means of utilizing the discovered principle, and such a reward is offered by the patent statutes. On this theory, therefore, the fact that discovery of an important principle of nature is not patentable, but conception of a means by which that principle may be put to practical use is patentable, even though the material part of that means be already well known, is not a defect in the patent law, but a virtue.

[45] 14 How. 156. For the facts see Tatham v. Leroy, 2 Blatch. 474.

the principle that lead in a solid condition would reunite after separation, if heated under great pressure. He devised a method of utilizing this principle in the making of lead pipes, and claimed, as his invention, this particular device when used for such a purpose. Similar machines, on a lighter scale, had been used before this for other purposes such as the making of clay pipes and macaroni. The court in this case confined him to the device as set forth, without considering its connection with a new principle, and held that evidence of other similar devices for other purposes, utilizing other principles, might be admitted to prove that the patentee's device was not new. But this same case came before the Supreme Court again, in equity,[46] and a conflicting decision was reached. The court in the second case held that the device patented was not deprived of novelty by the existence of other *machines* similar to it, but smaller and intended for other purposes. The novelty of the patentee's device lay, it would appear, in the fact that it was used in combination with the new principle.[47] The patentee's concept was the new combination of the old machine with the novel principle; clearly a *new* concept.

It can not therefore be correct to say broadly either that a principle of nature can not be patented or that it can be patented. Either statement results in confusion. It must be understood, before any statement is definite, in just what sense the terms are used.

"FUNCTION," "RESULT," "PRINCIPLE OF OPERATION," ETC. What has just been said in regard to a principle of nature ap-

[46] 22 How. 132.

[47] In Foote v. Silsby, 2 Blatch. 260, the court held, broadly that a patent might be granted for any means, old or new, of utilizing a newly discovered principle. Poillon v. Schmidt, 6 Blatch. 209; Tilghman v. Proctor, 102 U.S. 707. See also The Telephone Cases, 126 U.S. 1. The patent sustained in Minerals Separation Co. v. Hyde, 242 U. S. 261, seemed to be practically a patent for a principle, the means by which it might be utilized are so general. At any rate, the court of Appeals declared the patent invalid because the appreciable means used was so nearly identical with means long known. The Supreme Court reversed this, and held the patent valid because the difference from the known means, slight as it was, brought an entirely different principle into play.

plies equally to the patentability of such abstractions as the function of a machine, or its principle of operation, etc. These are qualities or characteristics of a device, and have no conceivable existence except as appertaining to something else. In no sense can they be created in and of themselves; if they are created, it is because something else of which they are an inherent quality or characteristic has been created. Not being themselves created they can not themselves be patented.

But the function which a device performs, the principle on which it operates, or the result which it accomplishes may be the particular characteristic which distinguishes it from other devices. This function, etc., is an intrinsic part of the concept which is the invention. Indeed, the result accomplished, the purpose, the principle of operation, or the like, may, like the principle of nature utilized, be the *only* characteristic which distinguishes the device, that is, the concept, from the concept of other devices. Just as the natural principle used in Tatham's machine for making lead pipe was the only thing which distinguished his invention from the old machines for making macaroni, so the result which a device accomplishes may serve as its only distinction from known devices. If this difference is sufficient to convince the courts that the later concept, as characterized by its function, etc., was the result of inventive genius, it may be patented. Thus it may happen that a device is recognizedly patentable whose only distinguishing feature is its principle of operation, its function, or the like. One tends, therefore, to think of the function or principle of operation as having itself been patented, and is apt to say loosely that it has been. This leads to a deal of confusion in the expressions of the cases. For instance, Mr. Justice Brown appears guilty of contradicting himself by saying, in one and the same opinion,[48] first that a function can not be patented, and then, that a "pioneer patent,"—which gives the patentee an especial breadth of protection—"is commonly understood to denote a patent covering a function never before performed." But owing to the fact that these abstract qualities have them-

[48] Westinghouse v. Boyden Power Brake Co., 170 U. S. 537.

selves no separate existence, it is only the devices characterized by them that are patented, and the cases demonstrate indubitably that devices differentiated from others by these characteristics only may be validly patented, if it required inventive genius to conceive that difference.

§ 2. Character

Thus far we have considered the nature of patentable inventions in respect to their source. We now take up their necessary character.

An invention is a concept. Of first importance is the proposition that an invention is not tangible. It is a concept; a thing evolved by the mind. It is not a tangible thing produced by manual effort. The statute does refer, to be sure, to one who has invented any new "art, machine, manufacture, or composition of matter." These things are tangible. But it does not say, one who has "made" a machine, etc.; it says "invented" such things. And the act of invention is undeniedly and undeniably a mental and not a manual act. The phrase "art, machine, manufacture, or composition of matter" merely refers to and limits the subject matter of the concept.

Machine, Manufacture, Composition of matter. Since patentable inventions are limited to concepts of a new art, machine, manufacture or composition of matter, it is essential to know just what those terms include. There is a most remarkable confusion of definition and judicial explanation of the meaning of each term. A frequent subject of dispute is whether or not the privilege of patenting a "machine" includes that of patenting a "tool." In other words is a "tool" a "machine?" Variant definitions are to be found in the cases;[49] text writers are equally indecisive of the meaning of machine. Mr. Hopkins accepts[50] the definition that "the term 'machine' includes every mechanical device or combination of mechanical powers to produce some function and to produce a certain

[49] Corning v. Burden, 15 How. 252; Burr v. Duryee, 1 Wall. 531; Coupe v. Weatherhead, 16 Fed. 673.

[50] Hopkins on Patents, I. p. 53 ff.

effect or result." Macomber[51] says, vaguely, "A machine consists in imposing upon mechanical elements the mind of the inventor, working in harmony with the laws of mechanics to effect a result." Robinson[52] insists that a distinction between machines and other instruments is necessary for harmony in the law and for its proper application. Nevertheless he recognizes that whether or not a device is a machine or a tool has nothing whatever to do with its inherent patentability. The name by which the inventor himself calls the device is immaterial to the validity of the patent; and if the device be not, in fact, a "machine," it is equally as patentable as a "manufacture."

So far as there is any harmony of usage of the terms, the distinction appears to turn, generally speaking, upon whether the desired result is accomplished by a dynamic means or a static one. An inventively shaped collar button, for instance, holding a collar in place by its mere presence, or accomplishing the result of its own position with novel ease because of its mere shape, would probably be a "manufacture." A thing of wheels and levers accomplishing the result of producing an old form of collar button from flat, unformed material would undoubtedly be a machine. A typewriter would probably be a machine; but would a pair of pincers, which accomplishes a result by transmitting dynamic energy, be a machine; or would a hammer, or cold chisel? The question has never been settled and it is fortunate that it does not need to be.

The term "composition of matter" is generally applied to those embodiments of the invention whose peculiarity does not depend upon external, visible shape, but upon internal relations.

As Mr. Robinson himself says, the name "manufacture" includes "every article devised by man except machinery upon the one side, and compositions of matter and designs upon the other." The name by which the inventor characterizes his concept is immaterial. The terms machine, manufacture, composition of matter and design cover everything tangible which

[51] Fixed Law of Patents, p. 61.

[52] Rob. on Patents, Vol. 1, Ch. II.

man could conceivably contrive. It seems clear therefore that a concept of anything to be given tangible form by man is, so far as its subject-matter is concerned, patentable. It is quite unnecessary to decide into what class of tangible things it falls. So far as the writer is aware, in no case has this ever been a material issue.[53]

Art. The Century Dictionary defines an art as, "the combination or modification of things to adapt them to a given end; the employment of a given means to effect a purpose; . . . a system of rules and traditional methods for facilitating the performance of certain actions." Despite the provision that an invention whose subject matter is an "art" may be patented, the early cases had some doubt as to whether an idea of accomplishing a given result by a novel series of steps, or sequence of operations, could be patented. Such a sequence of actions is usually called, in the patent law, a "process."

Of the cases which declare a process not to be patentable, that of Risdon Iron & Locomotive Works v. Medart[54] is typical. The invention was a method of manufacturing belt pulleys. It appeared that pulleys as theretofore made had been more or less out of balance, owing to the fact that the distance from the axis of revolution to the inside of the rim was not uniform along all radii. In consequence, when the outside of the rim was ground to a perfect surface everywhere equidistant from

[53] A unique statement is found in Jacobs v. Baker, 7 Wall. 295 which appears to be in conflict with the proposition that everything tangible is included in the terms machine, manufacture or composition of matter. The device patented was a jail having "a secret passage, or guard chamber," around the outside of an iron-plate enclosure. The purpose was to allow the keeper to hear the prisoners and oversee them without their being conscious of his presence. The court held the patent to be invalid, and in the course of its opinion said, "Now a jail can hardly come under the denomination of a 'machine'; nor, though made by hands, can it well be classed with 'manufactures'; nor, although compounded of matter, can it be termed a 'composition of matter', in the meaning of the patent act." This statement is, however, the merest dictum and the court, "waiving all these difficulties as hypercritical," found that there was no novelty whatever in the jail described but that it had been in use long before the alleged invention.

[54] 158 U. S. 68.

the axis, the thickness of the rim necessarily varied at different radial points. The patentee proposed to obviate this inequality by grinding the ends of the radial arms to an equality from the center before the rim itself was attached.

In a very confusing opinion the court says, "That the patent is for a process in manufacture, and not for the mechanism employed, nor for the finished product of some manufacture, is undeniable, and is so expressed upon the face of the specification. That certain processes of manufacture are patentable is as clear as that certain others are not, but nowhere is the distinction between them accurately defined. There is somewhat of the same obscurity in the line of demarcation as in that between mechanical skill and invention, or in that between a new article of manufacture, which is universally held to be patentable, and the function of a machine, which it is equally clear is not. It may be said in general that processes of manufacture which involve chemical or other similar elemental action are patentable, though mechanism may be necessary in the application or carrying out of such process, while those which consist solely in the operation of a machine are not. Most processes which have been held to be patentable require the aid of mechanism in their practical application, but where such mechanism is subsidiary to the chemical action, the fact that the patentee may be entitled to a patent upon his mechanism does not impair his right to a patent for the process; since he would lose the benefit of his real discovery, which might be applied in a dozen different ways, if he were not entitled to such patent. But, if the operation of his device be purely mechanical, no such considerations apply, since the function of the machine is entirely independent of any chemical or other similar action." The court therefore came to the stated conclusion that "all that he invented in fact was a machine for the more perfect manufacture of such pulleys, and the operation or function of such machine, however, is not patentable as a process." The relation of this statement to the first statement, that the patent was not for a machine, is decidedly obscure. The real reason for the decision is ob-

vious enough, however, after the confusion of other statement is stripped off, in the express finding that "in short, this is a patent only for superior workmanship, and within all the authorities is invalid."[57]

Of the cases holding that a "process" is patentable, the strongest is that of Cochran v. Deener.[58] The purpose of the inventor was "to increase the production of the best quality of flour," and the invention "consisted in separating from the meal first the superfine flour, and then the pulverulent impurities mingled with the flour producing portions of the middlings-meal, which when reground and rebolted, would yield pure white flour" thus increasing the total amount of such white flour. The method described consisted "in passing the ground meal through a series of bolting-reels clothed with cloth of progressively finer meshes, which pass the superfine flour and retard the escape of the finer and lighter impurities; and, at the same time, subjecting the meal to blasts or currents of air introduced by hollow perforated shafts furnished with pipes so disposed that the force of the blast may act close to the surface of the bolting-cloth; the bolting-chest having an opening at the top for the escape of the air, and of the finer and lighter particles therewith, through a chamber where the particles are arrested, whilst the floor and sides of each compartment of the chest are made close, so as to prevent the escape of the air in any other direction than through the said opening. By this means, the superfine flour is separated, and the fine and light specks and impurities, which ordinarily adhere to the middlings and degrade the flour produced therefrom, are got rid of; and when the middlings are now separated from the other portions of the meal, they are white and clean, and capable of being reground and rebolted, so as to produce superfine flour equal in quality and even superior to the first instalment. This is the process described; but the patentee claims that it is not limited to any special arrange-

[57] For other cases in which it has been held that the alleged invention revealed only superiority of workmanship and was therefore not invention, see *infra*.

[58] 94 U. S. 780.

ment of machinery. He admits the prior use of currents of air in the interior of the reels, introduced by means of hollow, perforated shafts, for the purpose of keeping back the speck, and increasing the quantity of superfine flour; but not for purifying the middlings preparatory to regrinding. His improvement, therefore, does not consist in using drafts and currents of air, but in the process as a whole, comprising the application of the blast, and the carrying off of the fine impurities, whereby the middlings are purified preparatory to regrinding after being separated from the other parts." The defendants used a formally different mechanical device, but the same process of manufacture.

It was admitted that the new method had produced a revolution in the manufacture of flour. The fact that the mechanical devices actually used were old did not affect the validity of the patent, the court held, because they were not themselves the invention. This, the court said, was a process, and "That a process may be patentable, irrespective of the particular form of the instrumentalities used, cannot be disputed. If one of the steps of a process be that a certain substance is to be reduced to a powder, it may not be at all material what instrument or machinery is used to effect that object, whether a hammer, a pestle and mortar, or a mill. Either may be pointed out; but if the patent is not confined to that particular tool or machine, the use of the others would be an infringement, the general process being the same. A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art. The machinery pointed out as suitable to perform the process may or may not be new or patentable; whilst the process itself may be altogether new, and produce an entirely new result. The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence."

A more recent statement is found in Expanded Metal Co. v. Bradford.[59] The suit involved defendant's right to use a certain machine for making "expanded" sheet metal. Before complainant's patent, such metal had been made either by cutting properly placed slits in the plates and then opening the metal by bending the severed portions, as two operations, or by cutting and opening, in a different way, simultaneously. Both these methods had the objection of distorting the external dimensions of the plate from which it was made. Golding conceived the idea of simultaneously cutting and opening the metal by both bending and stretching the severed portions and of following this up with a like operation in which the location of the cuts was changed in a longitudinal as well as a transverse direction. This method resulted in substantial advantages. It was the coordination of these two operations to produce the result, which in the opinion of the court constituted the invention.

The mechanism by which the work was perfected could have been produced on demand by any competent mechanic. Furthermore, no mechanism for doing it was described in the specification, though enough was suggested to indicate to a skilled mechanic what to construct for the purpose. It thus appears that the invention could have been nothing more than the method of procedure for accomplishing the result. The real invention was a concept of procedure, although to be carried out by substantial machinery. The court held the patent valid. In discussing the meaning of this "process," it quoted with approval[60] "A machine is a thing. A process is an act or a mode of acting. The one is visible to the eye—an object of perpetual observation. The other is a conception of the mind, seen only by its effects when being executed or performed. Either may be the means of producing a useful result." "We therefore," said the court, "reach the conclusion that an invention or discovery of a process or method involving mechanical operations, and producing a new and useful

[59] 214 U. S. 366.
[60] Tilghman v. Proctor, 102 U. S. 707.

result, may be within the protection of the Federal Statute, and entitle the inventor to a patent for his discovery."[61]

It now seems settled that the concept of a series of steps, or a method of operation, to produce a stated result is patentable, so far as its subject matter is concerned. It will be noted, however, that in all the cases cited on this point, the art, or process, has been carried out through the manipulation of substance and the use of tangible instrumentalities.

Mental process. It is a pertinent inquiry, therefore, whether a method of accomplishing a given result which does not require the use of tangible instrumentalities; in other words, whether a purely *mental process,* not involving the manipulation of substance, can be protected by patent as an "art." If, for instance, a mathematician should evolve, as the result of real inventive genius, a new method of determining the cube root of numbers; or if a stage "magician" should hit upon a novel method of conveying secret information by means of apparently commonplace speech, would not these methods of accomplishing the ends desired come within the statutory meaning of an "art"? There is no direct authority upon the question, but the writer fully believes that such a process of accomplishing a result is an "art," and as such is patentable. The reason is negative; that is, there is no sound reason why it should not be patentable as an art.

All the authority opposed to the proposition appears to be

[61] Lawther v. Hamilton, 124 U. S. 1. The court upheld the patent in this case although all the instrumentalities were well known, because "the mode of using and applying these old instrumentalities" was new. "And what is that but a new process? This process consists of a series of acts done to the flax-seed. It is a mode of treatment." Cf. Gage v. Herring, 107 U. S. 640; Cf. Crescent Brewing Co. v. Gottfried 128 U. S. 158; Fuller v. Yentzer, 94 U. S. 288. "That the means, and the only means, of applying the process, are strictly mechanical, is a matter of no moment, so far as patentability is concerned. If the process when distinguished from the means of performing it, is new, useful, and intellectually rises to the dignity of invention, it is patentable—if it falls within the meaning of the word 'art' as used in the statute." Buffalo Forge Co. v. City of Buffalo, 255 Fed. 83.

in the form of *dicta* only. The case of Hotel Security Checking Co. vs. Lorraine Co.[51] is typical of all those most nearly in point. The claim of the patent was for a "means for securing hotel or restaurant proprietors or others from losses by the peculations of waiters, cashiers or other employees, which consists of a sheet provided with separate spaces, having suitable headings, substantially as described, said heading being designatory of the several waiters to whom the several spaces on the sheet are individually appropriated, in conjunction with separate slips, each so marked as to indicate the waiter using it, whereby the selling price of all the articles sold may be entered in duplicate, once upon the slip of the waiter making the sale, and once upon his allotted space upon the main sheet, substantially as and for the purpose specified." It will be observed that the claim really made was not in the least for a mental process, nor even for a series of human actions, or other form of art, but for a wholly tangible sheet of paper, to be used in conjunction with other sheets of paper, all appropriately marked and designed. Of this tangible means the court said briefly, "It can not be maintained that the physical means described by Hicks,—the sheet and the slip—apart from their manner of use, present any new and useful feature." The court then proceeded to discuss the case on the seemingly unwarranted assumption that the patentee had claimed an intangible thing. It said, "It is manifest that the subject matter of the claim is not a machine, manufacture or composition of matter. If within the language of the statute at all, it must be as a 'new and useful art.'" It then went on to say, "In the sense of the patent law, an art is not a mere abstraction. A system of transacting business disconnected from the means for carrying out the system is not, within the most liberal interpretation of the term, an art. Advice is not patentable." This expression, and more of like tenor, is pointedly to the effect that an intangible means of effectuating a result is not patentable. The actual decision of the case did not require any such statement and is, in fact,

[51] 160 Fed. 467.

placed on the ground that the fundamental principle of the system is "as old as the art of book-keeping" and the patentee had "modified and adapted it to fit the ephemeral character of the business in hand, but it required no exercise of the inventive faculties to do this." The case thus clearly turns on the lack of novelty of the alleged invention and the statements in regard to the character of patentable invention are merely *dicta*.[55]

Lest this discussion may have somewhat overshadowed the original proposition, it may well be said again, that although an invention is an idea, not a tangible thing, not every idea is patentable as an invention. It must be an idea of the classes named in the statute, namely the idea of a new art, machine, manufacture or composition of matter.

[55] In a case more nearly in point (Fowler v. City of N. Y. 121 Fed. 747) the patent was described by the court as "a new plan for handling the large number of passengers who patronize the public vehicles provided for rapid transit in large cities." It consisted in an arrangement of tracks and stations such that passengers could be picked up at local stations, and transferred to express trains at express stops, without necessitating an interfering use of the same tracks by both express and local trains. It was in substance the now well known system of "island stations," or platforms, located between the local and express tracks so that passengers can be received at one side and transshipped from the other. It was argued that this system constituted a "machine." The court appears to have doubted the proposition but to have conceded it for the sake of argument, and on such concession, held the device unpatentable because any competent engineer could have devised the same plan whenever it should become practically usable. The only justification for interpreting the case as authority for holding an intangible means of accomplishing a result unpatentable is the fact that the court did concede, for the sake of argument, that the contrivance in question was tangible. Another case in which the real and expressed ground for the holding belies the loose statements of patentability is Risdon Loco. Wks. v. Medart, 158 U. S. 68. A class of cases apt to be confused with the character of patentable invention is that in which the means employed to the end is the result of selection and good judgment. The courts have held this excellence of judgment not to constitute invention. This is equivalent only to holding that this type of means is unpatentable for lack of invention and is quite different from holding that no intangible means can be patented. References to particular cases are noted infra. See a further discussion in 15 Michigan Law Rev. 660.

INVENTIVE QUALITY. We have already discussed invention in respect to the creative element which is necessary. But while nothing is patentable as invention which is not the result of creation, not everything that has been created by a person is patentable. One may actually create something by the labor of his own mind so that, in respect to himself, it comes within all the definitions of invention. But the purpose of the patent laws is to promote the progress of science and the useful arts, not merely to reward mental effort as such. Therefore nothing is patentable which is not "new." The fact that a production is new to the producer does not bring it within the statute; it must be new to the public, to the science and arts which the statutes intend to promote.[63]

[63] An interesting illustration of this proposition is found in New Departure Bell Co. v. Bevin Bros. Mfg., Co., 73 Fed. 469. The patent in issue was for a bicycle bell. It had gone into wide use, but the evidence in the case revealed that a very similar mechanism had been described in an English patent for door-bells and call bells issued to one Bennett some fourteen years previous to that of the complainant. If this English mechanism had been utilized in this country, the court said, the fact that it had not been utilized for bicycle bells until complainant's patent would strongly have indicated the presence of invention. But, went on the court, "this argument . . . is not applicable to the case at bar. There is no reason to suppose that Bennett or his bell was ever heard of by any bell manufacturer in this country until his patent was unearthed by a search for anticipating devices." "So well adapted is that mechanism to bicycle bells that it is almost inconceivable that it could have been known to bell makers here during the 14 years in which they were trying to improve such bells, and yet was not availed of. No doubt, Rockwell devised the striking mechanism set out in his patent independently, and with no knowledge of what Bennett had done; and, since that mechanism was better adapted to meet the requirements of a bicycle bell than anything which rival manufacturers had succeeded in producing, it may be accepted as the fruit of an inventive conception, but its novelty is negatived by the British patent. The statutes authorize the granting of patents only for such inventions as have not been patented or described in any printed publication in this or any foreign country before the applicant's embodiment of his own conception. It may be a hardship to meritorious inventors, who, at the expenditure of much time and thought, have hit upon some ingenious combination of mechanical devices, which, for aught they know, is entirely novel, to find that, in some remote time and place, some one else, of whom they never heard, has published to the

This question of novelty does not come up at the time of application and issue of a patent, except as prior knowledge is shown by other applications and already issued patents. These are all that is of record in the Patent Office. New applications are compared with this record, and if anticipation is clear a patent may be refused. But the office can not go outside of this record to look for prior knowledge. The patent when issued indicates, therefore, nothing whatever as to the patentable novelty of the invention, except in respect to other patents issued in this country. Even in this respect it indicates but little since the benefit of the doubt is given to an applicant when his device is at least superficially different from anything theretofore patented.

Whether a production which is new to the creator himself is properly to be called "invention" need not be here discussed. It is possible that in correct definition, "invention" includes the element of novelty as to all human knowledge. If this be true, to speak of a new invention is redundant, and an invention which is lacking in novelty is not an invention. But in ordinary parlance both of courts and of laymen, invention is applied to those productions which the producer thinks are new, whether they are actually of such novelty as to be patentable or not. The statute itself is either unreasonably redundant or else is framed upon this usage; it reads "one who has invented . . . any new . . . art, machine . . . not known or used by others." The reports are replete with references to "inventions" which are not patentable for lack of novelty.[64]

The fact that a device can not be patented unless it is new to the public, being accepted, the question at once arises, in each case, whether the particular device is new or old.

world, in a patent or a printed publication, a full description of the very combination over which they have been puzzling; but in such cases the act, none the less, refuses them a patent."

[64] Reed v. Cutter, 1 Story 590. 2 Robb. Pat. Cas. 81, Fed. Cas. No. 11,645; "Under our patent laws," says Judge Story, "No person, who is not at once the first, as well as the original, inventor, by whom the invention has been perfected and put into actual use, is entitled to a patent. A subsequent inventor, although an original inventor, is not entitled to any patent." Reckendorfer v. Faber, 92 U. S. 347, 350.

The great bulk of litigation under the patent law has arisen out of this question. In mere terminology the question sometimes takes the form of whether there is "novelty" in the "invention," and sometimes whether the concept under consideration is really an "invention" or not. Properly speaking, whether it is "invention" should relate only to whether or not it is such a creation of the mind as comes within the legal meaning of "invention." Whether it is so new to the public as to be patentable should come under the question of "novelty." Nevertheless, both text-writers and courts often discuss the matter of novelty of the idea as though it were a matter of "invention." In a sense this is logical and arises thus;—the courts have consistently held that an alleged inventor must be presumed, legally, to have had knowledge of everything similar to his own production, whether he actually had such knowledge or not.[65] This being the case, a production which is not new to the public is not new, in legal construction, even to the producer, and therefore can not be "invention" even as to him. It is absolutely impossible to allocate, upon a reasonable basis of distinction, those cases which say that a particular device is not patentable because it is "not new," and those which refuse patentability on the ground that it is "not invention" because not sufficiently unlike contrivances already known to society. Except for the form of expression used, however, the inquiry is precisely the same in either class of cases, and the methods of solution are substantially identical. In this analysis therefore, the issue will be considered, for the sake of simplicity and clarity, as one of invention or non-invention, on the principle that the alleged inventor is presumed to have had knowledge of all existing ideas and therefore a production which is not "new" could not have been created by the mind of the person subsequently claiming it.[66]

[65] Daylight Glass Mfg. Co. v. American Prismatic Glass Co., 142 Fed. 454; Foot v. Silsby, 2 Blatch. 260, 268.

[66] The precision and extent of knowledge which will suffice to preclude a production from being an invention and the amount of proof of such knowledge which is necessary are discussed later.

It should be repeated here, however, that there is a real distinction between the act of "invention" and certain other acts such as "discovery" or "importation," and that the latter are not patentable however "novel" they may be. It is only novel inventions that the patent statute protects, and therefore it seems more satisfactory to discuss the matter of novelty under the term "invention" than under "novelty." There is less chance for forgetfulness that "novelty" alone is not sufficient.

If the fact of invention depended upon the mere visible form or manifestation of an art, machine, manufacture or composition of matter, the inquiry as to whether a production were invention would involve simply the determination of identity or non-identity of its form with the form of anything which had already existed. But invention, as interpreted by the courts, requires a creation by mental act, a new idea as well as a new substantial and perceptible form. It follows therefore that the substantial form of two devices may be practically identical, yet the later one may be invention because it involves a new concept, idea, principle, or whatsoever it may be called. There is something new actually presented to the public although tangibly embodied in an old form. Thus, a device may be a new idea of means, because the purpose is new, although the physical means is old.[67]

On the other hand a device may be, in tangible form, different from anything which had ever existed, but yet not be an invention because its production involved *no new concept* or idea of means sufficiently different from that of the first device to constitute invention.[67a] We shall discuss this latter condition first.

[67] Such was the invention involved in Leroy v. Tatham, 22 How. 132. The patent was sustained although the actual tangible form of the device had existed in other usages before. Potts v. Creager, 155 U. S. 597. See also cases under new use for old device.

[67a] The determination of this question is obviously a mental conclusion; in a sense, it is a question of fact. As a rule, however, it is not left to juries to determine but is decided by the court itself. Courts sitting in equity, may, of course, decide questions of fact themselves, but there is no lack of judicial statement to the effect that when the trial is at law the question should be submitted to the jury. Winans v. N. Y., etc. R. R.

Assuming, then, that the tangible form of a concept is unlike any form already known, is the concept itself sufficiently different from anything else to be an invention? The answer is not the ascertainment of a sensible fact; it is wholly a mental conclusion, deduced from the perceptible facts.

Whether this new idea, this novelty of concept, is present or not, depends upon all the circumstances of each particular case. There are no rules for determining it, in the sense that there are rules for deciding issues in the common law. Such precision as is necessary to a rule is precluded by the fact that in the nature of the subject no case can arise wherein the facts are the same as those of a precedent case.

In ordinary processes of society and of individuals, the essential circumstances are recurrently similar in many instances. A man buying a suit of clothes on credit from a department store is very apt to do it under precisely the same overt circumstances as the ten or the hundred men preceding him have done. And, in consquence, it may fairly be said that he and his salesman had the same constructive intent in regard to the passing of title as did the buyers and sellers preceding. Proceeding to wider analogies, it is not illogical to say that the buyer of clothes on credit has the same presumptive intent as to the passing of title as the buyer of furniture. There is in all such cases a usual similarity of observable external circumstances. It is possible, also, by a long line of decisions to give to words that may be commonly used a perfectly definite legal meaning.

But where patents are concerned, the very nature of the subject itself precludes similarity, and consequently eliminates any possibility of definite *standards.* When a device whose patentability is asserted is physically like a preceding device there is usually no case for the court. The fact of exact identity, which is in such case apparent to any observer, obviates any pretense of invention. On the other hand, a mere visible difference between two devices does not *ipso facto* denote the

Co., 21 How. 88, "There was in fact but one question to be decided by the court, viz.: the construction of the patent; the question of novelty being the fact to be passed on by the jury." Jackson v. Allen, 120 Mass. 64.

presence of invention. Whether it does actually denote invention is the issue to be decided. Broadly speaking, this issue, and others of the patent law, can not be determined by a mere comparison of those facts which are cognizable by the senses. The decision must come from the operation of the mind upon these observed facts. It is the conclusion of the particular judge, in each case, whether the alleged invention is really a new creation or merely a natural and normal modification of existing ideas.

Sometimes where the observed facts are essentially the same in many instances, the operation of a normal mind upon them will produce the same conclusion that preceding normal minds reached. Consequently, the conclusion which other minds have arrived at, from approximately the same external facts which now face a judge, may properly be considered by him in reaching his own judicial conclusion. So it is possible to compile a line of court decisions whose weight is of controlling influence in a later case where a judicial conclusion is to be reached upon facts that are essentially similar to those in the collected precedents.

But in patent law there can not be this requisite similarity of external facts. The facts appreciable by the senses are the concrete, and usually material, elements of the concept. Always they must be essentially different from the elements of the devices which have preceded them or there is no case at all. The abstract similarity or dissimilarity of the whole to something else, the *legal* likeness or difference, is purely a conclusion of the mind from these always variant external stimuli. As the visible, sensible, facts are always different it follows that the conclusion of another mind in another case can furnish no logical influence upon the decision to be made and it is not only impossible to lay down rules for decision, as in other branches of the law, but absurd to try.[68] As Mr. Justice Story said long ago,[69] "The doctrine of patents may truly be said to constitute the metaphysics of the law."

[68] Marshall v. Wirt, 232 Fed. 603, each decision is a question of fact, and stands on its own bottom.

[69] Barrett v. Hall, 1 Mason 447, 471.

To some slight advantage, however, decisions in regard to the presence or absence of invention can be grouped according to the particular tangible feature which distinguishes the device involved from other devices. And to the extent that the judicial opinions repeatedly refer to some characteristic circumstance as strongly indicating invention, or as negativing it, it can be broadly laid down as a rule, though not an invariable one, that the presence of such feature indicates invention, or otherwise. It may be said, however, that these "rules" have been customarily restricted to the negative position that such or such a feature does not indicate invention.

The great disadvantage of thus attempting to group decisions into even the least forceful or obligatory of "rules" is that it tends to perpetuate the pernicious idea that certain concepts *can not* intrinsically be invention, regardless of their novelty. We have seen that some things which are novel, such as discoveries and importations, are not inventions, and can not be patentable, as such, but that is because those things are not creations of the mind. This proposition seems to confuse itself at times with the so called rules that certain characteristics do not usually denote sufficient mental genius to be worth the name of invention, and the result is the anomalous and vicious proposition that certain characteristic mental concepts *can not* be properly called inventions. Thus it is one thing to say that the aggregation into a unit of static elements (e.g. the placing of an eraser in one end of a wooden sheathed lead pencil) is not usually the product of inventive genius and is therefore not usually invention. But it is quite another thing to say that such aggregation does not ever indicate inventive genius, and, as a matter of law, *can not* be invention. This latter idea is found in the decisions much less often than it used to be, but it is sometimes found, most obnoxiously, in the Patent Office itself, and among young practitioners, trained by text-books and lectures in which it has been laid down as a real rule, that certain mental creations, such as the concept of a particular aggregation, or of a substituted material, *can not* be considered as inventions. It is therefore repeated most emphatically that the cases here

grouped do not stand for rules that certain concepts are not invention, but only illustrate concepts which courts have said, in a number of particular and striking instances, did not *in those cases* reveal invention.

The number of these groups or rules depends upon the judgment of the particular classifier. One text-book of considerable note[70] refers to twelve rules, another[71] to thirty-two. The difference lies in the number of instances which each author considered necessary before a rule could be deduced. Of the thirty-two "rules" of Hopkins' text, some are deduced as rules from the existence of but a single decision in which the particular distinguishing feature was held not to indicate invention. The only authority apparently needed for citing such a decision as a "rule" is, to some minds, the fact that a court has declared as its own generalization that the particular feature involved does not constitute invention. If the mere statement of the court that a particular feature never indicates, or generally cannot indicate, invention, may be taken as a "rule", the number of rules possible is naturally greater than if they be deduced from a consistency of actual decisions. Only the more generally accepted "rules" will be given here.

Excellence of workmanship has been held not to denote sufficient mental creation to constitute invention. Therefore a particular manufacture, as such, is not patentably distinguished from others of the same type merely because it is better made. The art of making it, or the machinery by which it is made might be patented under proper circumstances, but the manufacture itself, *if considered apart from* the way it is made is not patentable. It might be said, that the *fact* of better workmanship is not in itself patentable.[72] But it is not im-

[70] Walker.

[71] Hopkins.

[72] Risdon Locomotive Wks. v. Medart, 158 U. S. 68, 80. "In short this is a patent only for superior workmanship, and within all the authorities is invalid. This court has repeatedly stated that all improvement is not invention. If a certain device differs from what precedes it only in superiority of finish or in greater accuracy of detail, it is but the carrying forward of an old idea and does not amount to invention. Thus, if it has been customary to make an article of unpolished metal, it does not

possible that the fact of better workmanship *might* come from some underlying idea that is itself an invention.

Change arising from the use of better or more desirable materials is not normally treated as showing invention. Thus in Hicks v. Kelsey,[73] the validity of a patent for a particular form of "wagon reach," (the shaft connecting the front and rear axles of a wagon), was in question. Ordinarily this shaft is curved in such a way as to allow the front wheel to pass under it when cramped for a turn. Before the patentee's change, reaches had been made of wood with a strap, or straps, of iron fastened along either side of the curved part. The patentee conceived the idea of omitting the wood at the curve and bolting the iron straps together. By this means the shaft became less bulky at the curve though in all other respects and purposes it remained the same. The court held the patent invalid, saying, "The question is whether the mere change of material —making the curve of iron instead of wood and iron—was a sufficient change to constitute invention; the purpose being the same, the means of accomplishing it being the same, and the form of the reach and mode of operation being the same. It is certainly difficult to bring the case within any recognized rule of novelty by which the patent can be sustained. The use of one material instead of another in constructing a known

involve invention to polish it. If a telescope has been made with a certain degree of power, it involves no invention to make one which differs from the other only in its having greater power. If boards had heretofore been planed by hand, a board better planed by machinery would not be patentable, although in all these cases the machinery itself would be patentable." (It should be noted, however, that a manufacture is often identified not by its physical appearance but by its method of manufacture). International Tooth Crown Co. v. Gaylord, 140 U. S. 55, 64. "It is hardly necessary to say that it is no invention, within the meaning of the law, to perform with increased speed a series of surgical operations old in themselves, and in the order in which they were before performed. With what celerity these successive operations shall be performed depends entirely upon the judgment and skill of the operator, and does not involve any question of novelty which would entitle him to a patent therefor." Smith v. Nichols, 21 Wall. 112, 119; Edison v. American Mutoscope Co., 114 Fed. 926, 935.

[73] 18 Wall. 670.

machine is, in most cases, so obviously a matter of mere mechanical judgment, and not of invention, that it cannot be called an invention, unless some new and useful result, an increase of efficiency, or a decided saving in the operation, is clearly attained. Some evidence was given to show that the wagon-reach of the plaintiff is a better reach, requiring less repair, and having greater solidity than the wooden reach. But it is not sufficient to bring the case out of the category of more or less excellence of construction. The machine is the same. Axe-helves made of hickory may be more durable and more cheap in the end than those made of beech or pine, but the first application of hickory to the purpose would not be, therefore, patentable."[74]

Mere enlargement has been held not to indicate the mental creation necessary to invention.[75]

[74] It should be noted that express exception is made if by the substitution of materials "some new and useful result" is produced. Hotchkiss v. Greenwood, 11 How. 248. In this case it was urged that it should have been left to the jury to say whether or not the change of materials amounted to invention, but the court held as a matter of law that if the change required no more skill than was required by an ordinary mechanic there was no invention involved in making it. "The difference is formal, and destitute of ingenuity or invention. It may afford evidence of judgment and skill in the selection and adaptation of the materials in the manufacture of the instrument for the purposes intended, but nothing more." New York Belting & P. Co. v. Sierer, 149 Fed. 756; Crouch v. Roemer, 103 U. S. 797; Guidet v. Brooklyn, 105 U. S. 550; Cf. Smith v. Goodyear Dental Vulcanite Co., 93 U. S. 486.

[75] Phillips v. Page, 24 How. 164; Planing Machine Co. v. Keith, 101 U. S. 479; "The appellant contends that the Anson machine fails to be an anticipation of the Woodbury invention, because, as they say, it has no solid bed. It plainly has, however, a solid bed, adequate for the purposes for which the machine was intended and used,—for cutting, and planing light material, sash, and blinds, and the bed is sufficiently solid for such uses. It may be admitted it would be too weak for general planing work upon boards or plank. It is comparatively a small machine. It would not cease to be the same machine, in principle, if any one or all of its constituents were enlarged or strengthened, so that it might perform heavier work. True, the bed is divided by a slit running longitudinally from one end to the other; but the two parts are arranged so as to constitute one bed, and is is not perceived why, if enlarged, it would not answer all the purposes of the Woodbury machine. Mere en-

Mere duplication of parts has not normally shown invention. In one case[76] involving a patent for the combination, in a tobacco curer, of two sets of furnaces of different capacities the court said, "But surely there can be no invention in this! Where one stove is found to be unequal to the heating of a room, to put another beside it, even though smaller, requires no invention. And if at the time of the issue of plaintiff's patent there was in use for curing tobacco, or anything else, single furnaces, with flues entering a common flue with a return flue to the chimney, it is not a patentable combination to put two furnaces side by side to accomplish the same purpose, even though one be smaller than the other. The plaintiff's combination produces no new result. It works in no different manner. It is a mere colorable variation from the old method of building furnaces, required no exercise of the inventive faculty, and is not patentable."[77]

But this rule like all the others is not absolute: it does not

largement is not invention. The simplest mechanic can make such a modification. Woodbury's patent claims no particular form of a bed. It does not require the bed to be of any specified thickness, or constructed in one piece. Its purpose is to furnish a firm and unyielding support to the material when passing under the cutter, and that may be done as well by constructing the bed of two parts as of one. An anvil composed of two pieces is not the less an anvil, a solid block to resist the blows of a hammer. A solid foundation of a house may be composed of more than one stone. We cannot but think this objection to the Anson machine as an anticipating device is entitled to no weight." Am. Road Machine Co. v. Pennock & Co., 164 U. S. 26; American Well Works v. Austin Mfg. Co., 98 Fed. 992, dictum.

[76] Millner v. Voss & Co., 4 Hughes 262.

[77] In Dunbar v. Myers, 94 U. S. 187, it was held that the use, on a circular saw, of two deflecting plates was not invention because of the fact that the use of one had long been known. "Grant that 2 such plates are in certain cases better than one used alone, still the question arises whether it involves any invention to add the second plate to a machine already constructed with one plate. Beyond doubt, every operator who had used a machine having one deflecting plate knew full well what the function was that the deflecting plate was designed to accomplish, and the reasons for placing it at the side of the saw are obvious to the understanding of every one who ever witnessed the operation of a circular saw. Ordinary mechanics know how to use bolts, rivets, and screws, and it is obvious that any one knowing how to use such devices would

mean that duplication *can not* be the result of invention.[78] In one case where the device was actually only a duplication of existing ones the court held the patent covering it to be valid, saying,[79] "It is contended the changes made by Firm were merely mechanical, and that in reality he but took the presses which he found standing side by side, and banked them one upon another, that the change involved was mere reconstruction, rearrangement, duplication. It is to be noted, however, that printing-press construction is mechanically a highly-developed industry. The complex and intricate details of these great presses; the calls upon them for speed, strength, and product; the constant demand upon builders for improvement; and the keen rivalry existing among such builders and the users of the presses,—are factors which brought the art to this high mechanical standard. The very fact that, with all these stimulating considerations, insuring the most rapid strides in mechanical advance, no such step as Firm's was taken in duplex presses, shows that Firm's change was not in the line of mechanical progress, but in the original, inventive sphere. Granted the change consisted in banking one press upon another, yet the two, when so combined, and in their new relation, so co-acted as to dispense with angle-bars, with a web-de-

know how to arrange a deflecting plate at one side of a circular saw which had such a device properly arranged on the other side, it being conceded that both deflecting plates are constructed and arranged precisely alike, except that one is placed on one side of the saw and the other on the opposite side. Both are attached to the frame in the same manner; nor is it shown, either in the specification or drawings, that there is anything peculiar in the means employed for arranging the deflecting plates at the sides of the saw, or in attaching the same to the frame. Both are alike, except that the outer end of the one on the same side as the strengthening plate projects farther from the saw than the inner end, and that the other is rather smaller in diameter, and that the ends project about an equal distance from the saw." Slawson v. Grand St. R. R. Co., 107 U. S. 649; Ferguson v. Roos Mfg. Co., 71 Fed. 416; New Departure Ball Co. v. Bevin Bros. Mfg. Co., 73 Fed. 469.

[78] Duplication may constitute invention, Parker v. Hulme, 1 Fish. Pat. Cases 44 Fed. Cas. No. 10740.

[79] Goss Printing Press Co. v. Scott, 108 Fed. 253, 259.

flected course, and made possible a straight-line duplex press. A single straight-line press in itself was no novelty, so far as the straight-line printing of an individual web is concerned; but, when the product of two such presses were united, it was only through angle-bar agency. Firm's device, by placing the two in new relations, eliminated the angle-bar, did away with the tangent-turning webs, and thus secured valuable results. The test in such cases is not whether duplication exists, but whether duplication produces, not mere duplication of product or function, but a new unitary, additional result, and not the mere aggregate of prior, separate mechanism. The mere elements of the combination are immaterial. In their individual relations they may be old, may be mere duplicates; but the test is not the character of the combining elements, but the result flowing from their being combined." Duplication producing a new and a useful result, as it was here produced, may be patentable. It renders useful what was previously useless.

Aggregation. Merely to gather static elements into juxtaposition with each other has been held not to indicate invention. A case often cited upon this point is that of Reckendorfer v. Faber.[80] The patent in this case was for the now common wooden sheathed lead pencil, having an eraser somewhat larger in diameter than the lead, set into a cylindrical hole in one end. The court, three justices dissenting, held the patent to be invalid, saying, "The combination, to be patentable, must produce a different force or effect, or result in the combined forces or processes, from that given by their separate parts. There must be a new result produced by their union: if not so, it is only an aggregation of separate elements. An instance and an illustration are found in the discovery, that, by the use of sulphur mixed with india-rubber, the rubber could be vulcanized, and that without this agent the rubber could not be vulcanized. The combination of the

[80] 92 U. S. 347. It has always seemed to the writer that this case was wrongly decided—that the collocation into one instrument of these various elements showed much more inventive genius than many another collection of interacting elements which has been upheld as invention. The whole tenor of the case suggests the vision theory, heretofore referred to, that certain concepts, such as aggregation, can not be considered invention.

two produced a result or an article entirely different from that before in use. Another illustration may be found in the frame in a saw-mill which advances the log regularly to meet the saw, and the saw which saws the log; the two co-operate and are simultaneous in carrying on a continuous sawing. A stem-winding watch-key is another instance. The office of the stem is to hold the watch, or hang the chain to the watch: the office of the key is to wind it. When the stem is made the key, the joint duty of holding the chain and winding the watch is performed by the same instrument. A double effect is produced or a double duty performed by the combined result. In these and numerous like cases the parts co-operate in producing the final effect sometimes simultaneously, sometimes successively. The result comes from the combined effect of the several parts, not simply from the separate action of each, and is, therefore, patentable. In the case we are considering, the parts claimed to make a combination are distinct and disconnected. Not only is there no new result, but no joint operation. When the lead is used, it performs the same operation and in the same manner as it would do if there were no rubber at the other end of the pencil; when the rubber is used, it is in the same manner and performs the same duty as if the lead were not in the same pencil. A pencil is laid down and a rubber is taken up, the one to write, the other to erase: a pencil is turned over to erase with, or an eraser is turned over to write with. The principle is the same in both instances. It may be more convenient to have the two instruments on one rod than on two. There may be a security against the absence of the tools of an artist or mechanic from the fact, that, the greater the number, the greater the danger of loss. It may be more convenient to turn over the different ends of the same stick than to lay down one stick and take up another. This, however, is not invention within the patent law, as the authorities cited fully show. There is no relation between the instruments in the performance of their several functions, and no reciprocal action, no parts used in common."[81]

[81] Acc. Thacker Heating Co. v. Burtis, 121 U. S. 286. Here the patentee had combined a fuel reservoir which was well known with a particular

But, after all, practically every device involves juxtaposition of elements. A machine is an aggregation of wheels, shafts, levers, etc. A patentable wash board is a juxtaposition of wood and zinc parts; and so the list might run unendingly. The statement that juxtaposition does not constitute invention is therefore only possible of those groupings in which, as in the Reckendorfer pencil, each element remains individual, in proximity and connection with other elements which also retain their identity. This is called aggregation, as distinct from those combinations of elements which form a patentable device.[82] The distinction is often expressed by saying, as in the Reckendorfer case, "The combination to be patentable must produce a different force or effect, or result in the combined forces or processes, from that given by their separate parts. There must be a new result produced by their union; if not so, it is only an aggregation of separate elements." The same idea is expressed in Hailes v. Van Wormer,[83] where the court says: "It must be conceded that a new combination, if it produces new and useful results, is patentable, though all the constituents of the combination were well known and in common use before the combination was made. But the results must be a product of the combination, and not a mere aggregate of several results each the complete product of one of the combined elements. Combined results are not necessarily a novel result, nor are they an old result obtained in a new and improved manner. Merely bringing old devices into juxtaposi-

form of stove which was also well known. They had not, however, been used together before. The court held the patent void because invention was absent. The confused reasoning of this case is an illustration of the difficulties encountered in explaining absence of invention by some rule of thumb.

Hailes v. Van Wormer, 20 Wall. 353, Stephenson v. Brooklyn Cross-Town Ry. Co., 114 U. S. 149, Pickering v. McCullough, 104 U. S. 310, Palmer v. Corning, 156 U. S. 342, Richards v. Chase Elevator Co., 159 U. S. 477, Grinnell Washing-Machine Co. v. E. E. Johnson Co., 247 U. S. 426, National Tube v. Aiken, 163 Fed. 254, James Spear Stove Co. v. Kelsey Heating Co., 158 Fed. 622; Fort Pitt Supply Co. v. Ireland & Matthews Mfg. Co., 232 Fed. 871.

[82] Loom Co. v. Higgins, 105 U. S. 580.

[83] 20 Wall. 353.

tion, and there allowing each to work out its own effect without the production of something novel, is not invention. No one by bringing together several old devices without producing a new and useful result the joint product of the elements of the combination and something more than an aggregate of old results, can acquire a right to prevent others from using the same devices, either singly or in other combinations, or, even if a new and useful result is obtained, can prevent others from using some of the devices, omitting others, in combination."

The real difficulty is in determining just when the juxtaposition of parts does produce a cooperative result such that the presence of invention is not *prima facie* absent. If the parts actively co-operate so that there is mutual or reciprocal action and interaction of some kind, the device is then *ipso facto* a combination instead of aggregation and has possibilities of patentability.[84]

But while this is the thought frequently expressed, it is a

[84] Pickering v. McCullough, 104 U. S. 310, 318. "In Nimmo's apparatus, it is perfectly clear that all the elements of the combination are old, and that each operates only in the old way. Beyond the separate and well-known results produced by them severally, no one of them contributes to the combined result any new feature; no one of them adds to the combination anything more than its separate independent effect; no one of them gives any additional efficiency to the others, or changes in any way the mode or result of its action. In a patentable combination of old elements, all the constituents must so enter into it as that each qualifies every other; to draw an illustration from another branch of the law, they must be joint tenants of the domain of the invention, seized each of every part *per my et per tout*, and not mere tenants in common, with separate interests and estates. It must form either a new machine of a distinct character and function, or produce a result due to the joint and co-operating action of all the elements, and which is not the mere adding together of separate contributions. Otherwise it is only a mechanical juxtaposition, and not a vital union. In the case of this apparatus the mould was known, and a rib or former was known, and their use in combination was known. Salvetat described a rib, so arranged that, after it had performed its function in shaping the interior of the vessel, it could be withdrawn, through the top of the vessel, so as not to produce injury by striking against its side. This rib Nimmo substituted for the old one in the same combination. And this is the whole of the invention. Upon the principle stated, there is no invention in it."

fact that mere static juxtaposition has been held so to co-operate in producing a new result as to be indicative of invention, and therefore patentable. In Hailes v. Van Wormer, just quoted from, the court assumed the validity of a patent covering the simple juxtaposition in a stove of a fire-pot, coal magazine, revertible flues, etc., all of which by themselves were old, but had never been so grouped together. In the case of The Barbed Wire Patent[85] the court sustained the patent, which was directly attacked, despite the fact that the device was nothing more than the collocation—aggregation, in its non-technical sense—of fence wires twisted together and a short transverse wire coiled at its central portion about one of the twisted strands, so that its ends would project therefrom to form the well known barb. The court called it a combination, without discussing its differentiation from unpatentable aggregation.[86]

Combination. The word "combination" ordinarily means any grouping of parts, as for instance, the combining of parts of a stove into one whole or the placing together of wheels, shafts, etc., in combination to form a single machine. It is so used generally in the patent law, and in this sense we have just discussed it. But it has also a technical use in patent law. In this technical sense "combination" is used of a collection or arrangement of parts which do not themselves entirely submerge their identity in the new device. In a machine, for instance, the identity of the individual wheels and other parts is entirely lost; they go to make up the machine which is itself looked upon as the only entity. The well known Seldon patent,[87] however, is an illustration of a "combination" in the technical usage. It covered the collection in an automobile, of engine, driving mechanism, and carriage. While these parts all went to make up the whole, yet their individual identity was not lost as in the case of the parts of a single machine.[88] Out

[85] 143 U. S. 275.

[86] Juxtaposition of old elements in a rubber tire held invention, Diamond Rubber Tire Co. v. Consolidated R. T. Co., 220 U. S. 428; Rubber Tire Co. v. Goodyear Co., 232 U. S. 413.

[87] Col. Motor Car Co. v. Duerr, 184 Fed. 893.

[88] Gould v. Rees, 15 Wall. 187. Barrett v. Hall, 1 Mason 447, 474.

of this use of combination grow such rules as that "the substitution of equivalents is not such invention as will sustain a patent,"[89] and others having to do especially with changes in a combination.[90] The fact that the combination consists of old and well known elements does not necessarily deprive it of patentability.[91]

Mere change of form. Another holding, frequently expressed as a rule, is that mere change of form does not constitute invention. The difficulty with this as a "rule" is that it is even more indefinite than the generalities just discussed. It leaves still open the question, what is *mere* change of form. Practically all invention involves change of form in some way, if only the change, for instance, from bulk steel to that of a finished tool. Even if the rule be confined to change of physical appearance without change of use or purpose there is conflict. In harmony with the "rule" are such cases as Glue Co. v. Upton.[92] Here the invention alleged was that "of glue comminuted to small particles of practically uniform size, as distinguished from the glue in angular flakes hitherto known." It was claimed for this form of glue, which was called "instantaneous and comminuted glue," that less preparation for use was required, that it could be more readily put up in packages as there were no large sharp edged flakes to cut the container, and that it had a more pleasing appearance. "It thus appears," said the court, "that the invention claimed is not any new combination of ingredients, creating a different product, or any new mechanical means by which a desirable change in the form of a common article of commerce is obtained; but it consists only of the ordinary flake glue reduced to small particles by mechanical division. The advantages from such division consist in its more ready and rapid solution, its greater con-

[89] Smith v. Nichols, 21 Wall. 112.

[90] Burt v. Evory, 133 U. S. 349, McClain v. Ortmeyer, 141 U. S. 419. Moody v. Fiske, 2 Mason 112.

[91] Loom Co. v. Higgins, 105 U. S. 580, Expanded Metal Co. v. Bradford, 214 U. S 366; Rubber Tire Co v. Goodyear Co., 232 U. S. 413; Seim v. Hurd, 232 U. S. 420. Hay v. Heath Cycle Co., 71 Fed. 411, Steiner v. Voegtly Hardware Co., 178 Fed. 831.

[92] 97 U. S. 3.

venience for packing and retailing, and its whiter appearance and enhanced salableness. The whole claim is to an old article of commerce in a state of mechanical division greater than previously used, but unchanged in composition and properties; and the benefits arising from the increased division are such as appertain to every soluble substance when divided into minute particles. A distinction must be observed between a new article of commerce and a new article which, as such, is patentable. Any change in form from a previous condition may render the article new in commerce; as powdered sugar is a different article in commerce from loaf sugar, and ground coffee is a different article in commerce from coffee in the berry. But to render the article new in the sense of the patent law, it must be more or less efficacious, or possess new properties by a combination with other ingredients; not from a mere change of form produced by a mechanical division."[93]

The inexactness of stating the result of such holdings as a *rule* is, however, shown by the case of Winans v. Denmead.[94] This concerned the validity of a patent for a body for railroad freight cars. The bodies in use before the patent had been rectangular. Transportation of such freight as coal and ore in these cars caused a great lateral pressure upon the body of the car and a consequent tendency to distortion. To overcome this, so much bracing and stiffening was necessary that the cars were capable of transporting a load of not more than their own weight. The patentee had conceived the idea of building the body in the form of a frustrum of a cone, inverted. This so far did away with the tendency to distortion

[93] King v. Gallum, 109 U. S. 99. Validity was denied to a patent for the idea of putting plastering hair into smaller bales than had been heretofore known. The court did not refer to "change of form" at all. The Patent Act of Feb. 21, 1793, §2, provided specifically, "It is hereby enacted and declared, that simply changing the form or propositions of any machine, or composition of matter in any degree, shall not be deemed a discovery." Belding Mfg. Co. v. Corn Planter Co., 152 U. S. 100, Lowell v. Lewis, 1 Mason 182, 189; "I say substantially the same invention, because a mere change of form or proportions of any machine cannot, *per se*, be deemed a new invention."

[94] 15 How. 330.

as to permit elimination of a great deal of lateral bracing. The cars could, in consequence, carry a load of considerably more than their own weight, and they had other advantages over the old rectangular ones. In its decision the court recognized that "under our law a patent can not be granted merely for a change of form." But it held that the production of the patentee involved more than a change of form and was, in fact, an invention. The reasoning by which the decision is reached is, at least, not quite logically clear, on account of the assumed necessity for holding that the change from a rectangular container to a conical one was not merely a change of form. The truth is, it *was* merely a change of form, but it required, according to the decision, the mental act of invention to conceive of that change.

Application of old device to new purpose. It often occurs that patentability is claimed for an invention, even when the substantial embodiment of the means conceived does not differ at all, in form, from other known embodiments of means. The quality of invention is alleged to lie in the conception of using such known substantial means for a new purpose; to accomplish some result not before reached by that means.

Just when this application of an old and known device to the accomplishment of an end for which it has not before been used amounts to invention, is a question which has greatly troubled the courts. They are reasonably agreed that if the new use is "analogous" to the old one, no invention is involved, but that there may be invention in the application of an old device to a new and "non-analogous" end. The issue therefore, when the use only is changed and not the device, is whether the purpose or use is so like the known use that no inventive genius was required for its conception. One of the clearest cases of "analogous" use is that considered in Pennsylvania Ry. Co. v. Locomotive, etc. Co.[95] Here the patentee claimed to have invented the use of a certain swivel truck, which allowed a slight amount of lateral motion, under railroad engines. Exactly the same form of truck, which was well

[95] 110 U. S. 490.

known, had already been used under railroad cars, for the same purpose, but it had never been placed under an engine until the patentee conceived the idea. The patent was held invalid on the ground that its subject matter had required no invention. The court said, "It is settled by many decisions of this court, which it is unnecessary to quote from or refer to in detail, that the application of an old process or machine to a similar or analogous subject, with no change in the manner of application, and no result substantially distinct in its nature, will not sustain a patent, even if the new form of result has not before been contemplated."

In Grant v. Walter[96] the patentee had discovered that silk wound in a peculiar form of skein could be dyed in the skein. Theretofore it had been dyed while in much smaller skeins and then re-wound. The patentee's discovery effectuated considerable saving in time and effort. What he claimed was his particular form of skein when made up of silk ready for dyeing. Practically the same form of skein was already used for silk from which the gum was to be boiled off, and which was not, therefore, ready for the dye. The court was in much doubt as to just for what the patent purported to be but finally decided apparently that it was for the skein. It therefore held that, "The most that can be said of this Grant patent is that it is a discovery of a new use for an old device which does not involve patentability. However useful the nature of the new use to which the skein is sought to be confined by the disclaimer, compared with the former uses to which the old skein was applied at the date of the improvement, it forms only an analogous or double use, or one so cognate and similar to the uses and purposes of the former cross-reeled and laced skein as not to involve anything more than mechanical skill, and does not constitute invention, as is well settled by authorities already referred to."[97]

[96] 148 U. S. 547.

[97] Jones v. Cyphers, 126 Fed. 753. Bowman v. DeGrauw, 60 Fed. 907, Brown v. Crane Co., 133 Fed 235. Mellon v. Wm. C. Gregg & Co., 137 Fed. 68, 77, "It is only when the new use is so recondite and remote from that to which the old device has been applied, or for which it was con-

On the other hand, in Bary v. Harpoon Castor Mfg. Co.,[98] a device consisting of a spherically convex piece of metal, having sharp projections vertical to its plane, on the concave side, and intended to be fastened to the ends of table legs, etc., by driving the projections into the wood, the whole being to supply the place of a "castor," was held patentable despite the fact that an almost precisely similar article had previously been used for ornamentation of Mexican saddles. The court said, "In order to test the question let us assume that the exact structure shown in the patent to Alleyn was taken from the shield of a Scottish Highlander or the war bonnet of a North American Indian 300 years ago, and was on exhibition in some museum here. Would it not involve invention to put it to use as a substitute for the elaborate, clumsy and expensive castors now in use? We think it would."[99]

These cases represent extremes on either side of the line. Between them is the debatable ground. Whether the new use is analogous, mere unpatentable "double use," or is a new and novel one involving invention can not be determined by any rule of thumb. All that is possible is, "as a result of the authorities upon this subject, it may be said that, if the new use be so nearly analogous to the former one, that the applicability of the device to its new use would occur to a person of ordinary mechanical skill, it is only a case of double use, but if the relations between them be remote, and especially if the use of the old device produce a new result, it *may* at least involve an exercise of the inventive faculty. Much, however, must still depend upon the nature of the changes required to adapt the device to its new use."

Mechanical skill. All of these decisions and "rules," and many others, may be summed up in the proposition that *no*

ceived, that its application to the new use would not occur to the mind of the ordinary mechanic, skilled in the art, seeking to devise means to perform the desired function, with the old machine or combination present before him, that its conception rises to the dignity of invention."

[98] 209 Fed. 207.

[99] Acc. DuBois v. Kirk, 158 U. S. 58; Here the presence of inventive genius was determined by the theretofore unsatisfied need. Western Elec. Co. v. La Rue, 139 U. S. 601.

change, from what already is known, amounts to invention, unless it is something more than any capable mechanic would have accomplished when faced by the need for it.[100] It is just the difficulty of determining whether a production has proceeded out of something more than mechanical skill which makes patent law so inexact as a science. "The task of distinguishing between invention and the power of adaptation possessed by a skillful mechanic is not always an easy one, nor have the courts apparently succeeded in formulating a proposition to cover all cases. While the statutes require that a patent, to be valid, must disclose invention and novelty, yet the degree or amount of invention required is not prescribed, and, from the nature of the case, can not be."[101] The various so called rules above referred to are merely the attempts of courts to formulate something by which the difficulty of this decision can be lessened. But it arises afresh in each case, and can be helped by precedents only to the most meagre extent.

In the great bulk of cases in which a patent has been held void for want of the quality of invention in the device set forth, the court has not even attempted to give reasons for its finding. It has simply said something to the effect that "In view of the prior art . . . it can not be claimed that the com-

[100] Hollister v. Benedict Mfg. Co., 113 U. S. 59, Smith v. Nichols, 21 Wall., 112, 118, Reckendorfer v. Faber, 92 U. S. 347, Blandy v. Griffith, Fed. Cas. No. 1529, 3 Fisher 609. Blake v. Stafford, 6 Blatch. 195, 205. Hollister v. Benedict Mfg. Co., supra, "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."

[101] Hillborn v. Hale, etc. Mfg. Co., 69 Fed. 958, 963.

bination in question exhibits such novelty as amounts to invention."[102]

The question of ability of a mechanic to make a device on first call is never involved when the device is not a mere development of existing forms, but is essentially unique. In such case, the idea of means is indubitably a creation of the mind and could not be a mere skillful change of something existing.

To understand fully the difference between mere mechanical skill and invention, and to reconcile many seemingly adverse holdings, one must remember the existence of the "idea" as well as the substantial "means" in invention. Many a device covered by a valid patent, could have been produced by any skillful mechanic who had been told what was wanted. Often, as is evident in the range of equivalents against which an invention is protected, other devices, totally unlike in substantial form would be quite as efficient means. The thing that is protected, that is really patented, and hence is really the invention, is the *idea* of accomplishing the result by the described means or its equivalent. It is only when this *idea of means* could have been thought of by a skillful mechanic that the concept is lacking in inventive genius, not when the substantially operating part, that is, the means itself, could have been devised by one informed of the idea.[103]

[102] Fougeres v. Jones, 66 Fed. 316.

[103] The foregoing discussion has been concerned chiefly with the fact that mere physical difference does not indicate invention, but the converse is equally true and mere physical similarity does not preclude it. This is apparent from the cases involving the new use of an old device. In Brown v. Puget Sound Reduction Co., 110 Fed. 383, the court said, "The Holthoff-Wethey furnace, according to the description of it in the specifications of the patent and the model exhibited to the court, is double decked, like the Brown furnace, and closely resembles it in other particulars, to such an extent that in a mere casual observer would probably create an impression that the chief difference between the two is in the superior construction of the Holthoff-Wethey furnace; but to reach a just determination of the rights of the parties a close examination of the two patents is necessary." They found such actual difference as to warrant a decision of non-infringement.

Neither does similarity of name preclude invention. Machine Co. v. Murphy, 97 U. S. 120, 125.

Various matters, wholly extraneous to the substance of the contrivance itself, have been declared, recurrently, to have influenced the court in its finding upon the question of invention. Theoretically perhaps, the character of an alleged invention should be predicated solely upon the peculiarities by which the idea is manifested. But inasmuch as the determination is not directed by any definite limits, and there can be no scientific exactness, it is inevitable that the opinion, on which the determination actually rests, should be more or less affected by other matters than simple contemplation of the concept itself. The most obvious and recurrent of these extraneous influences are here set out.

The length of time required in evolving the alleged invention, it may be said at once, does not indicate whether it is in fact invention or not. "Originality is the test of invention. If that is successfully exercised, its product is protected; and it is as 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."[104] The production of the housewife who in a flash of inspiration sees a simpler way of performing a daily task, and that of an Edison who definitely strives and experiments for the means of accomplishing a certain result, may be equally entitled to the protection of a patent.[105]

[104] Blake v. Stafford, 6 Blatch. 195, 205; Bowman v. DeGrauw, 60 Fed. 907. "Nor does it detract from its merit that it is the result of experiment and not the instant and perfect product of inventive power." Diamond Rubber Co. v. Consolidated Tire Co., 220 U. S. 438.

[105] O'Reilly v. Morse, 15 How. 62.

The invention was a "flash of genius." O'Rourke Engineering Co. v. M'Mullen, 160 Fed. 933, 937. The Goodyear patent for the composition of matter, which alone makes rubber usable for such purposes as tires, has been upheld many times and has been enormously capitalized. The invention was the result of mere accident, however. The inventor in an apparently hopeless search for a composition that would effectuate the purpose accidentally spilled some of a mixture on a hot stove, and the discovery was made.

The patent upheld in Minerals Separation Co. v. Hyde, 242 U. S. 261,

Long existing demand. The fact, however, that *others* have been searching for a long time for a means of accomplishing a certain result, does affect the question of whether invention is present in the final revelation of such a means. The fact that others engaged in the search were unable to evolve a means, very clearly indicates that its production was beyond the power of mere mechanical skill. This is illustrated in the case of Brunswick-Balke-Collender Co. v. Thum.[108] The patent here involved was for "a bowling alley runway, comprising a descending or downwardly sloped portion, beginning at the pit end of the alley, and returning towards the players' end, and an ascending or up-grade portion connected therewith, and located near the playing end of the alley, which merges into the ball receiving and retaining terminal of the runway, all in such manner, as hereinbefore described, that the balls put into the receiving end of the runway will roll downwardly toward the playing end of the alley, and then, ascending the up grade, or ascending portion of the runway, will pass thence onto the terminal or ball receptacle of the player's end of the returnway without much shock or concussion." The court said, "The improvement consists in an extremely simple, and, it would seem, perfectly obvious, application of common knowledge as to the law of gravitation. Were there nothing in the record but the bare statement of facts above set forth, we would be inclined to concur with the court below in the proposition that: 'Had any skilled mechanic been asked to perfect a structure that should gradually arrest the momentum of the returning ball, an ascent would obviously have been the structure needed.' But in this case, as in the Singer Case, the evidence shows conclusively, and, indeed, without contradiction,

followed from an unexpected discovery. The inventors were searching for the minimum amount of oil that could be used in a certain process for separating minerals from the undesirable quartz, or rocky material, when crushed. They observed that when this apparent minimum had been reached and the separation had ceased, a further reduction in the amount of oily substances caused separation to begin again. Investigation of this startling result disclosed the reason and the patent subsequently obtained for it was upheld.

[108] 111 Fed. 904.

that this very demand for an arrester of the returning ball was before skilled mechanics for many years, and yet no one before Reisky hit upon the device which now seems so obvious. The defects of the old system were serious. The time required for the return of the ball was not uniform, and in its entirety was slow. If started with a shove, it came more quickly, but, if merely placed in the trough, it made but slow time at the beginning; and the player, desirous often of using a particular ball already played became impatient. Whether started with a shove or not, its velocity steadily increased, and it was running at its highest speed when it came home against the post or other ball at rest at the player's end. Moreover, this speed was generally so high that the surfaces of the balls were broken or chipped, particularly at the vicinity of the finger holes, and thus soon became unfit for use. This damage put the alley keeper to considerable expense in keeping the balls in fair condition, or in getting new balls, and also resulted in great dissatisfaction among the players at the damaged condition of the balls. There was also constant danger of an incautious player having his hand among the homed balls when the returning ball smashed in. The evidence shows that this condition of affairs had lasted for a long time; the old style of runway persisted for 40 years, during this period there was a constant demand for an improvement which would remedy the difficulty, and to that demand the skilled mechanic who put up bowling alleys responded. Various devices were contrived, —all of them, save one, independent of the trough itself. Suspended shot bags of various shapes, some with appendages in the shape of patches or belts, weighted sections of hose pipe, pieces of stiff leather attached shutter-wise across the trough, pivoted levers having a piston entering a dashpot, are among the devices independent of the trough. It was also sought to retard the ball by successive transverse pieces of rope at the sides or bottom of the trough. So many of these devices are shown that it is apparent that the skilled mechanics were for years trying to find some way to properly retard the ball, and the proof conclusively shows that all of them were unsatis-

factory. Not one of them secured retardation by a change of grade of the trough itself, until the patentee disclosed his simple method, which has so commended itself, that now, within three years after the issuance of the patent, 90 per-cent of the existing bowling alleys have the new style, or Reisky, returnways. In the face of this evidence, we cannot hold that his improvement is devoid of patentable invention."

Precisely this same doctrine has been declared by the Supreme Court in the case of Krementz v. Cottle Co.[100] It had been claimed that the patent, which was for an improved collar button, formed out of a single piece of sheet metal, was anticipated by other devices to the extent that, as the lower court said, "any competent mechanic, versed in the manufacture of hollow sheet-metal articles, having before him the patents of Stokes and Keats, could have made these improvements and modifications, without exercising invention, and by applying the ordinary skill of the calling." But the upper court responded that, "The view of the court below, that Krementz's step in the art was one obvious to any skilled mechanic, is negatived by the conduct of Cottle, the president of the defendant company. He was himself a patentee under letters granted April 16, 1878, for an improvement in the construction of collar and sleeve buttons, and put in evidence in this case. In his specifications he speaks of the disadvantages of what he calls 'the common practice to make the head, back and post of collar and sleeve buttons separate, and to unite them by solder.' His improvement was to form a button of two pieces; the post and base forming one piece, and then soldering to the post the head of the button as the other piece. Yet, skilled as he was, and with his attention specially turned to the subject, he failed to see, what Krementz afterwards saw, that a button might be made of one continuous sheet of metal, wholly dispensing with solder, of an improved shape, of increased strength, and requiring less

[100] 148 U. S. 556.

material."[111] The court therefore held the device to be the product of invention rather than mere mechanical skill.

Immediate acceptance by public. Another circumstance closely akin to the fact that a device has been long sought for, is the fact that when the alleged invention was offered to the public it was immediately accepted and welcomed. The theory on which this influence is based is that immediate acceptance indicates an existing demand on the part of the public, which was unsatisfied until the advent of the device in question. If the device might have been produced by mere mechanical skill, the public need would, in the foregoing theory, have called it forth at once instead of remaining unsatisfied. This has shown marked and admitted influence upon the courts in inducing them to find the presence of invention in the device. So closely allied is it to the circumstance of long search that reference to both is usually found conjoined, and indeed, confused.[112] In the Krementz case just quoted from, the court in reasoning to its conclusion of patentability, further said, "It was also made to appear that the advantages of the new button were at once recognized by the trade and by the public, and that very large quantities have been sold.

"The argument drawn from the commercial success of a

[111] Davis v. Parkman 71 Fed. 961. A claim of invention in turning the foot-rest of a row-boat upward at an angle of 45° was upheld on the ground that "various rude and unsatisfactory expedients had been used by many persons for the purpose of accomplishing what Davis accomplished by the simple expedient of turning up the foot-board, that this occurred to none of them, and that after it had been suggested by him it came into general use." American Gramophone Co. v. Universal, 151 Fed. 595. McFarland v. Spencer, 23 Fed. 150. O'Rourke Engineering Co. v. M'Mullen, 160 Fed. 933, "Where the court has to deal with a device which has achieved undisputed success and accomplished a result never attained before, which is new, useful and in large demand it is generally safe to conclude that the man who made it is an inventor." In one case, at least, the fact of a long existing desire for a device was held to be evidence of stupidity on the part of the public concerned, rather than of genius on the part of him who answered the call. Butler v. Steckel, 27 Fed. 219.

[112] Consol. Car Heating Co. v. American, etc. Corp. 82 Fed. 993.

patented article is not always to be relied on. Other causes, such as the enterprise of the vendors, and the resort to lavish expenditures in advertising, may cooperate to promote a large marketable demand. Yet, as was well said by Mr. Justice Brown, in the case of Consolidated Brake-Shoe Co. v. Detroit Co., 47 Fed. Rep. 894, 'When the other facts in the case leave the question of invention in doubt, the fact that the device has gone into general use and has displaced other devices which had previously been employed for analogous uses, is sufficient to turn the scale in favor of the existence of invention.'

"Loom Co. v. Higgins, 105 U. S. 580, 591, was a case where the patented device consisted in a slight modification of existing mechanism, and it was contended that this slight change did not constitute a patentable invention; but this view did not prevail, the court saying: 'It is further argued, however, that supposing the devices to be sufficiently described, they do not show any invention; and that the combination set forth in the fifth claim is a mere aggregation of old devices already well known; and therefore it is not patentable. This argument would be sound if the combination claimed by Webster was an obvious one for attaining the advantages proposed,—one which would occur to any mechanic skilled in the art. But it is plain from the evidence, and from the very fact that it was not sooner adopted and used, that it did not for years occur in this light to even the most skilful persons. It may have been under their very eyes; they may almost be said to have stumbled over it; but they certainly failed to see it, to estimate its value, and to bring it into notice. Who was the first to see it, to understand its value, to give it shape and form, to bring it into notice and urge its adoption, is a question to which we shall shortly give our attention. At this point we are constrained to say that we cannot yield our assent to the argument, that the combination of the different parts or elements for attaining the object in view was so obvious as to merit no title to invention. Now that it has succeeded, it may seem very plain to any one that he could have done it as well. This is often the case with

inventions of the greatest merit. It may be laid down as a general rule, though perhaps not an invariable one, that if a new combination and arrangement of known elements produce a new and beneficial result never attained before, it is evidence of invention. It was certainly a new and useful result to make a loom produce fifty yards a day when it never before had produced more than forty; and we think that the combination of elements by which this was effected, even if those elements were separately known before, was invention sufficient to form the basis of a patent.' "[113]

But the utility of a device can not be relied on absolutely as indicative of invention. It may not at all indicate a need that was unsatisfied. The demand may have arisen out of recent changes in conditions, and have been at once supplied. An illustration of this is seen in the case of Falk Mfg. Co.

[113] Hollister v. Benedict Mfg. Co., 113 U. S. 59, 72. "Such an increased utility, beyond what had been attained by devices previously in use, in cases of doubt, is usually regarded as determining the question of invention." Barbed Wire Patent, 143 U. S. 275, "There are many instances in the reported decisions of this court where a monopoly has been sustained in favor of the last of a series of inventors all of whom were groping to attain a certain result, which only the last one of the number seemed able to grasp." Expanded Metal Co. v. Bradford, 214 U. S. 366, 381; Adams v. Howard, 19 Fed. 317, 318, "The defense that the patent is anticipated by the lantern described in the prior application for a patent by Anthony M. Duburn is not tenable, because there is no evidence, except his application for a patent, that he ever invented such a lantern. It was conceded by his solicitors upon the application that the model accompanying his application would not answer for use as a lantern, although it was sufficient to illustrate the construction of the device; and the examiner in charge condemned the model as inoperative. As there is no evidence in the case to show that such a lantern as was described in the application and illustrated by the model was ever actually constructed by Duburn, sufficient does not appear to defeat the novelty of Irwin's invention." American Caramel Co. v. Thos. Mills & Bro., 149 Fed. 743; Carnegie Steel Co. v. Cambria Iron Company, 185 U. S. 403, 429; Magowan v. New York Belting Co., 141 U. S. 332; Diamond Rubber Co. v. Consolidated Tire Co., 220 U. S. 428, "It (the law) regards a change as evidence of novelty, the acceptance and utility of a change as a further evidence, even as demonstration." "Litigation shows and measures the existence of the public demand for its use."

v. Missouri R. R. Co.[114] The device here involved was for welding steel rail-joints, and it varied but little from other well-known devices. It was argued that the patent was valid, despite this resemblance, because the extent to which the device was used, especially for welding electric streetcar rails, proved its character as an invention. The court held however, that the utility was due to the fact that electric street car rails had come into general use only recently, and was not due to the fact that the device filled a long-felt want.[115]

A warning against the overvaluation of utility as an indication of invention, has been issued by the Supreme Court, which says,[116] "Counsel for the plaintiff in the case under consideration has argued most earnestly that the only practical test of invention is the effect of the device upon the useful arts—in other words, that utility is the sole test of invention, and, inferentially at least, that the utility of a device is conclusively proven by the extent to which it has gone into general use. He cited in this connection certain English cases which go far to support his contention. These cases, however, must not be construed in such way as to control the language of our statute, which limits the benefits of patent laws to things which are new as well as useful. By the common law of England, an importer—the person who introduced into the kingdom from any foreign country any useful manufacture—was as much entitled to a monopoly as if he

[114] 103 Fed. 295.

[115] The court said, of the general topic, "The utility of a machine, article of manufacture, process, or an improvement thereof, is only allowed to turn the scale in favor of its patentability in those instances where the question whether the inventive faculty has been exercised is balanced with doubt and uncertainty. In such cases the conceded utility of a patented machine or process, or an improvement thereof, may well be allowed to sustain the patent; but conceded utility can not be permitted to have that effect in a case like the one in hand, where the process which is described and claimed as new is clearly old." Duer v. Corbin Lock Co., 149 U. S. 216, "The mere fact that a patented article is popular and meets with large and increasing sales is unimportant when the alleged invention is clearly without patentable novelty."

[116] McClain v. Ortmayer, 141 U. S. 419, 427.

had invented it. It is evident that these principles have no application to the patent system of the United States, whose beneficence is strictly limited to the invention of what is new and useful, and that the English cases construing even their more recent acts, must be received with some qualification. That the extent to which a patented device has gone into use is an unsafe criterion even of its actual utility, is evident from the fact that the general introduction of manufactured articles is as often effected by extensive and judicious advertising, activity in putting the goods upon the market and large commissions to dealers, as by the intrinsic merit of the articles themselves. The popularity of a proprietary medicine, for instance, would be an unsafe criterion of its real value, since it is a notorious fact that the extent to which such preparations are sold is very largely dependent upon the liberality with which they are advertised, and the attractive manner in which they are put up and exposed to the eye of the purchaser. If the generality of sales were made the test of patentability, it would result that a person by securing a patent upon some trifling variation from previously known methods might, by energy in pushing sales or by superiority in finishing or decorating his goods, drive competitors out of the market and secure a practical monopoly, without in fact having made the slightest contribution of value to the useful arts. The very case under consideration is not barren of testimony that the great success of the McClain pads and clasping hooks, a large demand for which seems to have arisen and increased year by year, is due, partly at least, to the fact that he was the only one who made the manufacture of sweat pads a specialty, that he made them of a superior quality, advertised them in the most extensive and attractive manner, and adopted means of pushing them upon the market, and thereby largely increased the extent of their sales. Indeed it is impossible from this testimony to say how far the large sales of these pads is due to their superiority to others, or to the energy with which they were forced upon the market. While this court has held in a number of cases, even so late as Magowan v. The New York Belting and Packing Co., *ante*, 332, decided at the present term,

that in a doubtful case the fact that a patented article had gone into general use is evidence of its utility, it is not conclusive even of that—much less of its patentable novelty."

The weight of such a factor is therefore absolutely indeterminate. Indeed, it is not altogether possible to delimit the extent to which utility and public appreciation of a device actually influence the courts to declare the device an invention, from a mere judicial use of such matters to bolster up an independent conclusion of patentability. A recent case well indicates the difference in effect of such a factor.[117] The Circuit Court of Appeals[118] held the device to be lacking in inventive novelty and reversed the decision of the District Court, which had sustained the patent. This court in deciding invention to be lacking, said, "The decision of the court below appears to have been largely influenced by the consideration that the appellees' patent had gone into extensive and successful use. The fact that a patented device or process has gone into extensive and successful use is often of value in determining the question of invention and patentability. It is referred to for the purpose of turning the scales in cases of grave doubt. It is of no value whatever where the question of the invention or patentability is free from doubt, and in any case its value depends largely upon the causes which produced it. It is often due to business ability in manufacturing, exploiting, and advertising, and to the fact that prior conditions have not stimulated development. The appellees' process, originally patented in Great Britain, has been installed in Australia, Sweden, Finland, Chile, and Wales, and it is in the process of installation in Cuba. It is not improbable that in those countries the prior art may have been substantially unknown, and it is possible that the appellees' success there is referable to the fact alleged in the bill." The Supreme Court in turn reversed the Circuit Court of appeals, and as one reason for so doing said, the process "promptly came into extensive use for the concentration of ores in most if not all of the principal mining countries of the world, notably in the United States, Australia, Sweden,

[117] Hyde v. Minerals Separation Co., 242 U. S. 261.
[118] 214 F. 100.

Chile and Cuba and . . . because of its economy and simplicity it has largely replaced all earlier processes. This of itself is persuasive evidence of that invention which it is the purpose of the patent laws to reward and protect."[119] Thus we find the same fact disregarded by one court and given considerable influence by another, because the *reason why* the device had been so generally adopted was not made clear by counsel but was left to the court's own guess.

The opinion of experts is supposed to have considerable weight in the court's conclusion. Their testimony may be heard by the court and usually is heard as a matter of course. The expert's true function is to explain and interpret technical matters, and generally to elucidate the principles of the patented contrivance, and their difference from or resemblance to those of other contrivances. But the expert may also be asked his opinion upon the ultimate issue as to whether the particular device differs from others in such a way as to have resulted from inventive genius.[119a]

[119] Doig v. Morgan Mach. Co., 59 C. C. A. 616; Grant v. Walter, 148 U. S. 547; Keystone Mfg. Co. v. Adams, 151 U. S. 139, "The argument drawn from the commercial success of a patented article is not always to be relied upon. Other causes such as the enterprise of the vendors and the resort to large expenditures in advertising, may cooperate to promote a large marketable demand." Apple v. Am. Shoe Mach. Co. 232 Fed. 603.

[119a] If it be true that the presence or absence of "invention" is a question of "law" for the court, rather than of fact for the jury, a mere witness ought not to be permitted to give his opinion in regard to it. It is a conclusion for the judicial mind alone, based on all the evidentiary facts of the case. Even if the question of invention be treated as one of fact rather than of law, it is nevertheless the ultimate issue in the case. An answer to it is not a basis for the decision; it is the decision itself. To ask a witness his opinion as to the presence or absence of invention in the concept in question, would be to ask him his opinion as to how the court should decide the case, or what verdict the jury should bring in. There is some conflict of authority, in cases relating to other branches of law, as to whether such a question, whose answer "usurps the function of the jury" is permissible. On the whole, it seems to be proper. *Chamberlayne*, Evidence sec. 1820; *Wigmore on Evidence*, sec. 1921.

The point seems never to have been passed upon precisely in relation to inventions, but it is clear that courts do in fact admit the opinions of

The personality and mental equipment of the particular judge by whom the issue is decided undoubtedly has influence upon the answer. A judge who can not drive a nail, to whom a mechanical toy is an inexplicable mystery, and chemistry incomprehensible, will naturally tend to find invention in that which a more technically trained judge would recognize as mere mechanical skill. The reports show that certain judges

experts in regard to the presence or absence of invention. *Ideal Stopper Co.* v. *Crown Cork, etc. Co.* 131 Fed. 244.

The opinion of experts in regard to the facts from which the ultimate conclusion of invention or non-invention is to be derived may of course be given. Thus, witnesses may point out and explain the features and characteristics of the device which is described in the patent, and may state the extent to which any or all of these were already known before the alleged invention. They may also point out to the court or jury the essential as well as formal similarity and difference between an alleged invention and the already known art, or between two particular devices. "Experts may be examined to explain terms of art, and the state of the art, at any given time. They may explain to the court and jury the machines, models, or drawings, exhibited. They may point out the difference or identity of the mechanical devices involved in their construction. The maxim of *'cuique in sua arte credum'* permits them to be examined to questions of art or science peculiar to their trade or profession; but professors or mechanics can not be received to prove to the court or jury what is the proper or legal construction of any instrument of writing." *Winans v. New York & E. R. Co.* 21 How. 88, 100. *Commercial Mfg. Co.* v. *Fairbank Co.,* 135 U. S. 176, 187. In *National Cash Reg. Co.* v. *Leland,* 94 Fed. 502, objection was raised because an expert was asked to say whether a certain part of one machine was an "equivalent" of a part of another machine. The court held the question proper, saying, "The mechanism . . . was complicated, and an ordinary man unskilled in mechanics, might well have failed to understand it completely. It was proper, therefore, that a witness skilled in mechanics and understanding the term 'mechanical equivalent,' should be allowed to express to the jury his opinion of the relation of one machine to the other, subject to further direct examination and to cross examination, in order to bring out more clearly the grounds of his opinion." But compare *Osgood Dredge Co.* v. *Metropolitan etc. Co.,* 75 Fed. 670; *Jackson* v. *Allen,* 120 Mass. 64.

So, also, experts may be asked whether or not the patent does reveal anything definite and, if so, just what it is. As stated in the text a patent which does not describe some real, comprehensible concept is a nullity, but the description need not be such as is clear to an untrained person. If it

have more often decided in favor of the presence of invention than against it, while others have the more often decided adversely to invention. One judge by whom many decisions have been rendered is well known among his friends to be lacking in any mechanical ability, and to hit the nail on the thumb more often than on the head. To one who has read many of

conveys a clear idea to persons skilled in the particular subject matter, that is sufficient. It follows therefore that experts may be asked whether the description is clear to them, and to translate it, as it were. See *Loom* Co. v. Higgins, 105 U. S. 580.

It is not only permissible for experts to give their opinion on these matters, but it is expressly desired by courts in abstruse and technical matters. Thus the court in *Dececo Co.* v. *George E. Gilchrist Co.*, 125 Fed. 293, 296, said, "There may be, and there probably is, an underlying suggestion applicable to both Mann and the present inventors which is fundamental, and which was first put to use in this art by the former. We are lacking, in this case, any explanation of the operation of either device by any scientific person, capable of applying and making clear the laws of pneumatics and hydraulics, each of which sciences are here involved in an occult manner. . . . In the absence of the scientific explanation which we say is not in the record, we are unable to find this proposition proved. "Expert testimony should be introduced when difficult technical questions are involved. *Fay* v. *Mason*, 127 Fed. 325; *Greene* v. *Buckley*, 135 Fed. 520.

But courts are, of course, not in any way bound by the testimony and opinions of experts. "The admission of an expert witness is, of course, entitled to weight in the interpretation of technical terms employed in a patent. But the court is not necessarily concluded by such interpretation when other satisfactory evidence is available." *Panzl v. Battle, etc. Co.*, 138 Fed. 48. "Opinions of experts generally, though given under oath, are but arguments in behalf of the side calling them." *Ideal Stopper Co.* v. *Crown Cork, etc. Co.*, 131 Fed. 244, 249; *Winans* v. *New York & E. R. R. Co.*, 21 How. 88. Indeed there is occasional judicial suggestion of a feeling of general unreliability in expert testimony. "Unhappily we cannot accept without reservation the opinions of the experts who have been examined as witnesses, for they are necessarily partizans of the side calling them, and essentially advocates, and their opinions are contradictory, and tend to perplex, instead of elucidating, although they appear to be gentlemen of great ability and deserved eminence." *Ideal Stopper Co.* v. *Crown Cork, etc. Co.*, 131 Fed. 244.

One can find in the opinions suggestions of possible value to witnesses. For instance, "If the expert who is called to testify in such cases would only appreciate that he is not addressing electrical engineers, but laymen,

his decisions it is apparent that he tends to find invention in anything mechanically ingenious, and to be loath to see infringement where there is great material change. On the other hand, another judge whose opinions indicate a highly technical education, is obviously conservative about dignifying a production with the name of invention and very ready in holding an invention to have been infringed. It is, of course, perfectly reasonable that what might seem to an untrained mind impossible of conception by any one but an inspired genius,

and if, when undertaking to describe what some particular patent showed to a man skilled in the art, he would take the specifications and drawings of the patent as his text, instead of some conventional paraphrase of his own devising with its lettering entirely changed, he would materially lighten the labor of the court." *Western Elec. Co.* v. *Rochester Tel. Co.*, 145 Fed. 41. Again there is pertinent suggestion, in *Béné* v. *Jeantet*, 129 U. S. 683, in the fact that although one witness testified as a matter of theory that a certain alleged anticipation could not work, the court decided against his proposition because an opposing witness testified that he had made a device according to the description of the alleged anticipation which did actually work.

One frequent fault of expert testimony is its prolixity and volume. In *Columbia Motor Car Co.* v. *Duerr*, 184 Fed. 893, where the only question involved was whether the modern Otto type of compression gas engine was essentially identical with the old Brayton type, the record of the case filled 36 large volumes. In *Am. Stove Co.* v. *Cleveland Foundry Co.*, 158 Fed. 978, the court, in commenting upon another long record of expert testimony, said, "As a contest between gentlemen learned in the science of the subject, it might be interesting if one had leisure, though it seems sometimes to run into very attenuated points. This prolixity seems not so much the fault of the witnesses as a mistake of the counsel. It is not the province of witnesses to advocate the cause of the party who calls him, nor to pass upon the questions of law and facts presented by the controversy. Frequently, an expert witness may be of much aid to the court in explaining matters which can only be appreciated and understood by learning higher than the ordinary; but his province is to instruct and not to decide; and even the instruction is of uncertain value when it is colored from standing in the place of a partisan for one of the parties."

The last sentences of this opinion are quite worth noting: "Usually the testimony of one competent witness on each side is enough to insure a full and fair elucidation of what is recondite in the case. The voice of a single teacher is worth more than a confusion of many tongues. And the expense is worse than useless."

would be to a mind skilled in the art, nothing but the mechanical answer to recent call. The reality of the influence of the human factor upon the result is indubitably demonstrated by the very many flatly conflicting decisions upon the same state of facts in different circuits. A number of illustrations of such divergence of personal conclusion are noted in a later section. This influence of the unusual upon the result is suggested by the words of Mr. Justice McKenna, in giving very favorable interpretation to a recent patent. The device covered by it was a gas check for large breech-loading guns. It had to withstand enormous pressure and great heat, yet it was made of tallow and asbestos. "If our purpose was speculative," said he, "not practical, we might pause to wonder how such substances could produce such results under the conditions to which they are subjected, and by wondering we express in a way the quality of the invention."[120] This intrusion of diverse personalities into the decisions in patent cases can not help but make for even greater uncertainty of rights than is inherent in other subjects depending upon opinion. It furnishes at least one argument in favor of a special court for the adjudication of controversies arising under the patent laws.

The opinion of other courts of concurrent or lower jurisdiction, even upon the same facts, is not of any compulsory effect upon the court which is trying a case. The statutes contain nothing upon the matter and the courts themselves have never recognized any obligation to follow the decisions of their co-adjudicators.[121] Neither are the decisions of other courts of

[120] U. S. v. Anciens Etablissements, 224 U. S. 309, 323. As indicative of the effect of personality on the result, compare the different decisions of an United States court and an English one upon the same facts, in Haskell Golf Ball Co. v. Perfect, etc. Co., 143 Fed. 128 and 25 R. P. C. 194. The decision in the Selden Patent case, Columbia, etc. v. Duerr, 184 Fed. 893 is often said to have been affected by the court's disapproval of the patentee's unconscionably long delay in procuring his patent.

For discussions of the proposal to establish a special court to try patent cases, see The Report of the Committee on Pat. Law, Am. Bar Assn., 1910, 43 Chi. Legal News, 63; Editorials, 20 Green Bag 203, 22 Id. 408; H. K. Wagner, in 21 Case & Comment 265.

[121] Elec. Mfg. Co. v. Edison Elec. Lt. Co., 61 Fed. 834; Rubber Tire Wheel Co. v. Milwaukee Rubber Works Co., 154 Fed 358.

any appreciable practical influence upon the opinion of later judges. There is an occasional dictum to the effect that the decision of other courts, especially of the lower courts which are being reviewed, ought not to be overturned except upon strong evidence.[122] But even these remarks are seldom found, and there is a distressing frequency of patents which have been held valid in one or more jurisdictions and invalid in others, and the number of times a lower court is reversed upon its opinion of the validity or scope of a patent is astonishing.[123] The opinion of a superior court, however, has at least a little weight when another suit on the same patent comes before the lower court.[124]

[122] Elec. Mfg. Co. v. Edison Elec. Lt. Co., 61 Fed. 834; Nat'l Fold'g Box & Paper Co. v. Elsos, 65 Fed. 1001.

[123] As examples see, Am. Stove Co. v. Cleveland Foundry Co., 158 Fed. 978; Consolidated Rubber Tire Co. v. Firestone Tire & Rubber Co., 151 Fed. 237. The patent involved in this case was held valid in four circuits, (91 Fed. 978; 116 Fed. 629; 147 Fed. 739; and one unreported). Two of these decisions were reversed and the patent held invalid by the Circuit Court of Appeals, (Goodyear Tire & Rubber Co. v. Rubber Tire Wheel Co., 116 Fed. 363; Rubber Tire Wheel Co. v. Victor Rubber Tire C., 123 Fed. 85); and a writ of *certiorari* to review one of these decisions was refused by the Sup. Ct. (Rubber Tire Wheel Co. v. Goodyear Tire & Rubber Co., 187 U. S. 641). The circuit court of appeals in the principal case sustained the validity of the patent. Its validity was declared by the Supreme Court in Diamond Rubber Co. v. Consolidated Rubber Tire Co., 220 U. S. 428, Approved, Rubber Tire Co. v. Goodyear Co., 232 U. S. 413; Mayor of N. Y. v. American Cable Ry. Co., 60 Fed. 1016; Fireball Gas Co. v. Commercial Acetylene Co., 239 U. S. 156; 168. Compare also the conflicting opinions as to who was the real inventor, in 229 Fed. 730 and 234 Fed. 343.

[124] Anderson Foundry & Mach. Co. v. Potts, 108 Fed. 379; Rawson v. Western Sand Blast Co., 118 Fed. 575; Rubber Tire Wheel Co. v. Victor Rubber Tire Co., 123 Fed. 85; Cramer v. Singer Mfg. Co., 147 Fed. 917.

When the issue concerns not the validity of a patent or its infringement but merely the propriety of a temporary injunction it would seem that final adjudications of other courts ought to have considerable influence. That they do so, is stated in Elec. Mfg. Co. v. Edison Elec. Lt. Co., 61 Fed. 834, 836, "It may be difficult to formulate a rule that will comprehend all the conditions which could be presented, but we think it safe to say that in general, where the validity of a patent has been sustained by prior adjudication upon final hearing, and after bona fide and strenuous con-

The weakness of influence of other adjudications is shown in the statement and proceedings of the Supreme Court in Rub-

test, the matter of its validity upon motion for preliminary injunction is no longer at issue, all defense, except that of infringement, being reserved to the final hearing; subject, however, to the single exception that, where a new defense is interposed, the evidence to support it must be so cogent and persuasive as to impress the court with the conviction that, if it had been presented and considered in the former case, it would probably have availed to a contrary conclusion. In the consideration of such new defense of anticipation, regard should be had to the rule that such a defense is an affirmative one; that the burden of proof is upon him who asserts it; and that the grant of letters patent is *prima facie* evidence that the patentee is the first inventor of the device described therein, and of its novelty. Coffin v. Ogden, 18 Wall. 120; Smith v. Vulcanite Co., 93 U. S. 486; Lehnbeuter v. Holthaus, 105 U. S. 94; Cantrell v. Wallick, 117 U. S. 689, 6 Sup. Ct., 970; Barbed-Wire Patent, 143 U. S. 275, 12 Sup. St. 443, 450. The propriety of this rule is enforced by the consideration that an adjudication in the case of a patent is not only a judgment inter partes, but is a judicial construction of a grant by the government, and in a broad sense deals with and determines the rights of the public. A patent is sui generis. By it the public, through its authorized representatives, grants a monopoly for a term of years in consideration of the surrender of the invention to public use upon expiration of the term. When, upon judicial contest, a competent court has sanctioned the grant, and determined the right thereunder, the monopoly hereby granted ought not to be permitted to be invaded except upon a clear showing that the decision invoked in its favor was wrong. It is true that the prior adjudication does not deal with the supposed new defense, and does not affect the merits of that defense upon final hearing; but the fact that it was not presented, especially where the existence of the claim was known to and considered by counsel, is a circumstance to be considered by the court in passing judgment upon the merits upon the hearing for an interlocutory injunction. We are of opinion that the rule was correctly interpreted by the court below, and properly applied to the case in hand. We are asked to determine the extent to which this court should go in review of an exercise of discretion by the court below in granting a preliminary injunction. There would seem to be some divergence of opinion in the circuit courts of appeals upon this question. The cases of Dudley E. Jones Co. v. Munger, etc., Manuf'g Co., 2 U. S. App. 188, 1 C. C. A. 668, and 50 Fed. 785, in the fifth circuit; Watch Co. v. Robbins, 6 U. S. App. 275, 3 C. C. A. 103, and 52 Fed. 337, and Blount v. Societe Anonyme du Filtre Chamberland Systeme Pasteur, 6 U. S. App. 337, 3 C. C. A. 455, and 53 Fed. 98, in the sixth circuit; Consolidated Electric Storage Co. v. Accumulator Co., 3 U. S. App. 579, 5 C. C. A. 202,

ber Co. v. Goodyear.[126] Referring to the patent in suit, they said, "The validity of the claim of the testator was never shaken by any adjudication. It has been uniformly affirmed and sustained. If the subject was never brought here before, it was doubtless because those who were defeated elsewhere saw no ground for the hope of a more favorable result in this court. These considerations are very persuasive to the presumption that the claim of Chas. Goodyear, the elder, that he was the original and first inventor is impregnable. If it were not so we can not doubt that it would have been overthrown in the numerous and several assaults would have been made upon it. We have, however, examined the question by the light of the evidence. . . ." The uniformity of opinion of other courts upon the same matter did not, it appears, so satisfy the last court as to obviate its independent examination of the evidence.

and 55 Fed. 485, in the third circuit; American Paper Pail & Box Co. v. National Folding Box & Paper Co., 1 U. S. App. 283, 2 C. C. A. 165, and 51 Fed. 229, in the second circuit; and Davis Electrical Works v. Edison Light Co., 5 U. S. App. 611, 60 Fed. 276, in the first circuit,—are perhaps in antagonism, leading the court of the sixth circuit to certify the question to the Supreme Court. That court, however, in Watch Co. v. Robbins, 148 U. S. 266, 13 Sup. Ct. 594, held that the fact that courts had reached contradictory results did not under the statute warrant the submission of the question or its decision, but might furnish ground for a certiorari upon proper application. We do not deem it needful at this time to enter that field of discussion, because, assuming the right of the appellate court to review to the fullest extent the decision of the court below, we are satisfied with the correctness of the conclusion reached upon the merits with respect to the issuance of the preliminary injunction." Approved in Breshnaham v. Tripp Giant Leveller Co., 7 Fed. 920. In National Cash Reg. Co. v. Am. Cash Reg. Co., 178 Fed. 79 the influence appears to have been limited to adjudications of appellate courts.

[126] 9 Wall. 788, 793. The fact that a patent has been judicially declared to be valid does not obligate another court even to grant a preliminary injunction against infringement. "While it is a rule of comity, convenience, and expediency that deference shall be paid to the judgment of a co-ordinate tribunal sustaining the validity of a patent, its obligation is ot imperative." Vulcan Soot Co. v. Amoskeag Mfg. Co., 255 Fed. 88.

§ 3. Originality—Prior Knowledge

Anticipation and Novelty. The foregoing has been a discussion of the general proposition that nothing amounts to invention, within the meaning of the patent laws, which is not so different from prior existing actualities as to have necessitated a certain degree of uncommon mental operation. If the new product does not sufficiently differ from the existing knowledge as to be invention it is, technically, said to be "anticipated" by such knowledge. It is also said to lack novelty. The expressions are practically synonymous; "anticipated" and "lacking in novelty" are used interchangeably.[127] As has been already said, the phrase "lacking in invention" is also synonymous with the others, being merely a different way of saying that a device has been anticipated and is lacking in novelty. Some writers treat "invention" and "novelty" as distinct, but it will be observed, that the same cases or type of cases are used by them to show when invention is present, and when not, as are used to illustrate the presence or absence of novelty. A production can not be an invention, when knowledge of all the prior art is conclusively presumed to be possessed by the inventor, unless it does possess novelty. It is only when invention is used in the very broad sense of something actually new to the producer himself that it can be dissociated from novelty. For the sake of convenience it is often used in this sense, but there is no need for further discussion of the determination of the presence of patentable invention under this head. The context usually shows clearly with which meaning the word invention is employed.

We come now to a discussion of the *extent* to which knowledge must exist to constitute anticipation, and the degree of proof of its existence which is necessary.

Foreign use. The one exception to the requirement that a production must be new, to be a patentable invention, is in the fact that mere *use* in a foreign country does not preclude patentability of a device in this country.

[127] But see the apparent distinction made in Crandall v. Richards, 8 Fed. 808.

If the applicant for a patent appears to have been ignorant of such use, and therefore to be more than a mere importer, he is entitled to a patent despite the use. The statute of 1836 and those following authorize issue of a patent for an invention "not known or used by others in this country . . . and not patented or described in any printed publication in this or any foreign country." In the earlier statutes the words "in this country," following "not known or used" were absent. Under this phraseology it was held that use even in a foreign country deprived an inventor of his right to a patent monopoly.[129] But since the act of 1836 the Supreme Court has said that a patent issued to one who believed himself the true and first inventor is not avoided by evidence of mere prior use in a foreign country.[130] In such case "the party who invents is not strictly speaking the first and original inventor. The law assumes that the improvement may have been known and used before his discovery. Yet his patent is valid if he discovered it by the efforts of his own genius, and believed himself to be the original inventor. The clause in question qualifies the words before used, and shows that by knowledge and use the legislature meant knowledge and use existing in a manner accessible to the public. If the foreign invention had been printed or patented, it was already given to the world and open to the people of this country, as well as of others, upon reasonable inquiry. They would therefore derive no advantage from the invention here. It would confer no benefit upon the community, and the inventor therefore is not considered to be entitled to the reward. But if the foreign discovery is not patented nor described in any printed publication it might be known and used in remote places for ages, and the people of this country be unable to profit by it. The means of obtaining knowledge would not be within their reach; and, as far as their interest is concerned, it would be the same thing as if the improvement had never been discovered. It is the inventor here that brings it to them, and places it in their possession. And as he does this by the effort of his own genius, the law regards

[129] Whitney v. Emmet, Baldwin 303.
[130] Gayler v. Wilder, 10 How. 476, 496.

him as the first and original inventor, and protects his patent, although the improvement had in fact been invented before, and used by others."[131]

It is to be noted that these cases, even though they sustain patents for devices already known abroad, do not conflict with the rule that an importer is not entitled to a patent. They merely hold that one who has truly created something by his own mental action, and therefore believes himself to be not only a true inventor but also the first inventor, shall not lose his right to a patent because the same thing was known but not published in a foreign country. Proof that the alleged inventor had acquired his own knowledge from abroad, and therefore could not believe himself the inventor, but was merely an importer, would undoubtedly deprive him of his right to a patent.[132]

The publication of knowledge, or the actual patenting of the device, even in a foreign country will, as said in Gayler v. Wilder, *supra*, be sufficient to deprive a device of patentability here.

But if the foreign patent was taken out by the same inventor who is seeking a patent in this country the statute provides an exception, in § 4887. "No person otherwise entitled thereto shall be debarred from receiving a patent for his invention or discovery by reason of its having been first patented or caused to be patented by the inventor or his legal representatives or assigns in a foreign country, unless the application for said foreign patent was filed more than twelve months prior to the filing of the application in this country, in which case no patent shall be granted in this country.

"An application for patent filed in this country by any person who has previously regularly filed an application for a patent for the same invention or discovery in a foreign coun-

[131] O'Reilly v. Morse, 15 How. 62, 110. Roemer v. Simon, 95 U. S. 214. Cornely v. Marckwald, 17 Fed. 83, Schillinger v. Greenway Brew'g Co. 17 Fed. 244; Worswick Mfg. Co. v. Steiger, 17 Fed. 250, Doyle v. Spaulding, 19 Fed. 744. McFarland v. Spencer, 23 Fed. 150. Vacuum Engineering Co. v. Dunn. 209 Fed. 219.

[132] Roemer v. Simon, 95 U. S. 214 and cases *supra*.

try which, by treaty, convention, or law, affords similar privileges to citizens of the United States shall have the same force and effect as the same application would have if filed in this country on the date on which the application for patent for the same invention or discovery was first filed in such foreign country, provided the application in this country is filed within twelve months from the earliest date on which any such foreign application was filed; but no patent shall be granted upon such application if the invention or discovery has been patented or described in a printed publication in this or any foreign country, or has been in public use or on sale in this country, for more than two years prior to the date of filing in this country."

EXTENT OF PRIOR KNOWLEDGE. Knowledge or use in this country, or description in a printed publication anywhere, constitute sufficient knowledge, by the very words of the statute, to deprive a production of novelty. The prior knowledge need not have been widespread to constitute anticipation; it is sufficient if it was general enough to be satisfactorily proved. In a case as early as 1817, this particular point came before the court,[133] which said "The law never could intend, that the greater or less use, in which it might be, or the more or less widely the knowledge of its existence might circulate, should constitute the criterion by which to decide upon the validity of any subsequent patent for the same invention. I hold it, therefore, to be the true interpretation of this part of the Statute, that any patent may be defeated by showing, that the thing secured by the patent had been discovered and put in actual use prior to the discovery of the patentee, however limited the use or the knowledge of the prior discovery might have been."

The Supreme Court itself has said,[134] "The prior knowledge and use by a single person is sufficient. The number is immaterial." In this particular case the prior knowledge appears to have been held by at least five persons. While this dictum is

[133] Bedford v. Hunt, 1 Mason 302.

[134] Coffin v. Ogden, 18 Wall. 120. Twentieth Century Co. v. Loew Mfg. Co., 243 Fed. 373, 378, "Prior knowledge and use by a single person would have been sufficient to require denial of the patent."

undoubtedly sound as a matter of law, it is obvious that the actuality could seldom arise. If the knowledge were truly confined to one person, it is clear that the proof of such knowledge would, almost as a corollary, be confined to the same one person. In view of the tendency of the courts to scrutinize most carefully the evidence of alleged prior knowledge where, as they say, the incentive to perjury is extreme, it is decidedly improbable that the testimony of one individual, that he, alone, possessed knowledge of the device before the time of the disputed invention, would be accepted as sufficient to show anticipation. But it is not impossible; as is clear from the case of Bannerman v. Sanford.[135] In this case the prior knowledge was actually embodied in a wooden model. Although this model was known to but one individual and no use of the device had ever been made, the court held that it constituted anticipation, and quoted as authority the dictum of Coffin v. Ogden.[137]

Some confusion as to this proposition, that the extent of the prior knowledge is immaterial, is caused by the expression of courts which have failed to distinguish clearly between knowledge and the proof of knowledge. As we have said, the fact that but one or two persons testify as to the existence of the prior knowledge may well leave effective doubt as to its actuality. If a court being unsatisfied, for some such reason, as to its existence, puts its decision upon the ground merely of "absence of prior knowledge," there may be confusion as to whether the court disbelieved the evidence, or believing it, did not consider the knowledge proved to be sufficient. An excellent illustration of this looseness of thought and expression is found in the case of Lincoln Iron Works v. M'Whirter Co.[139] The statement is definitely made in this case that, "It is not enough to defeat the patent that some one other than Gilmour (the patentee) had conceived the invention before he did, or had even perfected it, so long as it had not been in public use or described in some patent or publication." This is in flat

[135] 99 Fed. 294.
[137] 18 Wall. 120.
[139] 142 Fed. 967.

conflict with the cases just referred to and contrary to the statute itself. But on examination of the particular case, it appears clearly that the matter of prior knowledge, as anticipation, was not involved in the statement quoted at all. The question was whether the patentee, Gilmour, had obtained the idea of the device which he patented from one Brown, to whom it was claimed the credit for the invention really belonged, and the court held that Gilmour had not obtained from Brown anything new or patentable. The court then did adjudge the patent void, in view of prior knowledge, for lack of novelty. This case stands as illustration also of the futility and positive harm of relying for the law upon statements excerpted from cases, instead of upon the facts and actual holdings thereof.

PROOF OF PRIOR KNOWLEDGE. But although the prior knowledge need not have been general, its actual existence must be conclusively proved. This proof takes what may be considered as two distinct forms, which however are incapable of exact differentiation. There must first be proved the existence of *some* knowledge as alleged; and then it must be demonstrated to the satisfaction of the court that this knowledge, as proved to have existed, is in truth enough like the subsequent alleged invention to constitute an anticipation of it. When the alleged prior knowledge exists in some tangible or substantial form, as in published works, or well known machines or processes, the first proof is comparatively simple; the real issue arises out of the attempt to identify this earlier knowledge with that of the patent in suit. On the other hand, if the prior knowledge is not embodied in any visible form, but rests only in the memory of witnesses, there is a decided issue of fact, arising from the necessity of proving the actual existence of this alleged knowledge, before the issue of similarity can arise at all. This is equally true where the alleged prior knowledge is embodied in substantial form, in drawings, or in written description but the authentic date of these embodiments is disputable. In such case the same issue of *existence* of the alleged knowledge arises before that of *identity* can be considered. There are so many correlations, however, between

the existence and the identity of knowledge, that the issues and the proof can not well be separately treated. The whole matter must be considered as one issue, namely, that of the *existence* of *identical* knowledge.

The uncertainty of oral testimony is commented on by the Supreme Court, forcefully, in saying,[142] "We have now to deal with certain unpatented devices, claimed to be complete anticipations of this patent, the existence and use of which are proven only by oral testimony. In view of the unsatisfactory character of such testimony, arising from the forgetfulness of witnesses, their liability to mistakes, their proneness to recollect things as the party calling them would have them recollect them, aside from the temptation to actual perjury, courts have not only imposed upon defendants the burden of proving such devices, but have required that the proof shall be clear, satisfactory and beyond a reasonable doubt. Witnesses whose memories are prodded by the eagerness of interested parties to elicit testimony favorable to themselves are not usually to be depended upon for accurate information. The very fact, which courts as well as the public have not failed to recognize, that almost every important patent, from the cotton gin of Whitney to the one under consideration, has been attacked by the testimony of witnesses who imagined they had made similar discoveries long before the patentee had claimed to have invented his device, has tended to throw a certain amount of discredit upon all that class of evidence, and to demand that it be subjected to the closest scrutiny. Indeed, the frequency with which testimony is tortured, or fabricated outright, to build up the defence of a prior use of the thing patented, goes far to justify the popular impression that the inventor may be treated as the lawful prey of the infringer."[143]

The Patent as Evidence. The issuing of the patent itself gives rise to a presumption that the device covered thereby is novel.

[142] The Barbed Wire Patent, 143 U. S. 275, 284.

[143] Mere testimony of a single witness as to the prior existence of a device held too uncertain to show anticipation. Peters v. Union Biscuit Co., 120 Fed. 679.

The burden of proving the invalidity of a patent is thus thrown upon the party asserting it. "The burden of proof rests upon him, and every reasonable doubt should be resolved against him."[140] "Evidence of doubtful probative force will not overthrow the presumption of novelty and originality arising from the grant of letters patent for an invention. It has been frequently held that the defense of want of novelty or originality must be made out by proof so clear and satisfactory as to remove all reasonable doubt."[141] In the case quoted from, to overthrow the presumption that the patentee, Bell, was the first inventor, the other party introduced the testimony of nearly 200 witnesses to prove the priority of a device quite sufficiently identical with the patented one to deprive it of novelty. Despite this overwhelming abundance of corroborative testimony, the court upheld the patent, questioning the validity of the testimony very largely on the ground that if such prior device had actually existed it would have been put into use or, at least, patented.

SIMILARITY OF THE PRIOR KNOWLEDGE AS PROVED. When, however, the existence of the prior knowledge has been proved, the issue then becomes not one of evidence and credibility, but one of mere conclusion as to its similarity with the patented device. This may be treated by the courts as a question of fact, to be proved by expert testimony, or as a mere conclusion to be reached in some intuitive or logical way.

But in either aspect, it is not a matter to be determined by rules of law, and could not be. Precedents may influence to a certain extent, as in other findings on the matter of invention, but each case must, in the very nature of the subject, be determined solely on its own peculiar circumstances. The expression of individual findings as rules of law is not uncommon in the reports, but it is wholly inaccurate, misleading,

[140] Coffin v. Ogden, 18 Wall. 120, 124. Parks v. Booth, 102 U. S. 96, Condit v. Brush, 132 U. S. 39, Am. Caramel Co. v. Mills & Bro., 149 Fed. 743.

[141] Am. Bell Telephone Co. v. People's Telephone Co., 22 Fed. 309, 313, citing authority. Underwood Typewriter Co. v. Elliott-Fisher Co., 165 Fed. 927.

and a source of much confusion when other courts come to a different conclusion upon similar superficial facts.

Use. The fact of *use* of a prior device has great influence upon the decision in each of these questions. As is obvious from the cases just referred to, actual use or absence of use, may be a determinant factor in the credibility to be given to evidence of the existence of the alleged prior knowledge.[144] So, also, as will be seen, it plays a very great part in determining the identity of the prior knowledge with that of the patent. The proposition is that an already existing idea of means which was never in fact put into use, was probably not essentially identical with the later one which was actually put into use. "In determining a question of this character (anticipation) it is a pertinent and reasonable inquiry, if it be true that the disclosure of an earlier patent was substantially that of

[144] Deering v. Winona Harvester Works, 155 U. S. 286, 301, "Granting the witnesses to be of the highest character, and never so conscientious in their desire to tell only the truth, the possibility of their being mistaken as to the exact device used, which, though bearing a general resemblance to the one patented, may differ from it in the very particular which makes it patentable, are such as to render oral testimony peculiarly untrustworthy; particularly so if the testimony be taken after the lapse of years from the time the alleged anticipating device was used. If there be added to this a personal bias, or an incentive to color the testimony in the interest of the party calling the witness, to say nothing of downright perjury, its value is, of course, still more seriously impaired. If, as he says, in 1878, he tried a rigid extension and found it unserviceable, and subsequently, in the same season, he invented a pivoted extension, and it worked well, it is improbable that he would have cast it aside altogether at the end of the season, and taken up again the theory of a rigid extension, and applied it not only to his own, but to a number of other machines. His excuse that the binder was incapable of doing satisfactory work during the season of 1879, by reason of the shortness of the grain that season, is evidence that it was inoperative. If it had been a success, he would hardly have thrown it aside permanently. Doubtless he did use a rigid extension of some sort; but if he ever used a pivoted device at all —of which we have considerable doubt—his efforts in that direction must be relegated to the class of unsuccessful and abandoned experiments, which, as we have repeatedly held, do not affect the validity of a subsequent patent." Gamewell Fire Alarm Telegraph Co. v. Municipal Signal Co., 61 Fed. 948.

Jones, why during a period of many years was it not practically applied to the same use?"[145]

The statute does not provide that the prior knowledge shall have been put into actual use to constitute anticipation. It is sufficient to deprive an alleged invention of patentability if it were used *or known* before. In many instances, there is practical reason why use should be required before a finding of anticipation will be reached. Actual use often is necessary, as has been said, to show that the prior knowledge was identical with the alleged invention; but, except as regards proof, if the identity of the knowledge is otherwise clear, the prior knowledge need not have been placed in use.[146]

Even in cases where actual use has been held requisite to show the real similarity of the prior device to the usable one in question, only enough use to demonstrate this has been demanded. Thus in Brush v. Condit[147] only one embodiment of the earlier known device had ever been made. It had been used a very short time only, and then discarded. Nevertheless the court said, "With a strong disinclination to permit the remains of old experiments to destroy the pecuniary value of a

[145] Carnegie Steel Co. v. Cambria Iron Co., 89 Fed. 721, 738.

[146] Sayles v. Chi. & N. W. R. R. Co., 4 Fisher Pat. Cases. Hoe v. Miehle Printing Press Co, 141 Fed. 112. It must, however, be noted that in at least one case, very positive prior knowledge was held not to constitute anticipation because it had never gone into practical use. This was so held even though the identity of knowledge was undisputed. Carnegie Steel Co. v. Cambria Iron Co., 89 Fed. 721. The case involved a patent for the process of mixing molten iron so as to produce uniformity by emptying the contents of several converters into a central basin, from which the combined contents were drawn off as desired. This was held not anticipated by an earlier publication in which it was said, "Uniform results . . . can hardly be expected unless a number of blast furnace charges are mixed. This would seem to be the theoretical solution of the problem." Gayler v. Wilder 10 How. 476, 409, "The case was thus made to turn not on the priority of invention only, but upon that *and the fact of its having been tested by experiments.* This introduces a new principle into the patent law. The right under the law depends upon the time of the invention. An experimental test may show the value of the thing invented, but it is no part of the invention." Stitt v. Eastern R. R. Co., 22 Fed. 649; Crown Cork & Seal Co. v. Aluminum Stopper Co., 108 Fed. 845.

[147] 132 U. S. 39.

patent for a useful and successful invention, and remembering that the defendants must assume a weighty burden of proof, I am of the opinion that the patentee's invention is clearly proved to have been anticipated by that of Hayes."[148]

Abandoned Experiments. Whether or not abandoned experiments are sufficient to anticipate a later production, is a question of evidence rather than of substantive law. It is occasionally said that "abandoned experiments do not anticipate," as though it were a matter of law that they could not.[149] This, however, is not correct. Abandoned experiments not only can anticipate, theoretically, but have been held to do so.[150] The abandonment of experiments may result not from the inutility and unsuccessfulness of the device as developed, but from wholly extraneous causes, such as lack of capital to build machinery. If the essential identity of the prior device, concerning which the experiments were being made, with the particular device in issue is clear, no further showing is necessary.[151]

But if the alleged anticipated device was different in formal structure from the later one, the difficulty of proving that it was essentially identical with the later one is extreme. It is perfectly obvious that a device which will not work is not the same in form or construction as a device which will work.

If the prior device has been actually built, so that its formal characteristics are clearly demonstrated, the question of anticipation becomes merely the usual issue, already discussed, of whether the change which made the latter device successful required invention or was merely mechanical.

If the earlier device has not been formally embodied, there is then a complication arising from the difficulty of determining exactly what the "experimental" device was, or purported to be, either in form or essence. With this in view, there are two possibilities in respect to an alleged anticipated device

[148] Hall v. McNeale, 107 U. S. 90; Bedford v. Hunt, 1 Mason 301.

[149] The Corn Planter Pat. 23 Wall. 181, 211. Deering v. Winona Harvester Works, 155 U. S. 286, 302.

[150] Crown Cork & Seal Co. v. Aluminum Stopper Co., 108 Fed. 845.

[151] Sayles v. Chi. & N. W. R. R. Co., 4 Fish. 584.

which has never been put into practical use. It may have been completed on paper, so that a device made according to the plans and description would work, but no device may have ever been made according to those plans. Or it may never have been completely developed, either substantially or on paper, to the extent that it would quite work.

In the former case, it certainly amounts to a prior description of the later device, and the only possible question is whether this alleged description was in reality so clear that an expert would, in following it, produce the later device. In the latter case, the fact that it did not work, and could not be made to work, so far as the experimenter had proceeded, is generally treated as rather conclusive evidence that the knowledge represented by it was not sufficiently like the knowledge represented by a workable device to constitute anticipation.

It is obvious, that the mere fact of prior knowledge not having been put to actual use, can not be absolutely relied on as negative invention. If the prior knowledge is clearly quite identical with the patented device, as for instance if it were shown in a published statement word for word and completely descriptive of the device, the anticipation could not logically be avoided by the fact that the utility of the device had not been generally recognized or that it had never been constructed. Even if the prior knowledge were only substantially similar to the patented device, the failure to use it might be due not to essential and inventive difference from the later device, but wholly to extraneous circumstances.[152]

Drawings, models, etc. Where the prior knowledge exists in the form of a published description, or in the specification of

[152] Crown Cork & Seal Co. v. Aluminum Stopper Co., 108 Fed. 845. Crandall v. Richardson, 8 Fed. 808. "In a defence of prior use it is often a controlling circumstance, where there is doubt in the proof, that, considering the success of the later device, if it had been made previously it would have attracted the attention of the trade and immediately have gone into use; but it often happens that from various fortuitous circumstances a complete invention, in a branch of business where much depends on energy and facilities and capital, fails to attract that attention which, under different and better auspices, it receives when independently produced at a later day."

a patent, or in the existence of a mere model, the question of anticipation is, in the first inquiry, one of evidence only. Is prior knowledge surely proved? Does the publication, the patent, or the model clearly show the same device as the one in question? If it does, the device in question is anticipated.

One text writer has taken a different position.[153] He says, "Novelty of a machine or manufacture, is not negatived by any prior unpublished drawings, no matter how completely they may exhibit the patented invention, nor by any prior model, no matter how fully it may coincide with the thing covered by the patent. The reason of this rule is not stated with fullness in either of the cases which support it, but that reason is deducible from the statute and from the nature of drawings and of models. The statute provides, relevant to the newness of patentable machines and manufactures that they shall not have been previously known or used by others in this country. Now, it is clear that to use a model or a drawing is not to use the machine or manufacture which it represents; and it is equally obvious that to know a drawing or a model is not the same thing as knowing the article which that drawing or model more or less imperfectly pictures to the eye. It follows that neither of those things can negative the newness required by the statute. Nor is the statutory provision on this point lacking in good reasons to support it. Private drawings may be mislaid or hidden, so as to preclude all probability of the public ever deriving any benefit therefrom; and even if they are seen by several or by many, they are apt to be understood by few or by none. Models also are liable to be secluded from view and to suffer change and thus to fail of propagation. Moreover, if a patent could be defeated by producing a model or a drawing to correspond therewith, and by testifying that it was made at some sufficiently remote point of time in the past, a strong temptation would be offered to perjury. Several considerations of public policy and of private right combine, therefore, to justify the rule of this section."

This seems to be supported, in part, at least, by the case of

[153] Walker, Patents.

American Writing Machine Co. vs. Wagner Typewriter Co.[154] in which the court said "It is clear, as pointed out by Mr. Walker, that knowledge of a model or a machine is not knowledge of the machine itself any more than knowledge of a model of Brooklyn Bridge is knowledge of that structure. But we think the rule should be restricted to a model pure and simple as the word is understood in common parlance, viz.: a pattern, a copy, a representation usually upon a reduced scale. The word "model" should not be construed to mean the identical device which is covered by the patent. If this were otherwise a defendant who produces the exact structure of the claims and proves that it was known prior to the date of the alleged invention is completely answered if the complainant can show that the anticipating structure was filed as a model."

There are like expressions to be found in other cases. But on examination it is clear that the true rule is one of evidence simply. It is perfectly obvious that Mr. Walker has fallen into the common error of confusing the *embodiment* of the invention with the invention itself, and therefore he forgets that an invention might be known, or even used, even though it had never been tangibly embodied. In the particular case just referred to the court admits this, although it does lay down the rule of law quoted, in saying further, "In the case of a complicated machine a small model incapable of actual use may be filed for the purpose of explaining and illustrating the drawing; that such a model alone would not anticipate is, of course, perfectly clear. On the other hand, it frequently happens that the applicant files as his model not a pattern or representation of the thing invented by him but the thing itself. Take, for illustration, an application for a patent for a horseshoe nail where one of the nails made by the inventor is filed as a model, can it be that a subsequent applicant can hold a patent for that nail or any feature thereof after proof of its prior existence and the knowledge thereof by the public."

If one only keeps clearly in mind what Mr. Walker evidently forgot and the court in the Typewriter case saw but vaguely,

[154] 151 Fed. 576.

namely, that an invention is a concept, not a tangible thing, then to know a drawing or a model *is* to know the invention which they represent. Mr. Walker's reasons why the existence of the drawing or model should be carefully scrutinized are sound. But to seriously contend that the concept which constitutes the invention *could not* be revealed to the public by a full and clear written description of it, or by its embodiment in miniature, would be ridiculous.

In the case of Keys v. Grant[155] the Supreme Court said it was properly left to the jury to decide whether a device described in a prior publication was in fact so similar to the patented device as to anticipate the latter. As the prior knowledge was represented only by this printed description, there could have been no question for the jury if it were a rule of law that published drawings could not anticipate. There is no more reason why unpublished drawings should not also anticipate, except the reason arising from the natural doubt as to their authenticity.

The confusion arises from the fact that this issue of evidence is confused with the issue of whether the device as demonstrated in the earlier form is the same in essence as the later one. This latter issue is not one of evidence but one of fact, whether for the court or the jury. It is, again, the usual issue of whether the apparent change is such as amounted to invention or is a merely formal and mechanical change, and is determined by the same factors as in all such cases.

But although the foregoing statements of the present writer are indisputable in theory, it must be recognized that the courts do in fact hold inventions not to be anticipated by prior knowledge shown by unpublished drawings, no matter how definite and positive and exact a knowledge those drawings may reveal. Such holdings are clearly indefensible as a matter of logic, but they are based rather obviously on the court's opinion of public good, and they must be reckoned with.[155a]

[155] 118 U. S. 25.

[155a] In addition to cases already cited see, to this effect, Christie v. Seybold, 55 Fed. 69; Automatic Weighing Mach. Co., v. Pneumatic Scale Corp., 166 Fed. 288; See also the discussion under "date of invention," *post*.

Summary. The foregoing discussion has been concerned simply with the evidence on which lack of novelty can be predicated and the weight usually given to the different forms which the evidence takes. It may be summed up as a general proposition by saying that a prior patent, model or other tangible embodiment offered as evidence of lack of novelty must set forth the knowledge in such clear and unequivocal form that a true and just comparison can be made of it with the subsequent device.[156] But in the broadest aspect, after the weight to be given the evidence is settled, the comparison remains to be made; the question of *identity* of the two ideas of means still remains to be settled. This involves of course the whole matter of "invention" and "novelty" thus far discussed. When the existence of the prior patent or other form of knowledge is shown, so that the existence of the knowledge is *proved,* and the issue thereby becomes one of identity, the *form* of the prior knowledge ceases to be material, except as stated in the foregoing discussion. If this is clearly borne in mind much of the confusion as shown in decisions, between conclusions as to identity of concepts, and *proof* of the existence and characteristics of a particular concept, will be eliminated—a consumption devoutly to be desired.

A warning may be here adverted to, which is sometimes uttered by the courts, against reading into the prior knowledge something which is in fact not there. The subsequent device may, when produced, seem so simple that its actual difference from prior knowledge may appear immaterial. Whether it is really immaterial or not, is the whole question of invention as against mere mechanical skill. As one court has said,[157] "The line which separates invention from mechanical skill is at best a narrow one, and the difficulty of demarkation in this case is

[156] Underwood Typewriter Co. v. Elliott-Fisher Co., 165 Fed. 927, 930. "The prior patent or publication relied upon must, by descriptive words or drawings, or by both, contain and exhibit a substantial representation of the patented improvement in such full, clear and exact terms as to enable any person skilled in the art or science to which it appertains to make, construct, and practice the invention." Hanifen v. Godschalk Co., 84 Fed. 649.

[157] Ideal Stopper Co. v. Crown Cork & Seal Co., 131 Fed. 244, 246.

enhanced by the fact that of necessity we look upon Young's invention with eyes instructed by Painter's and other subsequent patents, and must take care that we do not in such light so reconstruct Young's patent as to see in it those possibilities which may seem very obvious now, but which may not have been disclosed by the patent itself; for, vague and uncertain as may be the line of demarkation between mechanical skill and invention, we could not deny Painter the right of invention, unless the idea upon which his patent is predicated is so clearly set forth or suggested by Young that a mechanic, with Young's patent before him, could by mere mechanical skill so modify proportions or change the mode of operation as to overcome the difficulties which excluded the prior device from commercial utility, and thus make fruitful the inventive idea which before was futile, merely through lack of the mechanical skill needed for its development."[158]

Lost Arts. Certain forms of what might be called prior knowledge, even when proved to exist and to be identical with that for which patent is sought, are held, as a matter of law, not to anticipate so as to deprive a later invention of patentability. Prior knowledge which had been forgotten at the time of a later production, will not suffice to deprive that later concept of patentability. The public is no more in possession of forgotten knowledge than if that knowledge had never existed. It is generally believed that centuries ago certain arts existed whose fruits have come down to us today, but whose methods of procedure have been wholly lost to the world. It can not be doubted but that if some one were to resurrect, through his own creative power, the means of producing the same result, he would not be precluded from a patent by the fact that an art had once been known for producing the same result. In Gayler v. Wilder[159] the contention was set up that the patent involved was void for lack of novelty because one Conner had used a precisely similar device long before. The court rejected the contention, saying, "If the Conner safe had

[158] Topliff v. Topliff, 145 U. S. 156, 161.
[159] 10 How. 477.

passed away from the memory of Conner himself, and of those who had seen it, and the safe itself had disappeared, the knowledge of the improvement was as completely lost as if it had never been discovered. The public could derive no benefit from it until it was discovered by another inventor. And if Fitzgerald (the patentee) made his discovery by his own efforts, without any knowledge of Conner's, he invented an improvement that was then new, and at that time unknown; and it was not the less new and unknown because Conner's safe was recalled to his memory by the success of Fitzgerald's patent."[100]

In this particular case there was a strong dissenting opinion to the effect that Conner's knowledge, merely temporarily *forgotten,* was not truly a "lost" art. Mr. Justice McLean said, "Conner's safe, as appears from the bill of exceptions, was used in his counting-house, being accessible to every one, some six or eight years. In 1838 it passed into other hands; but into whose hands it does not appear. In 1843, Fitzgerald obtained his patent. How long before that he made experiments to test the invention is not proved. At most, the time must have been less than five years. This is a short period on which to found a presumption of forgetfulness. The law authorizes no such presumption. It can never become the law. It is not founded on probability or reason. The question is, Was Conner's invention prior to that of Fitzgerald? That it was of older date by some ten or twelve years is proved. And the instruction, it must be observed, was founded on the supposition that both inventions were similar.

"The instruction seems to attach great importance to the fact that Conner's safe was used only for his private purpose. This is of no importance. The invention is the question, and not the manner in which the inventor used it. The safe was constructed at the foundery, and must have been known to the hands there employed. How can it be ascertained that Fitzgerald was not informed by some of these hands of the structure of Conner's safe, or by some one of the many hundreds

[100] Coffin v. Ogden, 18 Wall. 125.

who had seen it in his counting-house in the city of New York. It was to guard against this, which is rarely if ever susceptible of proof, that the act is express,—if the thing patented was known before, the patent is void. If the fact of this knowledge in any one be established, it is immaterial whether the patentee may have known it or not, it avoids his patent." Mr. Justice Daniel, also dissenting, very pertinently said, "An attempt has been made to compare the doctrine propounded by the court to what it might be thought is the law as applicable to the discovery, or rather recovery, of the processes employed in what have been called the lost arts. This illustration is in itself somewhat equivocal, and by no means satisfactory; for if that process could certainly be shown to be the same with one claimed by the modern inventor, his discovery could scarcely have the merit of originality, or be the foundation of exclusive right. But, in truth, the illustration attempted to be drawn from a revival of a lost art is not apposite to the present case. The term *lost art* is applicable peculiarly to certain monuments of antiquity still remaining in the world, the process of whose accomplishment has been lost for centuries, has been irretrievably swept from the earth, with every vestige of the archives or records of the nations with whom those arts existed, and the origin or even the identity of which process none can certainly establish. And if a means of producing the effect we see and have amongst us be discovered, and none can either by history or tradition refer to a similar or to the identical process, the inventor of that means may so far claim the merit of originality, though the work itself may have been produced possibly by the same means. But not one principle drawn from such a state of things can be applied to a recent proceeding, which counts from its origin scarcely a period of fifteen years."

That mere temporary *forgetfulness* of knowledge does not prevent that knowledge from anticipating is shown in Brush v. Condit.[161] Here the patent was for a device to hold the carbon in electric arc lights. It had been preceded by a simi-

[161] 132 U. S. 39.

lar device, as was shown on the trial, but the earlier one had been used on only one lamp, for a very short time, and had been then relegated to absolute desuetude. In ordinary parlance, it had been completely forgotten, till called to mind by the later device. The court, admitting that the disuse might tend to show dissimilarity with the later, used, one, but being satisfied that there was an identity nevertheless, held that the patented device was not patentable because of this earlier knowledge.

The law is thus left open as to just how far a device, art, etc., must have been forgotten to be technically "lost" and therefore, not anticipatory. Theoretically, if it can be so far recalled as to be compared with the later device, it is not *lost* at all, merely forgotten. Practically, perhaps, the one who causes its recall to public memory by his new device is quite as worthy of a patent as one who absolutely creates a device. The majority opinion in Gayler v. Wilder represents the practical view; the dissenting opinion, and such cases as Brush v. Condit, the theoretical one.

UNRECOGNIZED RESULTS. Akin to the fact that lost knowledge does not anticipate is the fact that an unrecognized result, an unperceived actuality, if such a phrase may be used, will not serve to anticipate a subsequent alleged creation. In the words of the court,[162] "novelty is not negatived by a prior accidental production of the same thing, when the operator does not recognize the means by which the accidental result is accomplished, and no knowledge of them, or of the method of its employment, is derived from it by any one." In Andrews v. Carman,[163] one Green had patented a method of utilizing a principle of nature. It was claimed that the principle had already, prior to his invention, been called into operation by devices accomplishing the same purpose. The court upheld the patent, saying, "A chance operation of a principle, unrecognized by any one at the time, and from which no information of its existence, and no knowledge of a method of its employment, is derived by any one, if proved to have occurred,

[162] Wickelman v. Dick Co., 88 Fed. 264.

[163] 13 Blatch. 307, 323.

will not be sufficient to defeat the claim of him who first discovers the principle, and, by putting it to a practical and intelligent use, first makes it available to man."[164]

The holding is somewhat differently put in another case.[165] It was admitted that a certain earlier patented device approached very near the device in question and might have been made into the same thing by a slight modification. It was held not to anticipate, however, because it was not designed by its maker for the purpose, and the fact that it could have been so modified and used, was not evident to an ordinary mechanic.[166]

SCATTERED KNOWLEDGE. Since an invention is itself, as such, a single idea, although it may be composed of many minor constituent ideas, a patent is not necessarily defeated by showing that some or all of the constituent ideas were already well known. These constituent ideas, uncombined, and each by itself, are not in any sense the one composite idea into which the patentee has welded them. Knowledge of them by themselves is not knowledge of the combination or composite into which they may be welded. Of course, the combining of them into one whole may not have required the exercise of *inventive genius*. In such case the existence of the separate ideas would legally invalidate the patent for the composite idea. The occasional statements to the effect that if the uncombined elements do not show the combination, the patent for the latter is therefor valid, are obviously not meant in their literal significance. Contextually they mean only that if the elements do not show the combination, the patent *may* be valid. It is not necessarily so. But if in fact it did require *invention* to create the patented idea out of the separate ideas, then the patent is valid, however well known the separate ideas may

[164] Warren Bros. v. Owosso, 166 Fed. 309.

[165] Topliff v. Topliff, 145 U. S. 156, 161.

[166] This indicates the substantial identity of invention and novelty. The particular device was not anticipated because to an ordinary mechanic the slight change necessary was not obvious—it would have taken more than mechanical skill to have made the change; hence the later device was a true invention. Tilghman v. Proctor, 102 U. S. 707, 711.

have been. Proof of the prior knowledge of these separate ideas is, therefore, pertinent in a suit, and should not be excluded nor disregarded. But it does not of itself invalidate the patent attacked. It only forms a background against which the inventive quality of the idea patented can be determined.[166a]

PATENTEE'S PRIOR REVELATIONS. The fact that the prior knowledge was given to the world by the subsequent patentee himself does not keep it from being such anticipation as will render invalid the later patent. To quote from one decision, "The various improvements or modifications in the process of manufacturing of solidified collodion which are disclosed in the earlier patents to the Hyatts are outstanding against this patent (also issued to the Hyatts) just as much as if they were issued to strangers."[167]

If this prior knowledge has been covered by a patent, granted to the inventor and still held by him, the fact of anticipation will not matter, except as to the greater length of time that the monopoly would exist if it could be obtained under the later patent. If the earlier patent represents a subject matter sufficiently like that of the later one to constitute an anticipation of it, anything that would be an infringement of the later sought patent ought, theoretically, to be an infringement of the earlier patent. If the prior knowledge is not protected by a patent, the inventor may avoid the evils of anticipation by patenting his earlier device, unless he has been guilty of allowing too great a time to pass. Nevertheless, although the earlier patent which would anticipate a later one *ought* to protect the inventor to the same extent as the later one asked for would do, the practical result is not always so equally balanced. Courts tend sometimes to find a device anticipated by a fundamental earlier patent when they might not be inclined to find

[166a] Bates v. Coe, 98 U. S. 31; Smith v. Macbeth, 67 Fed. 137; Imperial Bottle Co. v. Crown Cork etc. Co., 139 Fed. 312; Packard v. Lacing-Stud Co., 70 Fed. 66.

[167] Celluloid Mfg. Co., v. Cellonite Mfg. Co., 42 Fed. 900, 905; So also Doig v. Morgan Match Co., 59 C. C. A. 616; Underwood v. Gerber, 149 U. S. 224; Miller v. Eagle Mfg. Co., 151 U. S. 186; Bannerman v. Sanford, 99 Fed. 294; Williamson v. Neverslip Mfg. Co., 136 Fed. 210.

the later device within the protected scope of the earlier patent if the case should come up from that direction. For this reason, it is sound policy for an inventor to cover all that he is entitled to in a single patent, or at least in patents applied for simultaneously, instead of delaying his application for any part independent of, but closely related to, his main invention.[168]

WHAT CONSTITUTES PRIORITY. The *priority* of the alleged anticipating knowledge is not determined in relation to the date the patent is issued nor even that on which it is applied for. The knowledge, to anticipate, must have existed at the time the invention was made.[169] The patent statute[169a] provides that an inventor may have a patent if his device be "not known or used by others in this country, before his invention or discovery thereof."

If public knowledge is proved to have existed before the application for the patent was filed, the patent is *prima facie* void because of anticipation, lack of novelty in the invention, or whatever one chooses to call it. In the absence of any other proof the invention is *presumed* to have first been brought into existence at the time the application was filed,[170] and it would therefore be subsequent to the public knowledge as proved. But, inasmuch as the date of the invention is not restricted to the date of application, the inventor is free to prove the real time at which his invention was brought into existence.

DATE OF INVENTION. The sufficiency of the evidence upon this point takes two forms, which for the sake of true comprehension of the cases, must not be confused, although they are not always clearly distinguished in judicial discussion.[171] The first issue upon the evidence is whether it amounts to proof

[168] The right of including more than one invention in a single patent is discussed *infra*.

[169] Klein v. Russell, 19 Wall. 433, 464.

[169a] Section 4886.

[170] Drewson v. Hatje, 131 Fed. 734; Automatic Weighing Mach. Co. v. Pneumatic Scale Corp., 166 Fed. 288.

[171] Automatic Weighing Mach. Co. v. Pneumatic Scale Corp., 166 Fed. 288.

of the real existence of any knowledge, regardless of the effect of that knowledge. The inventor might testify under oath that he had evolved his invention in complete detail long before he made his application, but, unless this were corroborated by other evidence, no court would be apt to fix the date of invention according to his statement. The possibility of mere mistake, to say nothing of deliberate falsehood, would be far too great. An invention may be an invention even though it be still locked in the mind of the inventor. But as Lord Justice Brian said, centuries ago,[172] "The devil himself knows not the thought of man," and if there has been no revelation of the invention to others, no substantial embodiment or perceptible expression of it, the proof, resting itself only in the statement of the *soi-disant* inventor is extremely difficult if not impossible. This was somewhat discussed in the case of Clark Thread Co. v. Willimantic Linen Co.[173] "The allegation," said the court, "that the *invention* of Conant, for which his said letters patent were granted, was made before the publication or sealing of Weild's patent requires more careful consideration. . . . The only evidence on the question as to the time of Conant's invention is his own testimony, a species of evidence which, in cases of this kind, ought to be received with great caution." The court felt bound to construe the testimony very strictly against the patentee, "because such testimony, given for the purpose that this was, is necessarily subject to the gravest suspicion, however honest and well intentioned the witness may be." If the inventor could corroborate his statements by the testimony of others to the effect that he had revealed to them his invention in perfected form, it is possible that courts would accept such testimony as sufficient proof, despite its being merely oral statements depending on honesty and exactness of memory. Certainly, however, the testimony would be severely scrutinized and would be accepted as proof with the greatest hesitancy. The statements of courts in respect to the strength of evidence necessary to prove knowledge alleged to anticipate a

[172] Yr. Bk. 17 Ed. IV. 1, 2.

[173] 140 U. S. 481. See also, Symington Co. v. National Malleable Co., 39 Sup. Ct. Rep. 542.

patent, might be applied equally well to the evidence concerning the date of invention.[174]

Occasional courts have gone to the extreme of saying, in effect, that the date of invention *can not* be fixed prior to the time when the invention has been actually embodied in substantial form.[175] These statements, while quite frequent, are logically incorrect, although they do seem to be the law—with some exceptions hereafter discussed. They appear to be based on either of two ideas. One is the vicious error already referred to, that an invention is not a mere concept itself, but is the tangible device resulting from some concept involving inventive genius. On this assumption there could, of course, be no "invention" until there were a tangible contrivance; but the assumption is, as we have said, wholly unwarranted by the cases.[176]

The other idea behind the statement is, that the existence of the invention can not be satisfactorily proved without something more than oral testimony. This idea certainly finds a great deal of support in the cases; and it is at least possible, that no amount of completely credible oral testimony would be accepted as sufficient, by itself.[177]

[174] *Supra.*

[175] Clark Thread Co. v. Willimantic Linen Co., 140 U. S. 481, 489; Ellithorp v. Robertson, Fed. Cas. 4408, 4 Blatch. 307; Automatic Weighing Mach. Co. v. Pneumatic Scale Corp., 166 Fed. 288, and cases therein cited; Symington Co. v. National Malleable Co., 39 Sup. Ct. Rep. 542.

[176] Brown v. Crane Co., 133 Fed. 235, Grosscup J., speaking upon an issue other than the one here referred to, "Invention is not in my judgment confined to the concrete mechanical form into which an idea ultimately evolves. Invention is the idea itself, the burst of new thought, the discovery; and patentable invention is the conjunction of these with appropriate and efficient and mechanical means." See other cases collected *supra.*

[177] A contrary opinion is expressed in Phila. & Trenton R. R. Co. v. Stimpson, 14 Peters 448, 461, "In many cases of invention, it is hardly possible, in any other manner, to ascertain the precise time and exact origin of the particular invention. The invention itself is an intellectual process or operation; and like all other expressions of thought, can in many cases scarcely be made known, except by speech. The invention may be consummated and perfect, and may be susceptible of complete

For this reason it behooves an inventor to keep such visible record of the progress of his concept that, should the date of his invention be called into question, he can demonstrate beyond a doubt the date at which he really evolved the concept that constitutes the invention.

The form which this corroborating evidence takes is not material, so long as it demonstrates the existence of the invention claimed. In many cases it has been in the shape of drawings or written description.[178]

description in words, a month, or even a year before it can be embodied in any visible form, machine or composition of matter. It might take a year to construct a steamboat, after the inventor had completely mastered all the details of his invention, and had fully explained them to all the various artisans whom he might employ to construct the different parts of the machinery. And yet from those very details and explanations, another ingenious mechanic might be able to construct the whole apparatus, and assume to himself the priority of the invention. The conversations and declarations of a patentee, merely affirming that, at some former period, he invented that particular machine, might well be objected to. But his conversations and declarations, stating that he had made an invention, and describing its details and explaining its operations, are properly to be deemed an assertion of his right, at that time, as an inventor, to the extent of the facts and details which he then makes known; although not of their existence at an antecedent time." See also, Bullock Mfg. Co. v. Crocker-Wheeler Co., 141 Fed. 101, 107.

[178] Bullock Elec. Mfg. Co. v. Crocker-Wheeler Co., 141 Fed. 101; Westinghouse Elec. & Mfg. Co. v. Stanley Instrument Co., 133 Fed. 167; Dodge v. Porter, 98 Fed. 624; Draper v. Potomska Mills Corp., Fed. Cas. No. 4072.

Some confusion has been caused by the cases in which it is said that drawings and descriptions do not constitute an invention and have no effect upon a subsequently granted patent unless they are followed up to practical embodiment, or reduction to practice with proper diligence. Any such statement is on its face paradoxical, and is unsound. If the drawings, etc., do not at least evidence the invention, they could have no effect however diligently they should be followed up. If the invention does not exist until reduced to practice, it does not exist until then however diligent the reduction may have been, and could not therefore take precedence of an invention evolved before the reduction to practice. All that such cases can stand for, in any sort of harmony with other cases, is either that the strength of evidence of the drawings, etc., is weakened by the lapse of time, or that the first inventor has lost his rights because

But here again it must be said emphatically that the decisions are not altogether in accord with the logical theory. In theory, as we have just said, the date of the invention is the date at which knowledge of the precise invention can be satisfactorily proved to have existed. And a drawing or a clear and specific description whose authenticity and existence on the date alleged is beyond dispute, *ought* therefore to be sufficient evidence to protect the inventor. But practically they seem not to be sufficient when there is a question of priority of invention between rival claimants for a patent. In such cases, the courts do say, however illogically, that the date of invention is the date when the concept is first "reduced to practice." Thus, in Automatic Weighing Machine Co. v. Pneumatic Scale Corp.[178a] One Watson "conceived his invention, illustrated it by a drawing, and disclosed it to others, as early as January 10, 1896. He reduced his invention to practice by the building of a machine in April, 1897. He filed his application March 11, 1898." One Thomas had filed an application for a patent for precisely the same invention in December, 1896. Thomas' application, therefore, was filed between the admitted date of Watson's concept in its definite and complete form and his embodiment of that concept in its tangible form. The filing was assumed to be the date of Thomas' invention. The issue was whether on these facts Watson or Thomas should be considered the first inventor. Logically, of course, Watson was admittedly the first inventor, he having definitely and precisely formulated the concept which was the invention nearly a year before Thomas did so. But the decision of the court is peculiar. It held the date of Watson's invention to be April,

of his long delay. If, in addition to holding that the earlier alleged inventor has lost the right of precedence which his drawings, etc., might have given and forfeited his possible monopoly, the subsequent and more diligent inventor's patent is upheld, the result is to uphold a monopoly in utter disregard of the fact that the invention covered thereby had been known by others before the patentee evolved it. Pennsylvania Diamond Drill Co. v. Simpson, 29 Fed. 288; Automatic Weighing Machine Co. v. Pneumatic Scale Corp., 166 Fed. 288.

[178a] 166 Fed. 288.

1897, and declared it to be a rule that an invention dates not from the time of its full and definite conception but from the time it is first reduced to practice. "The authorities," says the court, "seem to be conclusive upon the point that a conception evidenced by disclosure and drawings does not constitute an invention under the patent laws." The illogicalness of this position is justified by the court on a basis of public advantage.

But the court states two qualifications to this rule. The first is that an application for a patent will be treated as a sort of constructive reduction to practice; that is to say, invention may date from the filing of the application even though the concept has never actually been reduced to practice. As the court puts it, "From these established and seemingly contradictory principles of the patent law, first, that an invention in order to be patentable must be reduced to practice, and, second, that, under the statutes, reduction to practice is not essential either before or after the grant of a patent, it follows that there must be some stage of an invention when it must be presumed as a matter of law that the inventor has reduced his invention to practice; and that stage is presumed to have been reached when he has done all that he is required to do to obtain a valid patent, namely, when he has filed a complete and allowable application; and hence the Patent Office has adopted the rule that the filing of such an application is constructive reduction to practice, and the federal courts have adopted the rule that such an application is conclusive evidence that the patentee has made his invention—that is, reduced his invention to practice—at least as early as that date."

The second qualification is that the date of invention may be carried clear back to the time of the conception, even without any reduction to practice, if the inventor has used due diligence in attempting to reduce it to practice. "It is conceded," says the court, "that a patentee who has used 'reasonable diligence in adapting and perfecting' his invention can carry the date back to his drawings and disclosure."[178b]

[178b] The right of an admittedly prior conceptor was declared to be lost because of his unreasonable delay in reducing his concept to practice, and

A working model not necessary. An actual working model of the invention is not required. In the case of Loom Co. v. Higgins[179] the court quite precisely said, "An invention relating to machinery may be exhibited either in a drawing or in a model, so as to lay the foundation of a claim to priority, if it be sufficiently plain to enable those skilled in the art to understand it."

Identification of knowledge. When a patentee has succeeded in demonstrating to the court's satisfaction that he really did have a certain definite idea at the time alleged, there then arises the very different question whether this idea is the same one actually embodied in the patent. While it is frequently left as a fact for the jury, and is in one sense a question of fact, it is truly a question of psychological fact, a matter of conclusion, reached by the operation of the judicial mind upon

the patent of a subsequent conceptor of the same idea was upheld, in One-Piece Lens Co. v. Bisight Co., 246 Fed. 450.

"Now Reno is in this dilemma: if his disclosure was complete in October, 1900, he was not reasonably diligent in waiting until the end of December, 1902, to file his application; if he was reasonably diligent it was because he needed for the completion of his conception the intervening two years, and he does not antedate Stone & Brenchard. He himself suggests no reason for the delay, but the necessity of engineering study, and that did not interfere with an application if he had really fully conceived the invention. . . . He makes no claim that poverty or sickness stood in his way, nor that he was too engrossed with independent affairs, assuming that such would be any excuse. For these reasons his date of invention must be in my judgment that of his application." United Tunnel Co. v. Interborough, etc. Co., 207 Fed. 561, 569.

"Diligence is of the essence of a proper relation between the conception and the reduction to practice of an invention, and must consist of a degree of effort that can fairly be characterized as 'substantially one continuous act.'" Twentieth Century Co. v. Loew Co., 243 Fed. 373, 384.

"As the evidence shows that both inventors used 'reasonable diligence in adopting and perfecting' their inventions by reducing them to practice, each can carry the date of his invention back to the date of his conception and disclosure . . . and the one who first conceived and disclosed his invention and with reasonable diligence connected his conception with its reduction to practice is the 'original and first inventor' under the statutes, without regard to which of the two first completed the reduction to practice." Evans v. Associated, etc. Co., 241 Fed. 252.

[179] 105 U. S. 580.

the perceptible actualities presented. Much the same precedents may be used, in arriving at a particular conclusion upon the evidence presented, as are used for guidance in determining whether certain prior knowledge constitutes anticipation. The question is really the same. In the ascertainment of anticipation the inquiry is, whether the knowledge proved to have existed, prior to the patent, is sufficiently definite and similar to constitute substantially the same thing. When the date of invention is in issue, the inquiry, in the particular phase under discussion is, whether the concept proved to have existed prior to the application for the patent is sufficiently definite and similar enough, in essence, to that of the patent to be substantially the same invention as that patented. The fact that any change from the original idea whose date is proved, and that covered by the patent, was made by the originator of the idea himself does not matter. If the change has been of the essence, has required inventive genius, the date of the new invention can not be carried back to that of the original. "The invention or discovery relied upon as a defense must have been complete, and capable of producing the result sought to be accomplished; . . . If the thing were embryonic or inchoat; if it rested in speculation or experiment; if the process pursued for its development had failed to reach the point of consummation, it can not avail to defeat [or to protect] a patent founded upon a discovery or invention which was completed, while in the other case there was only progress, however near that progress may have approximated the end in view. The law requires not conjecture but certainty. If the question relates to a machine, the conception must have been clothed in substantial forms which demonstrate at once its practical efficiency and materiality."[180] And again,[181] "Although prior unsuccessful experiments in part suggested the construction which the patentee adopted and perfected, this fact will not defeat [nor protect] the patent."[182] Neither would incomplete, inchoate

[180] Coffin v. Ogden, 18 Wall. 120, 124.

[181] Whittlesey v. Ames, 13 Fed. 893, syl.

[182] Agawam Co. v. Jordan, 7 Wall. 583, 602. "The settled rule of law is that whoever first perfects a machine is entitled to the patent, and is

ideas of the invention suffice to carry the date of invention back of the date of application for the patent, against a showing of knowledge between the dates of the experiments and that of the application.[183]

As illustrative of the effect of collateral circumstances upon proof of the date of invention, is the case, just referred to, of Loom Co. v. Higgins.[184] Here, one Davis professed to have invented a device, prior to Webster's production of it. The court rejected this claim, for lack of evidence, and said incidentally, "Another circumstance seems to us as having much weight in this connection. It was found that the loom No. 50, and the Sterling loom, when completed in 1871, worked with wonderful success; sometimes as many as sixty yards being woven on one loom in ten hours. If Davis was the inventor of the wire motion applied to these looms, why did he never apply for a patent for it? He was already a patentee of a different and inferior apparatus. He knew all about the method of going about to get a patent. He belonged to a profession which is generally alive to the advantages of a patent-right. On the hypothesis of his being the real inventor his conduct is inexplicable."

the real inventor, although others may have previously had the idea and made some experiments toward putting it into practice. He is the inventor and is entitled to the patent who first brought the machine to perfection and made it capable of useful operation."

[183] For further authorities see the discussion of the inquiry as to what constitutes sufficient knowledge to anticipate. Westinghouse Elec. Co. v. Beacon Lamp Co., 95 Fed. 462; The Wood-paper Pat., 90 U. S. 566, 594; Allis v. Buckstaff, 13 Fed. 879; Hillard v. Fisher-Book-Typewriter Co., 159 Fed. 439, 441, "Statements in a prior application relied upon to prove anticipation must be so clear and explicit that those skilled in the art will have no difficulty in ascertaining their meaning"; Lincoln Iron Works v. M'Whirter Co., 142 Fed. 967.

[184] 105 U. S. 580.

CHAPTER III

Utility

The statute provides that an invention to be patentable must not only be new but must be "useful" also.[185] It does not, however, say just how much usefulness there shall be, nor does it indicate what is meant by "useful." The interpretation is left open to the courts. It is clear from the decisions that "useful" is not used in the sense of "usable." If it were in this sense, the patent office would be encumbered with a great many fewer absolutely impractical "paper" inventions. There are, for instance, of record, in the neighborhood of 700 patents for various types of explosion turbines and parts thereof. Yet manufacturers are unanimous in saying that a usable, practicable, explosion turbine can not be built, so far as present knowledge of metals goes. It is evident therefore that these 700 patents are not for "usable" devices; yet no one would deny that they are valid patents.

The requirement of usefulness has in fact been restricted to the *purpose* for which the device is intended, and has not been connected with the actual operation of the device. In an early case it was contended strongly that the requirement should properly be applied to the device itself as well as to the purpose of it. The literal form of the statute possibly bears out this assertion, that a "useful art, machine, manufacture or composition of matter" is one which can be used. But the generally held judicial opinion was voiced in that case by Mr. Justice Story as follows:[186] "To entitle the plaintiff to a verdict, he must establish, that his machine is a new and use-

[185] § 4886—"any new and useful art, machine, manufacture or composition of matter"; § 4893—"if on such examination it shall appear . . . that the same (the invention) is sufficiently useful and important, the Commissioner shall issue a patent therefore."

[186] Lowell v. Lewis, 1 Mason 182.

ful invention; and of these facts his patent is to be considered merely prima facie evidence of a very slight nature He must, in the first place, establish it to be a useful invention; for the law will not allow the plaintiff to recover, if the invention be of a mischievous or injurious tendency. The defendant, however, has asserted a much more broad and sweeping doctrine; and one, which I feel myself called upon to negative in the most explicit manner. He contends, that it is necessary for the plaintiff to prove, that his *invention is of general utility;* so that in fact, for the ordinary purpose of life, it must supersede the pumps in common use. In short, that it must be, for the public, a better pump than the common pump; and that unless the plaintiff can establish this position, the law will not give him the benefit of a patent, even though in some peculiar cases his invention might be applied with advantage. I do not so understand the law. The Patent Act uses the phrase "useful invention" merely incidentally; it occurs only in the first section, and there it seems merely descriptive of the subject matter of the application, or of the conviction of the applicant. The language is, 'when any person or persons shall allege, that he or they have invented any new and useful art, machine, etc,' he or they may, on pursuing the directions of the Act, obtain a patent. Neither the oath required by the second section, nor the special matter of defence allowed to be given in evidence by the sixth section of the act, contains any such qualification or reference to general utility, to establish the validity of the patent. Nor is it alluded to in the tenth section as a cause, for which the patent may be vacated. To be sure, all the matters of defence or of objection to the patent are not enumerated in these sections. But if such an one as that now contended for, had been intended, it is scarcely possible to account for its omission. In my judgment the argument is utterly without foundation. All that the law requires is, that the invention should not be frivolous or injurious to the well-being, good policy, or sound morals of society. The word 'useful,' therefore, is incorporated into the act in contradistinction to mischievous or immoral. For instance, a new

invention to poison people, or to promote debauchery, or to facilitate private assassination, is not a patentable invention. But if the invention steers wide of these objections, whether it be more or less useful is a circumstance very material to the interest of the patentee, but of no importance to the public. If it be not extensively useful, it will silently sink into contempt and disregard."[187]

Even though the device set forth in the patent be quite impracticable, in that precise substantial form, it is not necessarily unpatentable. This is another illustration of the fact that it is the idea which is really patented and not the particular form of embodiment described in the application. This is quite definitely settled by those cases which hold that a patent is infringed by some particular device, even though the latter would work successfully and the one patented would not, in the form described, work as well, if the change by which the successful operation was brought about was due solely to mechanical skill. "A machine can not be pronounced useless or impracticable, because it is susceptible of improvement which will obviate or prevent embarassments to its most perfect operation. If it could, then it would be the duty of the Courts to pronounce the patent for any machine void, so soon as ordinary mechanical judgment, or even ingenuity, had suggested an improvement which made it perform its desired office more rapidly or more perfectly."[188]

Indeed, a patent is valid even though the device as literally described in it will not operate at all, if it can be made practically usable by mere mechanical skill. Such facts as these came before the court in the case of Crown Cork & Seal Co. v. Aluminum Stopper Co.[189] This was a suit for infringement, and defense was made that the complainant's patent, on which his action was based, was void for lack of utility. The de-

[187] He repeats much the same thing in Bedford v. Hunt, 1 Mason 302; Acc. Kneass v. Schuylkill Bank, 4 Wash. 9, Fed. Cas. 7875.

[188] Wheeler v. Clipper Mower & Reaper Co., 10 Blatch. 181, 189; Rogers Typograph. Co. v. Mergenthaler Linotype Co., 64 Fed. 799; Lamb Knit Goods Co. v. Lamb Glove Co., 120 Fed. 267.

[189] 108 Fed. 845.

fendants introduced, as evidence of this lack of utility, the fact that one Lorenz had tried to make bottle stoppers by following faithfully the directions of the complainant's patent and had been unable to do so successfully. Other witnesses also testified that success could not be attained by following the directions. The trouble was that the flange of the stopper as described was too short to fold tightly over the crown of the bottle opening. A mere slight increase in length of this flange was all that was necessary to obviate the defect. This, the court said, any competent mechanic skilled in the art would have realized, and Lorenz and the others failed merely because they were not sufficiently and properly conversant with the particular art. No invention was needed to remedy the inutility of the device. Hence the court held the patent to be valid, despite the fact that, followed literally, it was not usable.

This court said specifically, "Utility being one of the qualities necessary to patentability, the granting of the patent is prima facie evidence of it; and this is not negatived by the fact that the device is susceptible of improvement, or that like inventions are so far superior to it that they may entirely supersede the use of it. Comparative utility between machines or processes is no criterion of infringement, and comparative superiority or inferiority does not necessarily import noninfringement; nor does it tend to avoid infringement if the defendant's device is simpler and produces better results, unless the cause is due to a difference in function or mode of operation or some essential change in character. Differences in utility do not necessarily import differences of invention. The burden is upon the defendant, in a case like this, to prove want of utility. He must show either that it is theoretically impossible for such a device to operate, or demonstrate by clear proof that a person skilled in the art to which the invention pertains has endeavored in good faith to make the patent work, and has been unable to do so. One of the reasons for the failure of the experiments of Lorenz and Hall may be found in the fact that they followed closely the directions in the drawing of the Painter patent as to the dimensions of the

devices shown therein. The object of the drawings filed in the patent office is attained if they clearly exhibit the principles involved, and, in a case like this, rigid adherence to the dimensions thus exhibited is not required or expected, and, if an intelligent mechanic would so proportion the dimensions as to secure practical results, inutility is not demonstrated by experiments with material identical in form and proportion of parts with the drawings in the patent. The special reason assigned for lack of utility consists in the shortness of the flange of the cup which constitutes the bottle stopper, and increase in the length of the flange would cure the defect. That is so obvious that no inventive faculty need be invoked to suggest it, and the learned counsel for the defendants admits in his argument that the bottle stopper of Fig. 6 in the Painter patent can be made useful by sufficiently increasing the length of its flange so as to increase the depth of the cup. We cannot think that a decision adverse to the utility and operativeness of this invention could safely rest on the ill success of experiments made by those who were not specially skilled in the art, and where it is not obvious that they were specially desirous of making their experiments succeed."[190]

Furthermore, if the device as shown in the patent requires the application of something more than mechanical skill to make it operate successfully, the courts have not declared the patent invalid; they have declared that the improved and operative device is itself an invention, so *different* from the inoperative one as not to be anticipated by it.[191]

This doctrine, that practical usability is not necessary to patentability, and is not included in the "usefulness" of the statute, seems to be a perfectly logical and desirable one. It offers a maximum of protection without any deleterious result. If it develops that a device has been patented which will not work in any practical way and can not by mere mechanical change be made usable, no harm whatever is done by the issue of the patent. It secures to society no knowledge of

[190] Acc. Brunswick-Balke-Collender Co. v. Backus etc. Co., 153 Fed. 288.

[191] See the discussions under utility as evidence of invention, and unsuccessful experiments as anticipation.

any value to be sure; but the public has not been deprived of anything which it could possibly desire. If it could be asserted that the public was actually deprived of something, in being precluded from the use of the subject matter covered by the patent, the very claim itself would demonstrate beyond contradiction the fact that the device is actually of some use. On the other hand, the issue of a patent for a possibly inoperative or inutile device may be of great advantage to the patentee. Its seeming inutility may be due merely to mechanical defects which anyone skilled in the art can remove. If there is ever call for the device, within the life of the patent, the patentee should have, as the statute provides, the monopoly of response to that call. If a change of circumstances should make usable a device theretofore wholly futile, the patentee should have the protection to which he is entitled for having revealed the information whereby the newly developed need may be satisfied. If the information which the patentee has given could not be made useful by mechanical skill whenever needed, or if the thought of using it to satisfy the newly developed need itself amounted to invention, the existence of the patent would not prevent the maker of the inventive changes or the originator of the new and "non-analogous" use from putting his own ideas into practice.[192]

There is just one possibility in which the valid patenting of an inutile device might result harmfully to the public. A later inventor might evolve an *addition* to the inoperative device which, when used as a part of the patented device, or in connection with it, would make it operate successfully. The later invention could not be used alone. In such case it is conceivable that it could not be used at all without the consent of the patentee of the foundational device. In all probability, however, the courts would hold, under such circumstances, that the later device was not a mere patentable addition to the already patented device, but that the later inventor was entitled to a patent for an entirely new device, which did not infringe and was not anticipated by the earlier unsuccessful de-

[192] See discussion under "new use for an old device."

vice. It is not difficult to comprehend that a device which works may be an entirely different device from one which does not work, even though the successful one contains, as an element of itself, the device which failed of success. This is seemingly the actuality in many of the cases holding devices not to have been anticipated by similar but unsuccessful experiments or by other unsuccessful forms of prior knowledge. It does not appear, however, to have been specifically considered by the courts.

As a matter of fact, the charge that a patent is void for lack of utility can by its very nature hardly come before a court for consideration. The only person in a position to make such a change would be one desiring himself to use the patented device. It could not be brought up as an abstract proposition. It could not be brought up by a patentee seeking to avoid an allegation of lack of novelty in his own patent. In the latter case, if the knowledge set up as anticipation did in fact amount to anticipation, it would do the patentee no good whatever to answer that the patent in which the anticipating knowledge was shown was *void*. The *prior knowledge* would remain as proved, whether covered by a valid patent or open to the public. In such circumstances, the inutility of the earlier device could be set up, not as affecting the validity of the patent for it, but only as showing that it was not identical with the later device. The only possible way, therefore, in which the invalidity of a patent, because of lack of usefulness in the device covered by it, could be called into issue, is by its being set up in answer to a charge of infringement. An alleged infringer might answer, as has been done, that the complainant's patent was itself void for lack of utility. But, on the face of it, such a charge could not be sustained. If the defendant in such a case were in fact *infringing*, his device must be substantially the same as the one covered by the patent. The very fact that the infringer was using the equivalent of the patented device, and thereby infringing, would be

conclusive evidence against him that the patented device could be used, that it was in fact "useful."[103]

Some slight confusion has been caused by the failure of courts to recognize the distinction between comparative utility, as showing the difference between inventions, and usefulness, as necessary to the validity of a patent. An example of this appears in Bliss v. The City of Brooklyn.[104] Here, a patent had been issued for a particular form of hose coupling. Suit was brought against the city, for infringement of this patent. By way of defense it was contended that the device shown by the patent was "worthless, and the patent, for this reason, invalid." The court said, "The law upon the subject of utility is not in doubt. No particular amount of utility is required to render an invention patentable, but there must be some. When the invention is shown to be worthless, the patent must fail. Such appears to be the case in the present instance. The evidence fails to disclose any instance where the combination described in the reissued patent of 1869 has been successfully used. The plaintiff himself testifies, that he does not know of any such coupling having been found to be of practical use. Although he sells couplings, he never sold any such, and only recollects three instances where their use has been attempted. His testimony satisfies me that the combination described in the patent here relied on proved inoperative and worthless." On this ground the court held the patent to be invalid. It might be very pertinently asked, why the city was using the device if it were in reality useless. The answer, as shown by the facts, is that the city was not using the device covered by the patent at all. Its device contained an additional feature, a peculiar lug which served to remedy the defects of the earlier device. "The introduction of this lug," said the court, "makes the combination a different combination from that described in the plaintiff's patent of 1869. But, it is said, that the introduction of the lug is simply an improvement. I cannot se

[103] "The patent was itself evidence of the utility of Claim 4, and the defendant was estopped from denying that it was of value" (dictum) Westinghouse Co. v. Wagner Mfg. Co., 225 U. S. 604, 616.

[104] 10 Blatch. 521.

consider it. The two combinations are distinct, because they have different elements and attain a different result. In the one combination, no lug appears, and no practical result is attained. The introduction of the lug, for the first time produced a combination which accomplished any useful result. An added element, which increases the efficiency of a combination, of itself effective, is of the nature of an improvement; but, when the added element is essential to the production of any useful result, such an addition is not an improvement, but its use gives birth to the only patentable, because the first useful, combination."

The real ground of the decision, therefore, appears to have been lack of substantial identity between the two devices, as demonstrated by the inutility of the earlier one. It was quite outside the scope of the case, and unnecessary, to hold that the patent sued on was invalid.[105]

That "useful" as employed in the statute appertains to the *purpose* of the device rather than to the device itself, is further indicated by the few cases in which patents have been declared invalid for lack of utility. One of the most illuminating of these cases is that of Rickard v. DuBon.[106] The complainant here had secured a patent for a process of treating tobacco leaves, while still growing, in such a way as to produce spots upon them. The alleged purpose of the invention was to improve the combustion properties of the leaves. The court dismissed the suit, saying "The patent shows upon its face that it is intended to secure a monopoly in the art of spotting growing tobacco, without reference to improving its quality. The only fact that lends color to the theory that the treatment of the leaves by the patented process will improve the quality is that tobacco rich in organic salts of potash absorbed from the soil has a porous carbon, and is therefore of superior burning quality. But tobacco in which lime replaces the potash has to that extent a compact carbon, and will extinguish rapidly. According to the specification, lime can be

[105] In Gibbs v. Hoffner, 19 Fed. 323, "usefulness" is very evidently confused with lack of inventive novelty in view of the prior state of the art.

[106] 103 Fed. 868.

substituted for potash in applying the process of the patent. And the claims of the patent cover a treatment by any alkali. In authorizing patents to the authors of new and useful discoveries and inventions, congress did not intend to extend protection to those which confer no other benefit upon the public than the opportunity of profiting by deception and fraud. To warrant a patent, the invention must be useful; that is, capable of some beneficial use as distinguished from a pernicious use."

In another case,[107] it was said, "In this case the verified answer not only denies that the invention is new and useful, but alleges a specific fact, which, if true, disposes of the question of utility. It charges directly that the apparatus is used for gambling purposes, and that it cannot be used for any other purpose. Clearly, this is an allegation which, under the rule, should be treated as testimony in favor of the defendants, and, in view of the fact that the complainant has introduced no testimony to support the patent, it is, in my judgment, sufficient to entitle the defendants to a decree in their favor."[108]

It is to be observed that this doctrine of invalidity is restricted to those cases in which the device can be utilized for an undesirable and "useless" purpose only. The fact that it may be used in an immoral, harmful, or otherwise undesirable way does not deprive it of patentability, if it is capable of a beneficial use also. Thus, in Fuller v. Berger,[109] the patented device was a bogus-coin detector for coin operated slot-machines. It appeared that the complainants, who were assignees of the inventor, had never used the device, nor allowed its use, on anything except gambling machines. The court found that there was no element of chance necessarily connected with the use of the detector, and that it could be applied to perfectly legitimate machines, as well as to those used for gambling, and would work on them equally well. It was decided there-

[107] Schultze v. Holtz, 82 Fed. 448.

[108] Animarium Co. v. Filloon, 102 Fed. 896; Mahler v. Animarium Co., 111 Fed. 530.

[109] 120 Fed. 274.

fore, that although the device could be used for immoral and harmful purposes, more readily, perhaps, than for innocuous ones, and had been only so used, it could not be declared unpatentable on that account.[199a]

[199a] It may be noted that while, as the foregoing discussion points out, the utility of an invention has nothing to do with its validity, the Patent Office occasionally takes an opposing position. It has been known to refuse patents on the ground that the alleged invention was impractical and would not work.

CHAPTER IV

The Person Entitled to a Patent

Only an inventor is entitled to apply for a patent for the invention. The patent itself may, if the inventor requests, be issued to another,[200] but the same section of the statute which provides for this declares "in all cases of an application by an assignee for the issue of a patent, the application shall be made and the specification sworn to by the inventor or discoverer." Another section provides[201] "The applicant shall make oath that he does verily believe himself to be the original and first inventor or discoverer of the art, machine, manufacture, composition or improvement for which he solicits a patent." The only exception to the requirement that the inventor himself must apply for the patent is that of § 4896 which provides that, "When any person, having made any new invention or discovery for which a patent might have been granted, dies before a patent is granted, the right of applying for and obtaining the patent shall devolve on his executor or administrator, in trust for the heirs at law of the deceased, in case he shall have died intestate; or if he shall have left a will disposing of the same, then in trust for his devisees, in as full manner and on the same terms and conditions as the same might have been claimed or enjoyed by him in his lifetime; and when any person having any new invention or discovery for which a patent might have been granted becomes insane before a patent is granted the right of applying for and obtaining the patent shall devolve on his legally appointed guardian, conservator, or representative in trust for his estate in as full manner and on the same terms and conditions as the same might have been claimed or enjoyed by him while sane; and when the application is made by such legal representatives

[200] § 4895.

[201] § 4892.

the oath or affirmation required to be made shall be so varied in form that it can be made by them. The executor or administrator duly authorized under the law of any foreign country to administer upon the estate of the deceased inventor shall, in case the said inventor was not domiciled in the United States at the time of his death, have the right to apply for and obtain the patent. The authority of such foreign executor or administrator shall be proved by certificate of a diplomatic or consular officer of the United States. The foregoing section, as to insane persons, is to cover all applications now on file in the Patent Office or which may be hereafter made."

With this exception, a patent which has been isssued upon the application of one who is not the inventor of the device thereby covered is void. It is no defense to this invalidity that the application was made with the express consent of the inventor. In Kennedy v. Hazelton,[202] the defendant had contracted to assign to plaintiff all patents which he might thereafter obtain from the United States or Canada for inventions appertaining to steam boilers. After this contract he did invent an improvement on steam boilers. In order to evade the effect of his contract he entered into an arrangement with one Goulding whereby application for a patent for this invention was to be made in Goulding's name as inventor, though at the defendant's expense. Goulding, then, "at the request and by the procurement of the defendant" filed an application and the patent was granted. He then assigned it to defendant. Plaintiff brought suit in equity to compel defendant to assign this patent to him, according to the terms of the contract spoken of. The court refused this request on the ground that it could not compel the assignment of an absolutely void patent, and referred the plaintiff to an action at law for breach of court. In finding that the patent issued to Goulding was void the court said, "The patent law makes it essential to the validity of a patent, that it shall be granted on the application, supported by the oath, of the original and first inventor (or of his executor or administrator), whether the patent is issued to him or

[202] 128 U. S. 667.

to his assignee. A patent which is not supported by the oath of the inventor, but applied for by one who is not the inventor, is unauthorized by law, and void, and, whether taken out in the name of the applicant or of any assignee of his, confers no rights as against the public. Rev. Stat. §§ 4886, 4920.

"The patent issued by the Commissioner to the defendant as assignee of Goulding is only prima facie evidence that Goulding was the inventor of the improvement patented; and the presumption of its validity in this respect is rebutted and overthrown by the distinct allegation in the bill, admitted by the demurrer, that the defendant, and not Goulding, was the inventor.

"As the patent, upon the plaintiff's own showing, conferred no title or right upon the defendant, a court of equity will not order him to assign it to the plaintiff—not only because that would be to decree a conveyance of property in which the defendant, has, and can confer, no title but also because its only possible value or use to the plaintiff would be to enable him to impose upon the public by asserting rights under a void patent."[203]

Even if the true inventor joins in making application with some one else who was not jointly an inventor with him, the patent is void. Conversely if an invention has been the joint production of two persons, an application by one of them alone as *inventor is insufficient to support a patent.* In the words of the court,[204] "it is one thing to say that the machine was invented by Louis Royer, for example, and quite another thing to say that it was invented by Herman and Louis Royer. If this machine was invented by Herman and Louis, then it would be untrue to say that it was invented by Louis only or by Herman. If, on the other hand, it was invented solely by Louis or solely by Herman, then it would be equally untrue to say that it was invented by Herman and Louis; and you are to understand the law to be that if, in this respect, the patent contains a statement which is untrue, and not in accordance

[203] Hammond v. Pratt, 16 O. G. 1235.

[204] Royer v. Coupe, 29 Fed. 358, 363; Hartshorn v. Saginaw Barrel Co., 119 U. S. 664.

with the facts, then the penalty which the patentee pays is that his patent is absolutely void, and of no effect."[205]

Effect on real inventor's rights of another's application. Just how the rights of the real inventor would be affected by an application made in the name of some one else is not certain. If the application were made without the consent, express or tacit, of the true inventor, his right would not be in any way derogated thereby. On the other hand, if the true inventor, knowing that he was the inventor, should consciously permit application to be made by another as inventor, it is highly probable that this would be considered as conclusive evidence of his intent to abandon his invention to the public. To deliberately allow another to ask for a patent would be tantamount to a gift of the invention to the world, since the inventor would be presumed to know that the patent, if issued to the other, would be void and of no protection against use by the world. The only doubt might arise in those cases where one who was a joint inventor had applied for a patent in his own name, as sole inventor, honestly believing that to be the fact. Or conversely, it might arise in cases where an inventor honestly be-

[205] Welsbach Light Co. v. Cosmopolitan, etc. Light Co., 104 Fed. 83, 43 C. C. A. 418; DeLaval Separator Co. v. Vermont Farm Machine Co., 135 Fed. 772, 68 C. C. A. 474, "It is true that the testimony of an inventor in derogation of the validity of his own patent is usually open to suspicion; and in case like this, where he has made oath, for the purpose of obtaining a joint patent, that he and another inventor were the joint inventors of the subject-matter, the court should reject his subsequent testimony to the contrary, unless it carries a clear conviction that he did not intend to falsify originally, but made the oath under misapprehension or mistake. In this case the applicants were foreigners, supposedly unfamiliar with our law of patents; and they had agreed to be joint owners of the patent. Each had devised improvements which were within its general scope, and those which had been the work of Reuther were disclosed and illustrated in the specification and drawings, as well as were those which were the work of Melotte. Thus both had contributed to the invention in its entirety. Under these circumstances it is not strange that they did not discriminate between the things devised and the things which were not necessarily covered by the claims, and that they should have considered themselves joint inventors of the entirety, although some of the improvements were independently devised by one and some of them by the other." Heulings v. Reid, 58 Fed. 868.

lieved another to be entitled to joint credit, and made application, accordingly, jointly with the other. Whether such an application, would, of itself, preclude the true inventor from making another application when he should discover his mistake seems not to have been definitely passed on by the courts.

RIGHT NOT RESTRICTED TO PARTICULAR PERSONS. The right to obtain a patent is not restricted to any class of persons as respects sex, age, race, citizenship or anything else. According to the statute, "Any person" who has made an invention may have a patent therefore. Within the universal scope of this privilege come aliens,[206] married women, and children.[207] While a corporation is a "legal person," in some senses, it could not, of course, apply for a patent; it has no mind of its own with which to invent anything. But it may be made the assignee of a patent, and a patent, applied for by the inventor, may issue in the name of a corporation.

PATENT MAY BE ISSUED IN NAME OF ANOTHER. Although only the inventor may apply for a patent, the patent itself may be issued to anyone else whom the inventor designates, by an assignment of his right which has been put on record in the Patent Office.[418] The exclusive right of enjoyment of the invention is then, of course, in the assignee, the patentee named. The patent when issued is not rendered invalid by the fact that the person in whose name it was asked to be issued, and to whom it was eventually granted, was no longer living at the date of issue. The statute reads in the disjunctive, in providing that the patent shall grant the monopoly to the "patentee, his heirs, or assigns." Hence if the patentee himself be dead, the grant takes effect in his heirs or assigns. This circumstance, the death of the patentee before actual issue of the patent, was one of the elements in the case of DeLaVergne

[206] Shaw v. Cooper, 7 Peters 292.

[207] Fetter v. Newhall, 17 Fed. 841. R. S. Title XI, § 480, "All officers and employes of the Patent Office shall be incapable, during the period for which they hold their appointments, to acquire or take, directly or indirectly, except by inheritance or bequest, any right or interest in any patent issued by the Office."

[418] § 4895 R. S.

Machine Co. v. Featherstone.[419] The defendant, on suit for infringement, set up the contention that the patent was invalid because of that circumstance; that it was a requisite in all valid grants that there be a grantee *in esse*, a person capable of receiving the grant *in praesenti*;[420] that "heirs" was intended only to indicate an estate of more than life, and was not a word of purchase. The lower court held the patent void on this account. The Supreme Court reversed this decision, saying, "We are to remember that it is to be assumed that James Boyle had made a useful invention and taken all the necessary steps to secure the benefits to be derived therefrom; and that in view of the policy of the government to encourage genius and promote the progress of the useful arts, by securing to the inventor a fair and reasonable remuneration, a liberal construction in favor of those who claim under him must be adopted in the solution of the principal question before us. It is also to be observed that, under the practice of the Patent Office, a considerable time necessarily elapses after a patent for an invention is allowed before it actually issues; that the applicants often reside at a great distance; that the cases when an inventor dies between the date of the application and the allowance, and the allowance and the issue, must be of frequent occurrence; and that this may happen when neither the office nor the inventor's solicitors are aware of the death. The reflection is a natural one that Congress, which, in framing the provisions of the patent laws, must be presumed to have had these possible occurrences in mind, did not contemplate that all patents issued under such circumstances should be invalidated by the death of the inventor. What, then, was the intention of Congress in providing for a grant to the "patentee, his heirs or assigns?" Must it be construed as merely a personal grant to the individual, or may his personal representatives be treated as grantees? In view of these considerations, as the language of the statute admits of a construction which,

[419] 147 U. S. 209.

[420] Citing Galloway v. Finley, 12 Pet. 264; Galt v. Galloway, 4 Peters 332, holding a patent of land to a dead man and his heirs to be void. McDonald v. Smalley, 6 Pet. 261.

in sustaining the grant, effectuates the settled policy of the government in favor of inventors, our judgment is that that construction should be adopted, and that the statute should be read in the alternative, and the grant be treated as made to the patentee or his heirs or assigns."

WHO IS THE INVENTOR. The inquiry then arises, who is the inventor of any particular device. This can only arise subsequently to the inquiry as to whether or not an invention has been made. It differs essentially from the latter inquiry in this way also:—the one assumes that some particular person has produced a device and seeks to determine whether or not that production amounted to invention; the other assumes that a certain device is an invention and seeks to determine to whom the credit for that invention shall be given. The one question is "what is an invention" and, correlatively, who is *an* inventor"; the other "who is the inventor," and, as a basis for the answer, "what is *the* invention." It is with this inquiry that we have now to deal. To whom belongs the credit for any particular invention?

Since, as we have said before, an invention is an idea, the inventor is the person who has conceived the particular idea. The difficulty in answering the inquiry arises out of the fact that the idea of *means* is not always clearly delimited from the idea of the *result* sought to be produced and from the actual substantial *embodiment* of the idea. If the same person has conceived the idea of the result desired, and of the means of reaching or producing it, and has himself embodied the idea, there is, of course, no question. That person is the inventor. An issue arises, however, when different persons have accomplished the separate parts of the whole work.

In the case of the electric telegraph, for instance, it is comprehensible that one person might have conceived and promulgated the idea of using electricity for the transference of intelligence. He might have been the first to suggest that it would be a very desirable and beneficial result, if it could be accomplished. Another, starting with this idea, might evolve an idea of means for accomplishing this result; he might de-

vise the apparatus by which it could be done. A third person might do the technical work of constructing this apparatus, of making the necessary coils and keys, even of selecting the type of wire that would best carry the current and figuring the power of the magnets necessary. In such case it is evident that only the second of these three persons would be entitled to reward as an inventor. The first has been, perhaps, a dreamer and a visionary, but he has given the world nothing more than, at most, an aspiration toward which to strive. He has not furnished anything whatsoever toward the attainment of that aspiration. He has conceived a result, only; not the idea of an art, machine, manufacture, or composition of matter. The third person has been nothing more than a mechanic. He has simply embodied the idea of the second person and made what the second directed him to make, using his technical skill in making it as effective as possible. He has done only what any competent mechanical engineer skilled in that particular trade could have done. The second person, however, has truly given something to the world. He has given a knowledge of how to reach the desirable result pointed out by the first.

As this example is put, the division of accomplishment is clear and sharp. But is it conceivable that the line of distinction might almost be undiscernable. Suppose, for instance, number two had not conceived a distinct idea of means, but had only suggested that electricity might be used for the transmission of intelligence by means of some arrangement whereby the current could be interrupted and the interruptions recorded. If, from this suggestion, the third man had evolved an actual arrangement of magnets and keys whereby this recorded, or audible, interruption could be systematically accomplished, to whom then would belong the credit of the invention? The first of these gave something more than a general idea of result—if not precisely an idea of means, it was at least an idea of result by means of which to produce another result. On the other hand, the second man has done something more than merely to carry out the directions of the

first. He has created something, the particular means, by which the suggested results are accomplished. Yet what he did might be something that any competent person trained in electrical engineering could have done if given the fundamental suggestion produced by the other person. If this be the case, the benefit to the public is due to the first of the two.

Cases such as this arise not infrequently, and it devolves upon the court to decide which of the two is entitled to the reward given for invention. The question is absolutely impossible of determination, of course, by any rule of thumb. Like practically all the other issues of the patent law, each case must be decided in accord with its own particular circumstances. Each court must decide for itself what is the real invention, and which of the alleged inventors has in fact given it to the world. If anyone might have envisioned the result, but not any technician could have produced the means of attaining it, credit belongs to the latter. If however it took more than the mere ordinary course of mind, under the circumstances, to think of the result in such terms of means, however indefinite, that any technician could thereafter accomplish it, the credit is due the abstract thinker. The only value which particular precedents can have is to indicate the various factors which have influenced other courts.[208]

[208] Pitts v. Hall, 2 Blatch. 229. "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. Thus, in this case, the arrangement patented must be the product of the mind and genius of Carey, and not of Bowers' or Fowler's. This is obvious to the most common apprehension. 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. In other words, the suggestions must have been sufficient to enable Carey, in this case, to construct a complete and perfect machine. 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 general it may be said that when the concept is that of a definite machine, manufacture or composition of matter, the one who conceives it is the inventor, rather than the one who ingeniously figures out the way to embody the concept. This is illustrated by the case of Huebel v. Bernard.[209] Bernard had conceived the idea of overcoming certain objections in the customary type of sponge and soap holders for bath tubs, by making the holder of a peculiar form. He employed Huebel to make a holder for him and pointed out the distinctive and dominating feature of his improvement. He did not give Huebel any definite drawing or specifications however. Huebel having done the work claimed the invention. The court admitted that he had "made a neater and more perfect device than that in the mind of Bernard, at the time of the communication of his idea," but they credited the invention to Bernard, on the ground that Huebel had used only mechanical skill. On the other hand, the idea of an indefinite machine, etc., only vaguely conceived in its details, and known by its results rather than by its construction, is really only an idea of a result to be accomplished—namely the creation of a machine having the value or the effect of the machine desired. And if the concept is one of a desirable result only, it is not a patentable invention (if "invention" at all), and the person

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. These are all the observations I shall trouble you with on the first branch of the case. It is an important question, and, in one aspect of the case, puts an end to the controversy. It is for you to say, after weighing carefully the whole evidence who is entitled to the merit of this improvement—who invented and perfected it. I do not mean, who constructed the first machine, but who conceived and gave practical form and effect to the ingenious arrangement which constitutes the improvement engrafted on the old machines." Agawam Co. v. Jordan, 7 Wall. 583, 603; United Shirt & Collar Co. v. Beattie, 149 Fed. 736.

[209] 15 App. D. C. 510.

entitled to a patent is he who conceives the means of making the desired machine, or otherwise accomplishing the desired result. This is illustrated by Forgie v. Oilwell Supply Co.[210] The patent here involved was for a means of unscrewing certain oil well tools. Formerly this had been done by manual effort and was accomplished with great difficulty. Forgie who was familiar with the methods in use and their unsatisfactoriness, conceived the idea that it would be possible to accomplish the result by mechanical power of some sort. There had been recently invented by one Barrett a hydraulic lifting jack and Forgie suggested to Barrett that his jack could probably be applied in some way to the purpose. Barrett then made certain changes in the jack and adapted it to be used in a horizontal position to effectuate the end desired. Forgie obtained a patent for this device as his own invention, which was the patent sued on. The suit was dismissed on the ground that if there was any invention at all in the device, the credit belonged to Barrett, not to Forgie. "Undoubtedly," said the court. "Mr. Forgie did describe to Mr. Barrett the usual method of coupling and uncoupling the tools with the old appliances, and the great necessity for overcoming existing difficulties. He conceded the value and power of the jack invented by Mr. Barrett, and repeatedly said that, if it could only be made applicable to this work of coupling and uncoupling oil-well tools, he thought it would do the work with ease. But there was the rub. How could it be so applied? Evidently Forgie had not the slightest idea as to this, for nowhere does it appear that he made the slightest suggestion, of any practicable benefit, looking to this end. . . . "Admitting that he may have had some conception of what was wanted—which, however, is very doubtful—mere conception is not invention. It is the crystallizing of that conception into the invention itself, operative and practical, that entitles the inventor to the protection of letters patent."

Between these two cases is the wide field in which decisions can be made only as the mentality of each particular judge,

[210] 58 Fed. 871.

acting upon the circumstances shown by the evidence, concludes that the idea was the practical invention, or that it was only an idea of result, the means of accomplishing which was invented by the one who embodied the particular device used thereto.

The fact that one has been doing certain mere mechanical work for another, during the process of which an accident reveals a result not expected, and so new that the use of that process to produce the result can be patented, does not *ipso facto* entitle the workman to the patent. This came before the court in Minerals Separation Co. v. Hyde.[211] The patentees were engaged in research work to find a process of separating mineral matter from crushed ore more economical than those in use. During the experiments, a wholly unthought of method was revealed by accident, and a patent secured for it. The *results* that occurred during the experiment were clear to anyone, and the workman in charge could probably have reproduced them at will by repeating his actions by rote. The principles or natural laws which produced the results, that is to say, the reason for the particular results, had to be thought out. When the patent came into litigation, claim was made that the patentees were not the original discoverers of the process patented because "an employee of theirs happened to make the analyses and observations which resulted immediately in the discovery." The court dismissed this contention without further comment than that, "The record shows very clearly that the patentees planned the experiments in progress when the discovery was made; that they directed the investigations day by day, conducting them in large part personally and that they interpreted the results."

It does not appear from such facts as are given that the employee had any realization whatever of the desirableness of the result. The "invention" lay before his senses; his mode of operation had produced certain results, but he himself had conceived no idea of relation between method and result. It remained for his employer to do that; to perform the mental

[211] 242 U. S. 261.

operation which constitutes invention. If this assumption is correct, the decision of the court is wholly in harmony with those cases holding that unrecognized events, though prior in time, do not serve to negative novelty in an invention. The public has never been treated as having been in possession of those transient combinations of circumstance producing a certain result when the relation or circumstance and result has not been recognized. He who later gives knowledge thereof to the world, gives it something new.

If the employee had recognized the sequence of circumstance and result in such a way as to bring into being a conscious appreciation thereof, so that he might have applied it to practical use, it is doubtful if his claim to the title of inventor could have been avoided. It is well settled that an inventor's ignorance of the principle by which a desired result is produced does not detract from the patentability of his idea of means. All he needs to know is that a given result can be produced by certain means. The employee in this case would have been the *first* to have conceived this particular means or method of producing the desired result and there is no reason why, in such case, he should not be considered the true inventor. The *right to a patent*, however, might be vested in the employer by the terms of the employment.

JOINT INVENTIONS. The difficulty of determining who is the inventor of a particular device would seem to be ameliorated to some extent by the theory of "joint" inventors. If it is possible that two or more persons may be equally and jointly entitled to the credit for an invention, the troublesome necessity of attributing it to some one person may often be avoided. The difficulty just discussed is in determining the person to be properly accredited "inventor," where "one suggests an idea in a general way and the other falls in with it and gives it definite practical embodiment." If we can say, as in the case from which the quotation is made,[212] that "the two may be considered joint inventors," an extremely troublesome decision is rendered unnecessary. Judicial opinions and text

[212] Gottfried v. Phillip Best Brewing Co., 5 B. & A. 4, 17 O. G. 675.

books are replete with expressions indicating that inventions may be the joint product of several minds. Patents have been actually issued for joint inventions, and such patents have been sustained by the courts, when their validity was in question on grounds other than the fact of their being to "joint inventors." They have thus been quite indisputably, though obliquely, recognized as possible and proper. Mr. Justice Story discussed this, saying,[213] "A joint patent may well be granted upon a joint invention. There is no difficulty in supposing in point of fact, that a complicated invention may be the gradual result of the combined mental operations of two persons acting together, pari passu, in the invention. And if this be true, then as neither of them could justly claim to be the sole inventor in such a case, it must follow, that the invention is joint, and that they are jointly entitled to a patent. And so are the express words of the Patent Act, which declares, that if any person or persons shall allege, that he or they have invention, etc., a patent shall be granted to him or them for the invention."

In Quincey Mining Co. v. Krause, [214] a patent issued to two persons, apparently as joint inventors, was attacked for lack of novelty and on the ground that the invention was not really the joint product of their minds. The court answered, "It is next said that the evidence tends to show that this idea of placing the outlet inside of the mortar was the thought of but one of the patentees, and therefore could not be the subject of a joint patent. If a claim covered but a single idea, it would be difficult to conceive how it could be patented by two; but, when a claim covers a series of steps or a number of elements in a combination, the invention may well be joint, though some of the steps or some of the elements may have come as the thought of but one. Such is the invention here patented, and it would not be fatal to this patent if the fact is that Krause, Sr., gave birth to the best thought connected with a combination claim—which covers more than the place of the location

[213] Barrett v. Hall, 1 Mason, 447,472.

[214] 151 Fed. 1012, 1017.

of the discharge outlet. But it is by no means shown that Krause, Sr., alone solved the problem to be dealt with. The evidence relied upon is altogether too meager to overthrow a patent. To destroy a patent granted for a joint invention, upon the ground that it was the invention of only one of the patentees, would require very clear evidence of a very reliable character. That has not been produced."

Again in Welsbach Light Co. v. Cosmopolitan Light Co.[215] The court said, "The patent contains two claims. The first, which is in suit, is for a single thought,—the described improvement in strengthening incandescent mantles, consisting in coating the completed mantle with paraffine or other suitable material. That thought might well have come to one when in bed, and have been put to the practical test the next day, as testified. It is difficult to apprehend how two could have shared in the conception. The second claim, however, is distinctly different. It is for a method of forming incandescent mantles, consisting of a number of steps, the combining of which, to produce the desired result, may well have been the joint achievement of two or more minds."

In commenting upon this case it has been said, "But it is not difficult to conceive of a case where an invention consisting of a 'single thought' might be the product of collaboration of two minds working toward and finally reaching the single decisive step and taking it in step, so to speak, in such unity and simultaneousness that neither of the two could declare under oath which actually produced the 'single thought.' "[216]

It is difficult to comprehend, however, how Athena could have sprung, full panoplied, simultaneously from the heads of Zeus and of Metis also. In the womb of Metis, first, she may have been conceived and then come forth from the head of Zeus, but she could have come simultaneously from both only if both were one. As a child can not be the product of two wombs, so a single thought cannot emerge from two minds. It is true, that thoughts, alike in substance, may originate simultaneously in two minds, but they are two thoughts, despite

[215] 104 Fed. 83; Worden v. Fisher, 11 Fed. 505.
[216] Macomber, The Fixed Law of Patents, § 704.

their similarity. For *both* thoughts the patent statute has not made provision. It does not provide for a patent to all who have invented something, but authorizes one to the first inventor only. Nor, if it be comprehensible that two minds might produce the same invention coincidentally, has the statute provided for a patent to both. It has simply failed to consider such a case. To assert the contrary would be to maintain that utter strangers, working independently of each other, happening to produce an invention simultaneously, would both be entitled to patents therefore.[217]

The cases in which a patent has been directly attacked because issued to joint inventors are comparatively few before the upper courts. In nearly all of such cases, however, the attack has been sustained on the ground that the invention had not in fact been joint.

It is, therefore, perfectly sound as a matter of logic, and probably correct as a matter of precedent, to say that there can not be such a thing as a joint invention, if the invention be considered as a *single* idea. In such case the idea of means which constitutes the invention must, by its very unity of nature, have emanated from one mind only, and must be credited to but that one mind.

But if an invention can be thought of as a composite of two or more distinct, though co-operating ideas, it is possible for

[217] The wording of the statute, which, to Mr. Justice Story, gave countenance to the assertion that such things as joint inventions and joint inventors were contemplated by it has since been changed. The act of 1836, § 6, makes a partial change from the plural to the singular. It reads, "Any person or persons, having discovered any new and useful art, . . . not known by others before his or their discovery or invention thereof, and not, at the time of his application for a patent," etc. "But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description," etc. "The applicant shall also make oath or affirmation that he does verily believe that he is the original and first inventor." As the statute now stands, however, it is worded wholly in the singular; all words indicating the possibility of a plurality of inventors of a single invention have been eliminated. If this change means anything at all, it may be said to indicate the impossibility of joint invention.

it to be the joint product of two or more minds. The separate ideas which go to make up the invention may emanate from different minds, and the credit may be apportioned accordingly. To the writer, the idea of invention as a concept, which pervades all the law, seems to preclude the possibility of a composite of ideas. The credit seems, logically, to be due to the master mind who welds the lesser ideas into the single perfect whole which constitutes the real invention—the one comprehensive concept of means by which a particular result is to be accomplished. But while this seems the logical and consistent view, the contrary opinions of the courts must be recognized as effective authority, and it must be said that, at least insofar as an invention consists of two or more separable ideas, it may be the product of joint inventors to whom a patent may properly issue.

Joint producers of these several ideas which enter into the composite whole of the invention, are not entitled to joint credit for the invention in all cases. When the ideas which each has contributed are of comparatively equal importance, it is possible that they may be jointly entitled to credit for the whole. But when the ideas of one contributor are insignificant compared with those of the other, when one has evolved the principle idea and the other has merely added minor ideas in elaboration of the main thought, only the first one, the originator of the fundamental idea, is entitled to the patent. In the case of Agawam Co. v. Jordan,[218] the defense to a suit for infringement was that the patent was invalid, the invention thereby having been made by another than the patentee, namely by one Winslow. On the trial it appeared that Goulding, who later became the patentee, had nearly completed his device when Winslow suggested certain parts for it as improvements upon the ones that Goulding was using. This suggestion was adopted by him, and parts were accordingly made by Winslow, according to his idea, and substituted in the working model of Goulding's device. They proved to be useful auxiliary parts, and the patent in question was then taken out

[218] 7 Wall. 583.

by Goulding for the whole device, including these parts, as his invention. Of the claim that the invention was Winslow's the court said, "Valuable though it was and is, as aiding in the accomplishment of the desired result, it is nevertheless a great error to regard it as the invention described in the subsequent patent, or as such a material part of the same that it confers any right upon the party who made the suggestion to claim to be the inventor, or a joint inventor, of the improvement, or to suppose that the proof of what was done by that party can constitute any defence, as against the owner of the patent, to the charge of infringement."

CHAPTER V

Loss of Right to a Patent

An inventor who, so far as the character of his production is concerned, is entitled to a patent, may lose that right under certain conditions. His invention may have been, at the time of its creation, new and useful, not known or used by others and not described in any printed publication, nor previously patented; nevertheless he may have so acted as to have deprived himself of the patent privilege. For one thing, the statute specifically provides that an invention, *even though patentable* when made, shall not be patented if it has been in public use or on sale in this country for more than two years prior to the filing of an application for a patent, or if it has been patented or described in any printed publication more than two years previous thereto. Again, an invention can not be patented if it is proved to have been abandoned to the public by the inventor. In the event that the invention were dedicated to the public the right to a patent would be lost to an inventor, as in the case of abandonment, although such a contingency is not expressly covered by the statute.

§ 1. Public Use or Sale

The phrase of the statute, "in public use or on sale in this country for more than two years," has been very definitely interpreted by the Supreme Court in a way that speaks for itself.[219] "The statutory clause upon which the second objection (to the validity of the patent) is founded is in the disjunctive. The language is, 'purchase, sale, or prior use' . . . 'for more than two years prior' to the application for the patent. The phrase, 'for more,' as thus used, is loose and inaccurate, and is to be understood as if the language were

[219] Consolidated Fruit Jar Co. v. Wright, 94 U. S. 92.

earlier than 'two years prior,' etc., or as if 'for' were omitted from the sentence. This omission would produce the same effect."[220] It is therefore settled that the use need not have continued during two years, as the statute might seem to indicate, nor need sales have occurred throughout a period of two years. It is sufficient if the use, or the sale, took place earlier than two years before the application, whether it continued during the two years or not.[221]

SINGLE SALE OR USE. The only real question involved in this topic is as to what constitutes public use or sale within the meaning of the statute. In the Consolidated Fruit Jar case just quoted the court said, "The defects specified are also in the singular. It follows that a single instance of sale or of use by the patentee may, under the circumstances, be fatal to the patent; and such is the construction of the clause as given by authoritative adjudication." In this particular case there was in fact more than one instance of sale or use. The patentee had made at least two dozen of the jars covered by the later patent. Two of these he gave away and some others he sold, and the court found it to be a fair inference that the recipients of them put them to the use for which they were intended.[222] But in a later case, this authority was followed in holding the right to a patent to be lost because of a single sale

[220] The court quoted Pitts v. Hall, 2 Blatch. 235, as follows: "The patentee may forfeit his right to the invention if he constructs it and vends it to others to use, or if he uses it publicly himself in the ordinary way of a public use of a machine at any time prior to two years before he makes his application for a patent. That is, he is not allowed to derive any benefit from the sale or use of his machine, without forfeiting his right, except within two years prior to the time he makes his application." See other authorities therein cited. Pennock v. Dialogue, 2 Peters 1; Swain v. Holyoke Machine Co., 109 Fed. 154.

[221] The earlier statutes did not restrict the use or sale, which would destroy the right to a patent, to a time more than two years before the application. Public use or sale within that time, if with the consent of the inventor would preclude him from obtaining a patent. Pennock v. Dialogue; 2 Peters 1, 19; Bates v. Coe, 98 U. S. 31, 46; Andrews v. Hovey, 124 U. S. 694, 719.

[222] Other authorities are cited in the case. Jenner v. Bowen, 139 Fed. 556.

and use.[223] The patent involved was for a turbine water wheel. The undisputed evidence showed that a wheel substantially identical to that covered by the patent had been sold, installed and put in operation, by the inventor, a few days more than two years previous to his application for a patent. On this showing of a single sale and use, barely outside the limit of the time allowed, the court held the patent to be invalid, saying "as a general rule, a single unrestricted sale by the patentee of his patented device, embodying his completed invention, is a public use or sale within section 4886, of the Revised Statutes."

INVENTOR'S ACQUIESCENCE NOT MATERIAL. The prior use or sale need not, under the present statute, be with the knowledge or consent of the inventor, although under the earlier statutes this was not the case.[224] It is sufficient if public use or sale did occur more than two years prior to the application. This was settled in an elaborate opinion in the case of Andrews v. Hovey.[225] The same case had been before the court previously and had come up for a rehearing. After an exceedingly copious citation of authorities and a full discussion of them, the court declared its affirmance of the previous decision, saying, "Under §§ 6, 7, and 15 of the act of 1836, a patent was made invalid if, at the time of the application therefore, the invention had been in public use or on sale, with the consent or allowance of the patentee, however short the time. The second clause of the 7th section (act of 1839) seems to us to clearly intend, that, where the purchase, sale, or prior use referred to in it has been for more than two years prior to the application, the patent shall be held to be invalid, without regard to the consent or allowance of the inventor."[226]

Before the invalidity of a patent can be predicated upon the ground that the device was in public use or on sale more than two years prior to the application on which the patent was

[223] Swain v. Holyoke Machine Co., 109 Fed. 154.
[224] Shaw v. Cooper, 7 Peters 292.
[225] 123 U. S. 267. 124 U. S. 694.
[226] Bates v. Coe, 98 U. S. 31. Eastman v. Mayor of N. Y., 134 Fed. 844.

granted, there must be very clear and decisive proof that such use or sale did actually take place.[227]

SECRET USE. The statute provides that the right to a patent shall be lost through "public use" or some other form of public knowledge. It does not preclude an inventor from using his device *secretly* as long as he desires before applying for a patent. Neither is any restriction upon indefinite secret use read into the statute by the courts. On the contrary the Supreme Court has explicitly said,[228] "Inventors may, if they can, keep their invention secret; and if they do for any length of time, they do not forfeit their right to apply for a patent, unless another in the meantime has made the invention, and secured by patent the exclusive right to make, use and vend the patented improvement. Within the rule, and subject to that condition, inventors may delay to apply for a patent." The exception as stated in this excerpt is obviously incorrect and is characteristic of the looseness of statement with which patent cases are filled. A subsequent inventor could not take out a valid patent, as the court suggests, for the device. His patent would be invalid for lack of novelty, if the secretly used device could be proved. Neither would the first inventor have lost his right merely because a subsequent inventor had produced a like device and put it into use or on sale. By the very words of the statute, the use or sale must have taken place more than two years before the first inventor's application. It may be said therefore, that an inventor does not lose his right to a patent by any length of secret use, unless he fails to apply for a patent until more than two years after a similar device has been used or sold. The cases referred to at the end of this discussion may, however, establish a qualification of this broad doctrine as laid down by the Supreme Court.

Just what constitutes a "secret" use it is utterly impossible to state. Certainly the courts are not prone to recognize a use as secret. What might in ordinary parlance have been called a secret use was held not to be such within the meaning of the

[227] Cantrell v. Wallick, 117 U. S. 689; Penn. Electrical & Mfg. Co. v. Conroy, 159 Fed. 943.

[228] Bates v. Coe, 98 U. S. 31.

patent statute, in the case of Perkins v. Nassau Card, etc. Co.[229] This is illuminating as to the attitude of the courts. The facts may be given in its own words. "The patentee made a machine containing his invention in the year 1857, and in 1863 he substituted for it another varying in form and proportions, but not in principle. These machines he used successively in the ordinary way of his business, as a maker of card and pasteboard, until he applied for his patent, in 1876. The specification and model represent precisely the machine of 1863. During the time that the machines were used they stood in the room with several other machines necessary for the other processes of making, drying and coloring pasteboard, and were operated chiefly by one man, Moulton, who was sometimes assisted by one other. About 23 workmen were employed upon the other parts of the manufacture. The doors of the factory were usually kept locked, and each of the 25 workmen had a key. How many visitors came to the factory is one of the disputed points. There were occasional visitors, but not many persons came to the factory from mere curiosity. During some months Mr. Denison, a friend of the patentee, was given the use of an upper room for making tags, and his workmen passed in sight of the pasting machine. It is not proved that any workmen, visitors, or other persons acquired or divulged a knowledge of the mode of operation of the machine, until the workman Moulton gave that information to the defendants, in 1876." On these facts it was held that the device had been in public use.

This doctrine, that when the public might have acquired knowledge of the invention, through its use, it will be deemed to have such knowledge, was carried into extreme form in the case of Egbert v. Lippmann.[230] The patent sued on covered a peculiar form of corset steels. It appeared from the evidence that a woman, who afterward became the wife of the inventor, had complained of corset steels breaking frequently. To remedy this the inventor devised the steel, which he after-

[229] 2 Fed. 451.
[230] 104 U. S. 333.

ward patented, and gave her a set to wear. Later he gave her another set. This set he showed to one other person. In the words of the court, "This is the evidence presented by the record, on which the defendants rely to establish the public use of the invention by the patentee's consent and allowance. The question for our decision is, whether this testimony shows a public use within the meaning of the statute.

"We observe, in the first place, that to constitute the public use of an invention it is not necessary that more than one of the patented articles should be publicly used. The use of a great number may tend to strengthen the proof, but one well-defined case of such use is just as effectual to annul the patent as many. McClurg v. Kingsland, 1 How. 202; Consolidated Fruit-Jar Co. v. Wright, 94 U. S. 92; Pitts v. Hall, 2 Blatchf. 229. For instance, if the inventor of a mower, a printing-press, or a railway-car makes and sells only one of the articles invented by him, and allows the vendee to use it for two years, without restriction or limitation, the use is just as public as if he had sold and allowed the use of a great number.

"We remark, secondly, that, whether the use of an invention is public or private does not necessarily depend upon the number of persons to whom its use is known. If an inventor, having made his device, gives or sells it to another, to be used by the donee or vendee, without limitation or restriction, or injunction of secrecy, and it is so used, such use is public, even though the use and knowledge of the use may be confined to one person.

"We say, thirdly, that some inventions are by their very character only capable of being used where they cannot be seen or observed by the public eye. An invention may consist of a lever or spring, hidden in the running gear of a watch, or of a rachet, shaft, or cog-wheel covered from view in the recesses of a machine for spinning or weaving. Nevertheless, if its inventor sells a machine of which his invention forms a part, and allows it to be used without restriction of any kind the use is a public one."

"Tested by these principles, we think the evidence of the

complainant herself shows that for more than two years before the application for the original letters there was, by the consent and allowance of Barnes, a public use of the invention, covered by them. He made and gave to her two pairs of corset-steels, constructed according to his device, one in 1855 and one in 1858. They were presented to her for use. He imposed no obligation of secrecy, nor any condition or restriction whatever. They were not presented for the purpose of experiment, nor to test their qualities. No such claim is set up in her testimony. The invention was at the time complete, and there is no evidence that it was afterwards changed or improved. The donee of the steels used them for years for the purpose and in the manner designed by the inventor. They were not capable of any other use. She might have exhibited them to any person, or made other steels of the same kind, and used or sold them without violating any condition or restriction imposed on her by the inventor."

This opinion of the court was undoubtedly greatly influenced by the fact that during the eleven years which intervened between the date of the invention and that of the application the same device had come into very general use through the revelation of subsequent inventors. As the court said, "It is fair to presume that having learned from this general use that there was some value in his invention, he attempted to resume, by his application, what by his acts he had clearly dedicated to the public." It is extremely doubtful if, had this not been the case, the court would have held the slight use shown to be such as would invalidate the patent. But under the circumstances, the statements of the court in respect to public use, while they seem wholly correct, were quite unnecessary. There was indubitable general public use, more than two years before the application, by others than the patentee or his representatives. Under the rule, discussed above, that the use need not be with the consent of the patentee to have the effect of invalidating a patent, this use by others, arising out of their own discoveries, clearly rendered the patent void. The court got into its discussion of whether the

patentee's own use was sufficient to avoid the patent, in order to eliminate the question, which it appears to have considered unsettled at that time, whether unauthorized use by others would have the same effect.[231]

As is suggested in the foregoing cases, the mere fact that an invention is concealed from view when in use does not prevent such use from being public within the meaning of the statute. In Hale v. Macneale,[232] the invention was a tapering bolt for holding together the series of plates which formed the walls of a certain type of safe. When in place it was absolutely hidden from view and could be examined only by destruction of the safe. More than two years before his application, the inventor had constructed three safes containing this device, all of which were sold and put into use. "The construction and arrangement and purpose and mode of operation and use of the bolts in the safes were necessarily known

[231] The dissenting opinion is clearly out of harmony with other adjudications. "It must, in the language of the act, be in public use or on sale. If on sale, of course the public who buy can use it, and if used in public with his consent, it may be copied by others. In either event there is an end of his exclusive right of use or sale. The word public is, therefore, an important member of the sentence. A private use with consent, which could lead to no copy or reproduction of the machine, which taught the nature of the invention to no one but the party to whom such consent was given, which left the public at large as ignorant of this as it was before the author's discovery, was no abandonment to the public, and did not defeat his claim for a patent. If the little steel spring inserted in a single pair of corsets, and used by only one woman, covered by her outer clothing, and in a position always withheld from public observation, is a public use of that piece of steel, I am at a loss to know the line between a private and a public use. The opinion argues that the use was public, because, with the consent of the inventer to its use, no limitation was imposed in regard to its use in public. It may be well imagined that a prohibition to the party so permitted against exposing her use of the steel spring to public observation would have been supposed to be a piece of irony. An objection quite the opposite of this suggested by the opinion is, that the invention was incapable of a public use. That is to say, that while the statute says the right to the patent can only be defeated by a use which is public, it is equally fatal to the claim, when it is permitted to be used at all, that the article can never be used in public."

[232] 107 U. S. 90.

to the workmen who put them in. They were, it is true, hidden from view, after the safes were completed, and it required a destruction of the safes to bring them into view. But this was no concealment of them or use of them in secret. They had no more concealment than was inseparable from any legitimate use of them." Accordingly the court held the patent for the device to be invalid.[233]

All this discussion as to what constitutes "secret use" seems to have been rendered unnecessary, however, by the decision in Macbeth-Evans Glass Co. v. General Electric Co.[233a] The facts were that Macbeth had invented a certain process in 1903, since which time the plaintiff Company, of which Macbeth was president, had been using it. The court admitted, however, that this use had been "secret." In 1910 an employee of the plaintiff company had revealed the process, in breach of his confidential relation, to the Jefferson Glass Co., which at once began to use it. On suit by the Macbeth Company, however, the state court enjoined the Jefferson Company from further using it or revealing it to others.[233b] During these court proceedings the secret of the process was not revealed. It does not appear just how or when the defendant, the General Electric Company, came by its knowledge of the process. On these facts, the court might have held that there was in fact a public use. This might have been predicated on the use by the Macbeth Co., which would have been in accord with Perkins v. Nassau Card Co., *supra.* Still more convincingly, the court might have said that the use by the Jefferson Co. and the General Electric Co., although without plaintiff's consent, was clearly a public use more than two years before the statute.

But the court chose not to base its decision on either of these grounds. On the contrary, it explicitly undertook to decide, "whether one who has discovered and perfected an in-

[233] Acc. Brush v. Condit, 132 U. S. 39, 49.

[233a] 246 Fed. 695; *writ of certiorari refused by* Sup. Ct., 246 U. S. 659 (March, 1918); cited with approval in E. W. Bliss Co. v. Southern Can Co., 251 Fed. 903, 907.

[233b] Macbeth-Evans Glass Co. v. Schnelbach, 239 Pa. 76.

vention can employ it secretly more than nine years for purposes only of profit, and then, upon encountering difficulty in preserving his secret, rightfully secure a patent." It was not pretended that Macbeth had really abandoned his invention to the public. His constant effort to keep the secret of the invention hidden from the public indisputably negatived this. Nevertheless, the court held, on an interpretation of the policy of the statute, that Macbeth had forfeited his right to a patent. He had not abandoned the invention to the public as a matter of fact; it had not been in public use; but the right was lost solely because of his secret use.

In this case, the rule, as clearly expressed, is that without exception the right to a patent is forfeited by secret use which is not for experimental purpose. This would cover the case of an inventor who, having used his device in secret for a time, should still apply for a patent before anyone else had discovered the secret. The dicta on which the court in the Macbeth case relies do not go this far. They declare the right to a patent to be forfeited *only when others have begun to use the invention* before the inventor's application. Whether the court in the Macbeth case really intended to go further than this is not quite certain.[233c]

Experimental Use. There is a type of use which, although it may be quite visible to the public and even exercised by the public generally, and gives to the public a full knowledge of the invention, is, nevertheless, not held to be a "public use" such as to preclude the subsequent issue of a patent. This is what the courts denominate "experimental" use. No matter how full and complete the use may have been, and no matter how public it may have been, in the common usage of the word, if the court feels, intuitively or otherwise, that such use was "experimental" in its purpose, it is not public use within the technical meaning of the statute.

Probably the most frequently cited case on this topic is that of Elizabeth v. Paving Co.[234] The patent there attacked cov-

[233c] For a further discussion, see 17 Mich. Law Rev. 499.

[234] 97 U. S. 126.

ered a form of street pavement made of wooden blocks. On the part of the attackers it was shown that the inventor had caused a stretch of his pavement to be laid upon a certain road in Boston where it was used for a period of 6 years before his application. The road on which it was so used was a public toll-road, owned by a corporation in which the inventor was a shareholder. The pavement was in front of the toll-house and was about 75′ in length. The court held that this was not such a public use of the invention as invalidated the subsequent patent. It was constructed by the inventor at his own expense, in order to ascertain the effect upon it of heavily loaded wagons and of constant use. The inventor came frequently to examine it and made many inquiries, of other people, as to its satisfaction.

The court reasoned to its holding that this was not a public use, in the technical sense, but a mere experimental one as follows: "That the use of the pavement in question was public in one sense cannot be disputed. But can it be said that the invention was in public use? The use of an invention by the inventor himself, or of any other person under his direction, by way of experiment, and in order to bring the invention to perfection, has never been regarded as such a use. Curtis, Patents, sect. 381: Shaw v. Cooper, 7 Pet. 292. Now, the nature of a street pavement is such that it cannot be experimented upon satisfactorily except on a highway, which is always public. When the subject of invention is a machine, it may be tested and tried in a building, either with or without closed doors. In either case, such use is not a public use, within the meaning of the statute, so long as the inventor is engaged, in good faith, in testing its operation. He may see cause to alter it and improve it, or not. His experiments will reveal the fact whether any and what alterations may be necessary. If durability is one of the qualities to be attained, a long period, perhaps years, may be necessary to enable the inventor to discover whether his purpose is accomplished. And though, during all that period, he may not find that any changes are necessary, yet he may be justly said to be using

his machine only by way of experiment; and no one would say that such a use, pursued with a bona fide intent of testing the qualities of the machine, would be a public use, within the meaning of the statute. So long as he does not voluntarily allow others to make it and use it, and so long as it is not on sale for general use, he keeps the invention under his own control, and does not lose his title to a patent. It would not be necessary, in such a case, that the machine should be put up and used only in the inventor's own shop or premises. He may have it put up and used in the premises of another, and the use may inure to the benefit of the owner of the establishment. Still, if used under the surveillance of the inventor, and for the purpose of enabling him to test the machine, and ascertain whether it will answer the purpose intended, and make such alterations and improvements as experience demonstrates to be necessary, it will still be a mere experimental use, and not a public use, within the meaning of the statute.

"Whilst the supposed machine is in such experimental use, the public may be incidentally deriving a benefit from it. If it be a grist-mill, or a carding-machine, customers from the surrounding country may enjoy the use of it by having their grain made into flour, or their wool into rolls, and still it will not be in public use, within the meaning of the law. But if the inventor allows his machine to be used by other persons generally, either with or without compensation, or if it is, with his consent, put on sale for such use, then it will be in public use and on public sale, within the meaning of the law.

"If, now, we apply the same principles to this case, the analogy will be seen at once. Nicholson wished to experiment on his pavement. He believed it to be a good thing, but he was not sure; and the only mode in which he could test it was to place a specimen of it in a public roadway. He did this at his own expense, and with the consent of the owners of the road. Durability was one of the qualities to be attained. He wanted to know whether his pavement would stand, and whether it would resist decay. Its character for durability could not be ascertained without its being subjected to use for

a considerable time. He subjected it to such use, in good faith, for the simple purpose of ascertaining whether it was what he claimed it to be. Did he do anything more than the inventor of the supposed machine might do, in testing his invention? The public had the incidental use of the pavement, it is true; but was the invention in public use, within the meaning of the statute? We think not. The proprietors of the road alone used the invention, and used it at Nicholson's request, by way of experiment. The only way in which they could use it was by allowing the public to pass over the pavement."

The difference between technical public use and experimental use such as does not invalidate a subsequent patent is impossible to formulate. Like most of the other issues of patent law cases, the character to be given to a proved use depends upon the circumstances of each case and is a psychological fact. It depends wholly upon the operation of mind of the particular judge upon the particular circumstances. But, as in respect to the other issues, precedents do show certain circumstances which have more or less apparently influenced the court in its decision.

The fact that the inventor himself has appeared to be satisfied that his invention was at least usably perfect, has militated against the proposition that it was merely experimental. In the case just referred to the court said, "Had the city of Boston, or other parties, used the invention, by laying down the pavement in other streets and places, with Nicholson's consent and allowance, then, indeed, the invention itself would have been in public use, within the meaning of the law; but this was not the case. Nicholson did not sell it, nor allow others to use it or sell it. He did not let it go beyond his control. He did nothing that indicated any intent to do so. He kept it under his own eyes, and never for a moment abandoned the intent to obtain a patent for it."

This idea was made the foundation of the holding in a later case.[235] The invention here involved was an improvement in

[235] Root v. Third Ave. R. R. 146 U. S. 210.

the construction of cable railways. More than two years prior to his application the inventor had put it into actual use on a cable-railroad, of which he had been employed to superintend the construction. He had apparently devised his invention in the expectation that he would be called upon to construct this particular road. He explained his invention to the directors of the road, and it was adopted by them. In defense of the patent it was urged that this use was experimental merely and the case of Elizabeth v. Pavement Co. was relied upon as authority. The inventor testified that he had been possessed by serious doubt as to the practicability of his device, and that he delayed applying for a patent until the utility of the device should have been tested by use. He did not, however, communicate this doubt to the directors of the road. The court said of this, quoting the words of the lower court, "Manifestly the complainant received a consideration for devising and consenting to the use of an invention which was designed to be a complete, permanent structure, which was to cost a large sum of money, and which he knew would not meet the expectation of those who had employed him, unless it should prove to be in all respects a practically operative and reasonably durable one. If he had entertained any serious doubts of its adequacy for the purpose for which it was intended, it would seem that he would not have recommended it in view of the considerable sum it was to cost. At all events, he did not treat it as an experimental thing, but allowed it to be appropriated as a complete and perfect invention, fit to be used practically, and just as it was, until it should wear out, or until it should demonstrate its own unsuitableness. He turned it over to the owners without reserving any future control over it, and knowing that, except as a subordinate, he would not be permitted to make any changes in it by way of experiment; and at the time he had no present expectation of making any material changes in it. He never made or suggested a change in it after it went into use, and never made an examination with a view of seeing whether it was defective, or could be improved in any particular." The court held, therefore, that

the case did not come within the principles of the Pavement Co. case, and that the patent was invalid.[236]

The fact that the inventor has received a profit from the use of his device does not necessarily demonstrate that the use was more than experimental. The matter of profit was discussed by the court in Smith & Griggs Mfg. Co. v. Sprague.[237] The machine involved, which was one for making buckles, "was practically successful, in that during the period of its use the complainant produced and sold about 50,000 gross of levers used on these shoe buckles, which he sold to his customers in the market. It was a public use in the sense of the statute and within the decisions of this court, inasmuch as it was used by the complainant in the regular conduct of his business by workmen employed by him in its operation, and in the view of such part of the public as chose to resort to his establishment, either for the purpose of selling material for the manufacture or of purchasing its product. It is claimed, however, and it was so decided by the Circuit Court, that this prior use of the machine in that form was not a public use within the prohibition of the statute so as to defeat the patent, because that use was experimental only, of an imperfect machine, embodying an incomplete invention, in order to enable the inventor to perfect it by improvements actually added, and to overcome defects developed by this use, which improvements are contained in the three additional claims, and which were added as parts of the invention within two years before the date of the application."

[236] Hall v. Macneale, 107 U. S. 90, 96. "It is contended that the safes were experimental, and that the use was a use for experiment. But we are of the opinion that this was not so. . . . The invention was complete in those safes. It was capable of producing the results sought to be accomplished, though not as thoroughly as with the use of welded steel and iron plates. . . . As to their use being experimental it is not shown that any attempt was made to see if the plates of the safes could be stripped off, and thus to prove whether or not the conical bolts were efficient. The safes were sold, and apparently, no experiment and no experimental use was ever thought to be necessary. The idea of a use for experiment was an afterthought."

[237] 123 U. S. 249.

The court said, generally, that "The use by the inventor, for the purpose of testing the machine, in order by experiment to devise additional means for perfecting the success of its operation, is admissible; and where, as incident to such use, the product of its operation is disposed of by sale, such profit from its use does not change its character; but where the use is mainly for the purposes of trade and profit, and the experiment is merely incidental to that, the principal and not the incident must give character to the use." But of the particular case it said, "The use of the machine was apparently for the purpose of conducting an established business; the machine itself was the only one used for the manufacture, of which the patentee, by a prior patent, already had a monopoly. He alone supplied the market with the article, and the whole demand was satisfactorily met by this single machine. To this extent, it operated successfully. That it was capable of improvement need not be denied, nor that, while it was in daily use, its owner and inventor watched it with the view of devising means to meet and overcome imperfections in its operation; but this much can be said in every such case. There are few machines, probably, which are not susceptible of further development and improvement, and the ingenuity of mechanics and inventors is commonly on the alert to discover defects and invent remedies. The alterations made in the machine in question, however useful, were not vital to its organization. Without them, it could and did work so as to be commercially successful.

"The impression made upon us by the evidence, the conclusion from which we cannot resist, is, that the patentee unduly neglected and delayed to make his application for the patents, and deprived himself of his right thereto by the public use of the machine in question, so far as it is embodied in the claims under discussion.

"The proof falls far short of establishing that the main purpose in view, in the use of the machine by the patentee, prior to his application, was to perfect its mechanism and improve its operation. On the contrary, it seems to us that it shows

that the real purpose in the use was to conduct the business of the manufacture, the improvement and perfection of the machine being merely incidental and subsidiary.

"The case upon the proofs seems to us to fall within the principle of the decision of this court in Hall v. Macneale, 107 U. S. 90, 96, 97. It was there said: 'It is contended that the safes were experimental and that the use was a use for experiment. But we are of opinion that this was not so, and that the case falls within the principle laid down by this court in Coffin v. Ogden, 18 Wall. 120. The invention was complete in those safes. It was capable of producing the results sought to be accomplished, though not as thoroughly as with the use of welded steel and iron plates. The construction and arrangement and purpose and mode of operation and use of the bolts in the safes were necessarily known to the workmen who put them in. They were, it is true, hidden from view after the safes were completed, and it required a destruction of the safes to bring them into view. But this was no concealment of them or use of them in secret. They had no more concealment than was inseparable from any legitimate use of them. As to the use being experimental, it is not shown that any attempt was made to see if the plates of the safe could be stripped off, and thus to prove whether or not the conical bolts were efficient.' "[238]

Experimental Sale. The same principles apply to sale as to use, and there may be an actual sale, more than two years prior to the application, which does not, in law, amount to a sale within the meaning of the statute. In Swain v. Holyoke Machine Co.[239] the court said, "As a general rule, a single unrestricted sale by the patentee of his patented device, embodying his completed invention, is a public use or sale, within section 4886 of the Revised Statutes. There are undoubtedly cases where the strict application of this rule works great hardship. Some inventions are for large and

[238] Jenner v. Bowen, 139 Fed. 556; Cf. Am. Caramel Co. v. Thos. Mills & Bro. 149 Fed. 743. "Nor is such use a public use, which will defeat the patent, because the product of the machine during the time was sold."

[239] 109 Fed. 154.

costly structures, others require a long period of time to test their practical utility, and still others are for small devices which are attached to large machines. It follows that an inventor, from lack of means or other circumstances, may be forced to sell his patented device in order to test its utility or efficiency. For this reason the courts in some instances have declined to enforce the strict rule where the sale was attended by some exceptional circumstances. The following cases illustrate the exceptions to the general rule: Where the sale of the machine was for the purpose of trial, and the machine was warranted. Graham v. McCormick (C. C.) 11 Fed. 859, 862, and Same v. Manufacturing Co., Id. 138, 142. Where the patentee derived no profit from the sale, and the device was a mere appendage to a large machine sold by his employer. Harmon v. Struthers (C. C.) 57 Fed. 637. Where the sale was made at an under price, and without profit to the inventor, and for the purpose of securing a fair test of the invention. Innis v. Boiler Works (C. C.) 22 Fed. 780. Where an imperfect machine was sold, which did not embody the invention. Eastern Paper-Bag Co. v. Standard Paper-Bag Co. (C. C.) 30 Fed. 63, 66. Where the device sold did not embody the most complete and perfect form of the invention. Draper v. Wattles, 3 Ban. & A. 618, 620, Fed. Cas. No. 4,073.

"We should hesitate to lay down the broad proposition that a single sale of a patented device for experimental purposes works a forfeiture of the patent under the statute. We do not understand that it has ever been so expressly decided by the supreme court. It is certainly doubtful whether, under such circumstances, the device can be said to be 'on sale,' within the fair meaning of the statute. It does not follow that, because a machine has been sold, it has passed the experimental stage.

"Instead of laying down a fixed rule, it seems to us that in each case the court should direct its attention to the fundamental inquiry: Under what circumstances and for what purpose did the public use or sale take place? And, where it appears that there has been a public use or sale more than two years before the application, the burden is thrown upon the

patentee to establish, by full, clear, and convincing proofs, that such use or sale was principally and primarily for experimental purposes, and that such purposes were not merely incidental or subsidiary. Whatever expressions may be found in the opinions of the supreme court to the effect that a single sale comes within the statutory prohibition, we think a careful examination of the cases shows that the primary and governing consideration is the purpose and object of the inventor in making such sale." While this statement is mere *dictum* and the actual holding of the case was that there had been a sale and use within the meaning of the statute, it is a clear and forceful expression of what appears to be the settled rule.

A mere contract to sell, not accompanied by the passing of title to anything, has been held not a "sale" within the meaning of the statute.[240]

It is evident from the foregoing discussion that the purpose of use or sale, which makes it experimental or otherwise, is not decided in accord with the inventor's assertions in regard to it. It depends instead upon the appearance which all the collateral facts give to it. An inventor who bears this in mind, can so arrange his experiments as to make their true character much more clearly demonstrable from the circumstances than if he should ignore it.

§ 2. Abandonment

The statute makes abandonment of an invention a bar to the securing of a patent;—a bar that is distinct from the effect of mere public use or sale. In practice, abandonment is so intimately connected with use or sale as to be to a great extent indistinguishable from it. Whether or not an invention has been abandoned to the public is obviously a question of fact to be determined in each case,[241] but its determination is a matter of conclusion, and not a mere matter of evidence. The bar to a patent arising from abandonment is thus very different from the bar arising from use or sale two years prior to the application. The use and sale is a mere matter of demonstra-

[240] Burke Elec. Co. v. Independent Pneumatic Tool Co., 232 Fed. 145.
[241] Kendall v. Winsor, 21 How. 322, 331.

tion. If a public use or a sale has been proved, it automatically follows that the patent is invalid unless the use or sale is excused as experimental. Abandonment, on the other hand depends wholly upon the *intent* of the inventor. A conclusion as to intent must be drawn, therefore, from the proved facts, before the law can be applied. This conclusion can not be subject to rules of law, for the very simple reason that there is too little possibility of similar facts in enough particular cases for the harmony of conclusions therein to demonstrate a rule. Abandonment is therefore a matter of judicial conclusion as to intent, although we are accustomed to speak of these conclusions, psychological facts perhaps, as facts to be proved. In this sense, the intent to abandon, or, simply, abandonment, "may be proved either by express declaration of an intention to abandon, or by conduct inconsistent with any other conclusion."[242]

PUBLIC USE. The fact that an inventor let his device go into public use, or has himself used it or put it on sale without making any effort to patent it, is reasonably clear evidence that he did not intend to patent it and had abandoned the right. Because of this, it is possible for public use to bar the right to a patent in two distinct ways. It may act as a bar as a matter of law, absolutely regardless of the inventor's intent to take out a patent, because it took place more than two years before his application. Or, it may bar his right, regardless of the time at which it occurred, because it occurred under such circumstances as to indicate clearly an intent to abandon the invention to the public. The cause of the bar is quite different in each case, but because of the presence of public use in each case, the statutory bar of public use has become very much confused with loss of the right to a patent throughout abandonment. In the case of Elizabeth v. Pavement Co.,[243] for instance, the court says, "An abandonment of an invention to the public may be evinced by the conduct of the inventor at any time, even within the two years named in the law. The

[242] U. S. Rifle & Cartridge Co. v. Whitney Arms Co., 118 U. S. 22; Planing Mach. Co. v. Keith, 101 U. S. 479, 484.

[243] 97 U. S. 126, 134.

effect of the law is, that no such consequence will necessarily follow from the invention being in public use or on sale, with the inventor's consent and allowance, at any time within two years before his application; but that if the invention is in public use or on sale prior to that time, it will be conclusive evidence of abandonment, and the patent will be void." The latter part of this statement is absolutely unwarranted by the statute or the cases. It is correct to the extent that under such circumstances the patent will be void. But it will not be void because the invention is conclusively deemed to have been abandoned. The statute does not authorize this conclusion and neither do the cases. The invention may possibly have been abandoned, to be sure, but the patent is void, as a matter of law, simply because the statute says it shall be void on account of the public use.[244] This failure to distinguish between avoidance because of public use more than two years prior to the application, and avoidance because of abandonment as evidenced by public use, is found in very many of the decisions upon the point and has led to a deal of confused thought and expression. It probably accounts, also, for the part which the intent of the inventor plays in solving the question whether an open use is "public use" within the meaning of the statute, or merely "experimental" use. The intent of the inventor subsequently to apply for a patent does, as discussed above, have an influence upon the court's conclusion as to whether his use of the device is public or not. There is no logical reason why this should be so to be found in the definition of "public." It is as open to knowledge and as notorious, as fully shared in by the public, whatever be the intent of the inventor. But if the bar of public use be confused with that of intent to abandon, there is an obvious reason why

[244] The tendency to treat abandonment as a matter of law to be drawn from certain circumstances is well illustrated in Kendall v. Winsor, 21 How. 322. The court says emphatically, as a matter of decision, that the question of abandonment is one for the jury, yet, as a matter of dictum, it says, an inventor *may confer his invention upon the public*, such intention being manifested expressly or by conduct, or he may *forfeit* his rights "by a willful or negligent postponement of his claims, or by an attempt to withold the benefit of his improvement from the public. . . ."

public use without an intent to abandon should not be treated as a bar.[245]

FAILURE TO APPLY. The intent to abandon may be predicated upon circumstances other than public use, as well as on that. In one case[246] it was found that the inventor had evinced an abandonment of his right to a patent because he had let eight years pass by, after his original application was withdrawn, without making any attempt to secure a patent. During this period other persons had taken out patents for similar devices. The court said, "An inventor, whose application for a patent has been rejected, and who, without substantial reason or excuse, omits for many years to take any step to reinstate or renew it, must be held to have abandoned any intention of further prosecuting his claim."

Delay in prosecuting an application not only may amount to abandonment as a reasonable conclusion of fact, but is specifically declared to be presumptive abandonment by the patent statute. This provides,[247] "All applications for patents shall be completed and prepared for examination within one year after the filing of the application, and in default thereof, or upon failure of the applicant to prosecute the same within one year after any action therein, of which notice shall have been given to the applicant, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable." This phraseology leaves open the possibility of showing that the delay was not in fact due to intent to abandon, but it takes the burden of proof off from the party attacking the patent, where it ordinarily rests, and puts it upon the patentee himself. Commenting upon this, the court has said,[248] "All this shows the intention of Congress to require diligence

[245] Under the earlier statutes, by which public use within two years of the application would bar the right to a patent as well as public use more than two years before it, there was a greater justification for injecting the element of intent into the definition of public use than there is now. Shaw v. Cooper, 7 Pet. 319; Pennock v. Dialogue, 2 Pet. 1.

[246] U. S. Rifle & Cartridge Co. v. Whitney, 118 U. S. 22.

[247] § 4894 R. S.

[248] Planing Mach. Co. v. Keith, 101 U. S. 479, 485.

in prosecuting the claims to an exclusive right. An inventor *cannot without cause* hold his application pending during a long period of years, leaving the public uncertain whether he intends ever to prosecute it, and keeping the field of his invention closed against other inventors. It is not unfair to him, after his application for a patent has been rejected, and after he has for many years taken no steps to reinstate it, to renew it, or to appeal, that it should be concluded he has acquiesced in the rejection and abandoned any intention of prosecuting his claim further. Such a conclusion is in accordance with common observation. Especially is this so when, during those years of his inaction, he saw his invention go into common use, and neither uttered a word of complaint or remonstrance, nor was stimulated by it to a fresh attempt to obtain a patent. When in reliance upon his supine inaction during those years of his inaction the public has made use of the result of his ingenuity and has accommodated its business and its machinery to the improvement, it is not unjust to him to hold that he shall be regarded as having assented to the appropriation, or, in other words, as having abandoned the invention."[249]

But the court followed up this statement by the recognition that "There may be, it is true, circumstances which will excuse delay in prosecuting an application for a patent, after it has been rejected, such as extreme poverty of the applicant or protracted sickness."[250]

The application for a new patent to replace one already issued, and even a subsequent abandonment of effort to secure this reissue does not amount to an abandonment of the origi-

[249] Acc. Gandy v. Marble, 122 U. S. 432.

[250] Smith v. Goodyear Dental Vulcanite Co., 93 U. S. 486, 501, "And the proof respecting his health and pecuniary condition, together with his constant efforts to obtain the necessary means to prosecute his right, rebuts all presumption that he ever abandoned, actually or constructively, either his invention or his application for a patent. That he never intended an abandonment of his invention is perfectly clear; and it was not his fault that granting the patent was so long delayed." A dissenting opinion argues that the long delay in this case did amount to abandonment.

nal patent. That is still quite as valid and effective as when it was duly issued.[251]

A different type of acquiescence, on which abandonment was predicated, arose in Hartshorn v. Saginaw Barrel Co.[252] Two men, Campbell and Hartshorn, had invented the same device at about the same time. Campbell supposed that he was the later inventor and let Hartshorn take out a patent, himself patenting only a part of his device. Many years later it developed that Campbell was in reality the first inventor, and within a reasonable time thereafter he applied for a patent. The lower court held this patent to be valid, under the circumstances. The Supreme Court said on the contrary, "Campbell contented himself with the narrow claim originally contained in his patent of 1867, and thereby acknowledged that he was not entitled to the broader claim which he now asserts under his reissue. He had the means and the opportunity at the time the application for his original patent was pending to have asserted his claim to priority of invention; he choose not to do so. He acquiesced in the claim of his adversary; he can not now claim what he then abandoned."

Omission from application. This is really only a variation of the well settled doctrine that when an inventor has applied for a patent and specifically described therein the invention for which he claims right of a monopoly, he is presumed to have claimed everything that he wants to protect. If he has omitted from the application some part of the invention which he would be expected to have claimed at that time, if at all, it is fair to assume that he did not intend to cover that particular part by patent, but has abandoned it to the public. In the words of the court,[253] "The statute requires the inventor to particularly point out and to claim distinctly the improvement or combination which he claims as his discovery. When, under this statute, the inventor has made his claims, he has thereby disclaimed and dedicated to the public all other combinations and improvements apparent from his specifica-

[251] McCormick Harvesting Machine Co. v. Aultman, 169 U. S. 606.

[252] 119 U. S. 664.

[253] M'Bride v. Kingman, 97 Fed. 217, 223.

tion and claims that are not mere evasions of the device, combination, or improvement which he claims as his own. While the patent is notice of the claims which it contains and allows, it constitutes an estoppel of the patentee from claiming under that or any subsequent patent any combination or improvement there shown which he has not clearly pointed out and distinctly claimed as his discovery or invention when he received his patent. It is a complete and a legal notice to every one—notice on which every one has a right to rely—that he may freely use such improvements and combinations without claim or molestation from the patentee." "The object of the patent law in requiring the patentee to particularly point out and distinctly claim the part, improvement or combination which he claims as his invention or discovery, is not only to secure to him all to which he is entitled, but to apprise the public of what is still open to them."[254]

The fair implication from these quotations would be that failure to claim all to which the applicant is entitled amounts *ipso facto*, as a matter of law, to an abandonment of the unclaimed part. But in both of the cases quoted from the issue was not at all whether or not any part of the invention had been in fact abandoned. It was merely one of interpretation of the patent as it stood. The decision was, that because the claim did not actually cover the matter alleged, it could not be made to cover such matter by judicial construction. This proposition that a patent could not be constructively extended so as to cover what had not in fact been claimed is logical as a rule of law. The other proposition, that failure to claim amounts to abandonment, is not logical as a rule of law, although it is justified as a rule of presumption. If the matter which the inventor failed to claim were something which did not necessarily need to have been included in the same patent as the matter which he did claim, it would be a possibility, at least, that he intended to claim it through another and separate application. Even if such an intent were unusual it would not be unreasonable. To hold as a matter of law that failure to

[254] McClain v. Ortmeyer, 141 U. S. 419, 223.

claim in the first application constituted an abandonment, would be unreasonable and illogical. There could be, fairly, only a presumption of such intent. If the matter omitted were something which could have been patented only in conjunction with that claimed, the presumption is stronger. It could not have been omitted with the intent of patenting it separately, at a later time. The neglect to claim it, whether through actual intent not to, or mere indifference or carelessness, indicates with reasonable conclusiveness an intent to abandon. But it does not absolutely demonstrate such an intent. The omission might very possibly have happened through mistake, or lack of knowledge, or any form of inadvertence. If abandonment depends upon intent, as the courts have agreed it does, it can not logically be predicated upon omission to claim arising out of such a cause as mere inadvertence.

The actual decisions accord with what has just been said, and abandonment is not conclusively presumed from mere omission. The judicial view of it is forcefully expressed in Miller v. Brass Co.[255] This suit was based on the re-issue of a patent which contained a claim not included within the original patent. The court held the new claim to be invalid because it had not been even described in the original patent and could not have been claimed therein. They recognized, however, that reissues are frequently made for the purpose of enlarging the claims of original issues under proper circumstances, and that the original claim is not absolutely conclusive upon the inventor as to the extent of his rights. In respect to the circumstances under which the expansion is allowable, it said, "If a patentee who has no corrections to suggest in his specification except to make his claim broader and more comprehensive, uses due diligence in returning to the Patent Office, and says 'I omitted this,' or 'my solicitor did not understand that,' his application may be entertained, and, on a proper showing, correction may be made. But it must be remembered that the claim of a specific device or combination, and an omission to claim other devices or combinations apparent on the

[255] 104 U. S. 350.

face of the patent, are, in law, a dedication to the public of that which is not claimed. It is a declaration that that which is not claimed is either not the patentee's invention, or, if his, he dedicates it to the public. This legal effect of the patent cannot be revoked unless the patentee surrenders it and proves that the specification was framed by real inadvertence, accident, or mistake, without any fraudulent or deceptive intention on his part; and this should be done with all due diligence and speed. Any unnecessary laches or delay in a matter thus apparent on the record affects the right to alter or reissue the patent for such cause. If two years' public enjoyment of an invention with the consent and allowance of the inventor is evidence of abandonment and a bar to an application for a patent, a public disclaimer in the patent itself should be construed equally favorable to the public. Nothing but a clear mistake, or inadvertence, and a speedy application for its correction, is admissible when it is sought merely to enlarge the claim." In short, the rule as laid down by this court is simply that omission to claim amounts to abandonment, as a matter of law, *unless* the patentee demonstrates, within a reasonable time, that it was not an abandonment. All of which is but a cumbersome way of saying that abandonment will only be *presumed* from omission.

The precise question came before the court in Miller v. Eagle Mfg. Co.[256] The patentee had taken out two patents, the descriptions and drawings of which were identical. The claims, however, differed, in that the later issued one claimed matter not included in the claim of the first. There was a valid reason for the making of this division, and the court distinctly held that "Where the second patent covers matter described in the prior patent, essentially distinct and separable from the invention covered thereby and claims made thereunder, its validity may be sustained."[257]

[256] 151 U. S. 186.

[257] It is also, however, said quite as distinctly that a single invention may not be split and part of its features patented at one time and part at another. It might be commented that a single invention capable of being split into parts which are themselves patentable as inventions is an unillustrated paradox.

Correction of omissions. It might be supposed that whether an inventor intended to abandon or not, he must lose any part of his invention which he failed to claim when he should have done so, because the statute does not provide for a correction under such circumstances. It provides for the issue of a patent for an invention, but not for the issue of a second patent in case the first one has not been broad enough. Logically there seems to be no answer to such a position. The invention should be treated as lost, not by abandonment, but by failing to apply for a patent.

Practically, however, the courts have protected the inventor from such loss as a result of his mistake, by their interpretation of § 4916 R. S. This provides that, "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 witho 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 specifications, 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."[258]

DEDICATION OF AN INVENTION TO THE PUBLIC is not different from abandonment, in the ordinary speech of the courts. The words are often used indiscriminately. If judges were to make a distinction it would probably be in accord with the distinction of non-technical usage; abandonment carrying the idea of negative intent, of acts of omission; dedication implying positive acts and intent definitely to confer the right upon the public.

The foregoing discussion has dealt with abandonment or dedication to the public. There is a form of what might be called abandonment or dedication to particular individuals which, while it does not affect the inventor's right in respect to the public generally, does affect it in respect to these individuals. This is found in the statute itself[259] which provides "Every person who purchases of the inventor or discoverer, or with his knowledge and consent, constructs any newly invented or discovered machine, or other patentable article, prior to the application by the inventor or discoverer for a patent, or who sells or uses one so constructed, shall have the right to use, and vend to others to be used, the specific thing so made or purchased, without liability therefor."

[258] James v. Campbell, 104 U. S. 356; Electric Gas Lighting Co. v. Boston Elec. Co., 139 U. S. 481; Thomson-Houston Elec. Co. v. Elmira & H. Ry. Co., 71 Fed. 396; Ide v. Trorlicht, etc. Carpet Co., 115 Fed. 137. The Suffolk Co. v. Hayden, 3 Wall. 315, syll. 1, "Where a party having made application for a patent for certain improvements, afterwards, with his claim still on file, makes application for another but distinct improvement in the same branch of art, in which second application he describes the former improvement, but does not in such second application claim it as original, the description in such second application and non-claim of it there, is not a dedication of the first invention to the public."

[259] R. S. § 4899.

CHAPTER VI

Securing a Patent

§ 1. Form of Application

The statute provides that[260] "Before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions; and he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery. The specification and claim shall be signed by the inventor and attested by two witnesses.

"When the nature of the case admits of drawings, the applicant shall furnish one copy signed by the inventor or his attorney in fact, and attested by two witnesses, which shall be filed in the Patent Office; and a copy of the drawing, to be furnished by the Patent Office, shall be attached to the patent as a part of the specification.

"When the invention or discovery is of a composition of matter, the applicant, if required by the Commissioner, shall furnish specimens of ingredients and of the composition, sufficient in quantity for the purpose of experiment.

"In all cases which admit of representation by model, the applicant, if required by the Commissioner, shall furnish a

[260] R. S. § 4888-4893.

model of convenient size to exhibit advantageously the several parts of his invention or discovery.

"The applicant shall make oath that he does verily believe himself to be the original and first inventor or discoverer of the art, machine, manufacture, composition, or improvement for which he solicits a patent; that he does not know and does not believe that the same was ever before known or used; and shall state of what country he is a citizen. Such oath may be made before any person within the United States authorized by law to administer oaths, or, when the applicant resides in a foreign country, before any minister, chargé d' affaires, consul, or commercial agent holding commission under the Government of the United States, or before any notary public, judge, or magistrate having an official seal and authorized to administer oaths in the foreign country in which the applicant may be, whose authority shall be proved by certificate of a diplomatic or consular officer of the United States.

"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 amplification of these provisions of the statute, the Patent Office has made more definite and specific rules in regard to application for a patent and other proceedings to obtain it.[201] "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." Copies of these rules will be furnished free of charge upon application to the Commissioner of Patents. As they are definite, and appertain only to

[201] This is authorized by R. S. § 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 undisputed and clear details of procedure, they need not be set out here nor discussed at length.

TITLE. The application must be by petition under oath, signed by the inventor, if he is alive and sane. It must be in the English language, as must be also the specifications and oath. The rules provide that the petition must "designate by title the invention sought to be patented." The form of this designation is, however, relatively unimportant, and it need not be exact nor complete provided the petition properly adopts, by reference, a specification of the invention by which it is sufficiently set forth. This matter came before the court in the case of Hogg v. Emerson.[262] The invention for which the patent issued was entitled, "a new and useful improvement in the steam engine." The suit itself was brought for violation of a patent for an "improvement in the steam engine and in the mode of propelling therewith either vessels on the water or carriages on the land." It was contended that the offer in evidence of the patent, as entitled, did not prove the existence of a patent such as set out in the suit. The court held that the identity of the patent need not be determined by the title alone, but that the specification annexed to the petition was a part of it and should be read in connection with it. The holding of the court and its reasons can not be set out more clearly than in its own language which is as follows: "Coupling the two last together, they constitute the very thing described in the writ. But whether they can properly be so united here, and the effect of it to remove the difficulty, have been questioned, and must therefore be further examined. We are apt to be misled, in this country, by the laws and forms bearing on this point in England being so different in some respects from what exist here. There the patent is first issued, and contains no reference to the specification, except a stipulation that one shall, in the required time, be filed, giving a more minute description of the matter patented. It need not be filed under two to four months, in the discretion of the proper officer. (Gods. Pat., 176.) Under these circumstances, it will be seen

[262] 6 How. 437.

that the patent, going out alone there, must in its title or heading be fuller than here, where it goes out with the minute specification. But even there it may afterwards be aided, and its matter be made more clear, by what the specification contains. They are, says Gods. Pat., 108, 'connected together,' and 'one may be looked at to understand the other.' See also 2 H. Bl. 478; 1 Webst. Pat. Cas., 117; 8 T. R., 95. There, however, it will not answer to allow the specification, filed separately and long after, to be resorted to for supplying any entire omission in the patent; else something may be thus inserted afterwards which had never been previously examined by the proper officers, and which, if it had been submitted to them in the patent and examined, might have prevented the allowance of it, and which the world is not aware of, seeing only the letters-patent without the specification, and without any reference whatever to its contents. 3 Brod. & B., 5. The whole facts and law, however, are different here. This patent issued March 8th, 1834, and is therefore to be tested by the act of Congress then in force, which passed February 21st, 1793. (1 Stat. at L. 318.) In the third section of that act it is expressly provided, 'that every inventor, before he can receive a patent,' 'shall deliver a written description of his invention,' &c.; thus giving priority very properly to the specification rather than the patent. This change from the English practice existed in the first patent law, passed April 10th, 1790 (1 Stat. at L., 109), and is retained in the last act of Congress on this subject, passed July 4th, 1836 (5 Stat. at L., 119). It was wisely introduced, in order that the officers of the government might at the outset have before them full means to examine and understand the claim to an invention better, and decide more judiciously whether to grant a patent or not, and might be able to give to the world fuller, more accurate, and early descriptions of it than would be possible under the laws and practice in England. In this country, then, the specification being required to be prepared and filed before the patent issues, it can well be referred to therein in extenso, as containing the whole subject-matter of the claim or petition for a patent, and then

not only be recorded for information, as the laws both in England and here require, but beyond what is practicable there, be united and go out with the letters-patent themselves, so as to be sure that these last thus contain the substance of what is designed to be regarded as a portion of the petition, and thus exhibit with accuracy all the claim by the inventor. In this view, and under such laws and practice here, it will be seen that the contents of the petition, as well as the petition itself, became a very unimportant form, except as construed to adopt the specification, and the contents of the latter to be considered substantially as the contents of the former."

FILING OF PARTS. As suggested in the foregoing quotation, an application consists of "the first fee of $15, a petition, specification, and oath; and drawings, model or specimen when required." "It is desirable," says the rules,[263] "that all parts of the complete application be deposited in the office at the same time, and that all the papers embraced in the application be attached together; otherwise a letter must accompany each part, accurately and clearly connecting it with the other parts of the application." It is not absolutely necessary that all parts be filed together and, if identified with the other parts as provided, the petition may precede the specification and both may precede the model, etc. Inasmuch as the specification and drawings constitute the real description of the invention, which need not be set out at length in the petition, it is obvious that no examination can be made and no patent issue till the specification, etc., are filed, so as to complete the petition. Hence the rules very reasonably provide that an application for a patent will not be placed upon the files for examination until all its parts, have been recorded. The application must be completed and prepared for exhibition within one year[264] after the filing of the petition. In default of such completion, or if the applicant shall have failed to prosecute the application within one year after any action upon it, of which notice shall have been mailed him or his agent, the ap-

[263] Rule 32.

[264] Two years until amendment of 1897.

plication shall be regarded as abandoned, unless it be shown to the Commissioner that such delay was unavoidable.[265]

§ 2. Description

Since the specification is the real description of the invention it is of exceeding importance. According to the rules, in this instance a paraphrase of the statute, "The specification is a written description of the invention or discovery and of the manner and process of making, constructing, compounding, and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make, construct, compound, and use the same. The specification must set forth the precise invention for which a patent is solicited, and explain the principle thereof, and the best mode in which the applicant has contemplated applying that principle, in such manner as to distinguish it from other inventions. In case of a mere improvement, the specification must particularly point out the parts to which the improvement relates, and must by explicit language distinguish between what is old and what is claimed as new; and the description and the drawings, as well as the claims, should be confined to the specific improvement and such parts as necessarily co-operate with it. The specification must conclude with a specific and distinct claim or claims of the part, improvement, or combination which the applicant regards as his invention or discovery. When there are drawings the description shall refer to the different views by figures and to the different parts by letters or numerals (preferably the latter)."

Great care is necessary to set out exactly the device—the idea of means—for which the inventor desires a monopoly. He must describe and claim all that he has invented and wishes to protect and he should not claim anything outside the bounds of his own patentable invention.

The purpose of this description is, of course, to identify the

[265] Rule 31.

invention and to delimit it, for purposes of protection, from all other knowledge, to which the inventor has no particular right. In Hogg v. Emerson[266] this description is invested with a three fold purpose, "to enable the commissioner of Patents to judge correctly whether the matter claimed is new or too broad,—to enable courts, when it is contested afterward before them, to form a like judgment. . . . And so that the public, while the term continues, may be able to understand what the patent is, and refrain from its use, unless licensed."[267]

MUST BE DEFINITE. It sequentially follows that an inventor who has not *described* anything, can not be protected in anything, no matter what his claims are. If he has not set forth any definite idea of means of accomplishing a result he has contributed nothing definite to public knowledge, and is entitled to nothing definite by way of reward. Incandescent Light Patent[268] is an illustration of this. The patent sued on purported to cover an invention appertaining to incandescent electric light. There had been considerable difficulty in this art owing to the fact that the carbon filaments in the lamps were subject to rapid disintegration. The improvement described by the patentees was the use "of an incandescent conductor of carbon made from a vegetable fibrous material in contradistinction to a similar conductor made from mineral or gas carbon." No especial description of making this conductor was given nor did the patent claim any definitely particularized substance which might be used for making it. The defendant used a certain kind of bamboo fibre which he had discovered as suitable for the purpose, quite by accident, after trying many other kinds of wood fibres none of which could be made to work. The patentees, said the court, "supposed they had discovered in carbonized paper the best material for an incandescent conductor. Instead of confining themselves to carbonized paper, as they might have done, and in fact did, in their third claim, they made a broad claim for every fibrous or textile material, when in fact an examination of over six thousand

[266] 6 How. 437, 483, citing other authority.
[267] Accd. The Incandescent Light Pat., 159 U. S. 465, 474.
[268] 159 U. S. 465

vegetable growths showed that none of them possessed the peculiar qualities that fitted them for that purpose. Was everybody then precluded by this broad claim from making further investigation? We think not," . . . "If the description be so vague and uncertain that no one can tell, except by independent experiments, how to construct the patented device, the patent is void." So the court held most strictly, "The claims of the patent, with the exception of the third, are too indefinite to be the subject of a valid monopoly."

In a somewhat similar case[269] the plaintiff had discovered a new substance compounded of fusel oil and the mineral and earthy oils, which he denominated a "burning fluid." In describing it he said, "the exact quantity of fusel oil which is necessary to produce the most desirable compound must be determined by experiment." The defendants used a combination of the same ingredients described by the patentee. It was left to the jury to determine whether the defendant's proportions were substantially the same as those of the patentee's, and the verdict was adverse to the latter. The court in upholding the verdict and judgment said, "Now a machine which consists of a combination of devices is the subject of invention, and its effects may be calculated a priori, while a discovery of a new substance by means of chemical combinations of known materials is empirical and discovered by experiment. Where a patent is claimed for such a discovery, it should state the component parts of the new manufacture claimed with clearness and precision, and not leave the person attempting to use the discovery to find it out 'by experiment.' The law requires the applicant for a patent-right to deliver a written description of the manner and process of making and compounding his new-discovered compound. The art is new; and therefore persons cannot be presumed to be skilled in it, or to anticipate the result of chemical combinations of elements not in daily use."[270]

[269] Tyler v. Boston, 7 Wall. 327.

[270] In view of this last sentence it would seem as though the court were evading a logical reversal of the case by a resort to mere technical language; that the description taken as a whole was in fact clear enough and should have been given a broader interpretation. In Minerals Separation

MUST SEPARATE OLD AND NEW MATTER. In order to describe an invention with such exactness and clarity as to satisfy the requirements, it is often necessary to give it a background, by describing other machines, arts, etc. When an invention embraces in itself an entire machine or device, separate as an entity from other devices, it can be described as an entity and there is no necessity of describing anything whatsoever outside of the actual invention. A particular shape of nail, for instance, could be described of itself without the necessity of representing other nails or anything else in connection with the nail. But even in such cases it is occasionally desirable to point out the essence of the inventive idea by comparison of the formal embodiment with other devices. More often the subject of the invention is not an absolute entity, totally unconnected with any other device. It may be something not at all novel in its absolute form, but, on the contrary, novel only in its connection with other devices and its use therewith. Such, for instance, would be the type of invention which, while necessarily complete in itself, is commonly known as an "improvement" upon an existing device. Differently expressed, the essence of the invention may be so related to an existing de-

Co. v. Hyde, 242 U. S. 261, the court said, "Equally untenable is the claim that the patent is invalid for the reason that the evidence shows that when different ores are treated preliminary tests must be made to determine the amount of oil and the extent of agitation necessary in order to obtain the best results. Such variation of treatment must be within the scope of the claims, and the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject matter. The composition of ores varies infinitely, each one presenting its special problem, and it is obviously impossible to specify in a patent the precise treatment which would be most successful and economical in each case. The process is one for dealing with a large class of substances and the range of treatment within the terms of the claims, while leaving something to the skill of persons applying the invention, is clearly sufficiently definite to guide those skilled in the art to its successful application, as the evidence abundantly shows. This satisfies the law."

See also, Wood v. Underhill, 5 How. 1; Tannage Patent Co. v. Zahn, 66 Fed. 986; Schneider v. Lovell, 10 Fed. 666; The claim was alleged to be too vague but held sufficiently definite in Burke Elec. Co. v. Independent Pneumatic Tool Co., 232 Fed. 145.

vice, that both must be described if the invention is to be comprehensible. It is therefore both necessary and permissible for an inventor to set out in his specification, description which covers matter not included within the invention itself.[271] The validity of his patent is not affected by the mere fact that he has included extraneous matter in his description, provided he has not claimed it as part of his invention. But somewhere in the specification the line of distinction between this matter extraneous to the invention and what he claims as his invention must be clearly pointed out. If this separation of the invention itself from the described background is not clearly made, it is obvious that a valid patent can not be issued. The entire matter described could not be covered by patent because part of it is admittedly old. But if the inventor himself has not separated that part of the description which constitutes his invention from the description of what is old, neither the Commissioner of Patents nor the courts have power to do it for him. It has even been said specifically,[272] "It is not enough to give such a description of the machine patented as to show, by comparing it with other machines, what part has been invented. . . . It is not enough that the thing designed to be embraced by the patent should be made apparent on the trial, by a comparison of the new with the old machine. . . . The specification must be complete. No defects can be obviated by extraneous evidence at the trial."[273]

[271] Merrill v. Yeomans, 94 U. S. 568. "When a man supposes he has made an invention or discovery useful in the arts, and therefore the proper subject of a patent, it is, nine times out of ten, an improvement n some existing article, process, or machine, and is only useful in connection with it. It is necessary, therefore, for him, in his application to the Patent Office, to describe that upon which he engrafts his invention, as well as the invention itself; and, in cases where the invention is a new combination of old devices, he is bound to describe with particularity all these old devices, and then the new mode of combining them, for which he desires a patent. It thus occurs that, in every application for a patent, the descriptive part is necessarily largely occupied with what is not new, in order to an understanding of what is new."

[272] Brooks & Morris v. Jenkins & Bicknell, 3 McLean, 432, 442.

[273] The acual holding of the case reads, "What is claimed as new and how is it distinguished from the old? There is nothing on the face of

SUFFICIENCY OF DESCRIPTION, BY WHOM DECIDED. Whether or not the specification does set out sufficiently the invention it is alleged to describe, appears to be a question of fact, to be left to the jury in actions of law, according to the opinion of many courts.[274]

Other judges have made a verbal distinction between the province of the jury, in this respect, and that of the court, which seems rather more in harmony with actual practice. Mr. Justice McLean charged a jury upon this point as follows,[275] "A question is raised, whether the thing claimed to have been invented is sufficiently described in the patent, is a matter for the determination of the court or jury. In its nature it is a question of law, for it depends upon the construction of a written instrument. If technical terms be used peculiar to mechanics in describing the invention, evidence may be heard in explanation of those terms, and in such case a jury may be necessary. If this point were ordinarily referable to a jury, the decisions on the same instrument would be as variable as the names of the parties. To produce uniformity of decision, the courts must give a construction to all written instruments. In this mode, by the application of known rules of construction, the specifications of a patent are construed and settled as regards the thing invented. Whether the description is so particular as to enable a mechanic to construct the machine, is a question for the jury. But unless the thing claimed to be

the patent or specifications, which can enable any one to say, what is new and what is old. If he has added something to a machine which is new, and which he claims as his improvement, he must describe it. But no such description is given. . . . He can then have no shadow of ground on which to sustain his patent." Merrill v. Yeomans, 94 U. S. 568; Parks v. Booth, 102 U. S. 96.

[274] Wood v. Underhill, 5 How. 1; Evans v. Eaton, 7 Wheat. 356, 428: "It is not disputed, that the specification does contain a good and sufficient description of the improved hopper-boy, and of the manner of constructing it; and if there had been any dispute on this subject, it would have been a matter of fact for the jury and not of law for the court." Tannage Patent Co. v. Zahn, 65 Fed. 986; Palmer v. McCormick, 2 Brock (Ch. J. Marshall's Decisions) 298.

[275] Brooks & Morris v. Jenkins & Bicknell, 3 McLean 442.

invented, is so described as to be known, in the language of the statute, from every other thing, the patent is void. And this must be determined by the court." Probably the true distinction is that whether or not the description is actually comprehensible as delimiting a definite idea or device, is a question of fact; at just what point that device so described is marked off from all other devices, is a question of construction for the court. What it is that the description does set forth is also a question to be decided by the court; a question of *construction* of the patent and accompanying specifications.[276] The seeming confusion of statement arises out of the failure of courts to distinguish, or their lack of precision in stating the distinction, between the invention as it is in formal expression and the invention as it is in inexpressible essence, which may include many substantial forms.

To the extent that the courts do themselves undertake to decide the formal sufficiency of a specification, the evident inclination is to be liberal toward the inventor. This is one of the issues in which the characterization of a patent as an odious monopoly or as something less repugnant to the law, as discussed at the beginning of this book, is of importance. Were it considered an objectionable monopoly, the patentee should be held to the strictest precision of description. On the contrary, he is in practice favored, on the principle that his patent is, at least, not an odious monopoly.[277]

NEED NOT BE CLEAR TO THE UNSKILLED. It is consistent with this that the courts do not require the description to be so full and clear and in such terms as to be understood by every intelligent reader. It is sufficient if it is comprehensible at least to persons particularly skilled in the branch of knowledge to which the alleged invention appertains. "The purpose of the specification,[278] as contradistinguished from a claim, in letters patent, is to describe clearly the invention sought to be protected by them, and the manner of making, using, and con-

[276] Merrill v. Yeomans, 94 U. S. 568, Further discussion under "protection."

[277] Brooks & Morris v. Jenkins & Bicknell, 3 McLean 442.

[278] Tannage Patent Co. v. Zahn, 66 Fed. 986, 988.

structing the same. The letters patent constitute a contract between the patentee and the public. On the one hand is granted an exclusive use of the invention for a specified term. On the other, by way of consideration, a full disclosure of the invention, in all its parts, must be made. It is through the instrumentality of the specifications that this disclosure is made, and the invention thereby, fully placed within the knowledge of the public. Necessarily, upon their thoroughness in that respect, and upon their accuracy in statement, depends the validity of the contract of the letters patent. If there be material failure in either respect, there necessarily results such failure of consideration as must vitiate the contract. It follows, then, that a specification failing in any material respect to make the invention fully known and accessible to the public must be held fatally defective, and the patent based upon it, ipso facto, becomes void. Wayne v. Holmes, 2 Fish. Pat. Cas. 20, Fed. Cas. No. 17,303. But it should be borne in mind, in judging of the sufficiency of the specifications of letters patent, that while the language and the methods of statement used by the inventor must be such as will fully place the invention in the intelligible possession of the public generally, it is not necessary that it should be so minutely and exactly described as to be readily understood by every person going to make up the public. The specifications of letters patent are addressed primarily to those skilled in the art to which the invention relates, and not to those who are wholly ignorant of the subject matter.

"In Plimpton v. Malcolmson, 3 Ch. Div. 531, Sir George Jessel, the master of the rolls, thus states the principle: 'In the first place, it is plain that the specification of a patent is not addressed to people who are ignorant of the subject-matter. It is addressed to people who know something about it. If it is mechanical invention, as this is, you have, first of all, the scientific mechanicians of the first class,—eminent engineers. Then you have scientific mechanicians of the second class,—managers of great manufacturies; great employers of labor; persons who have studied mechanics, not to the same extent as those of

the first class, the scientific engineers, but still to a great extent, for the purpose of conducting manufactories of complicated and unusual machines. . . . And then the third class, consisting of the ordinary workman, using that amount of skill and intelligence which is fairly to be expected from him,—not a careless man, but a careful man, though not possessing that great scientific knowledge or power of invention which would enable him by himself, unaided, to supplement a defective description or correct an erroneous description. Now, as I understand, to be a good specification it must be intelligible to the third class I have mentioned, and that is the result of the law. It will be a bad specification if the first two classes only understand it, and if the third class do not.' And in the case of Morgan v. Seward, 1 Webst. Pat. Cas. 174, Mr. Baron Anderson used this language: 'The specification ought to be framed so as not to call on a person to have recourse to more than those ordinary means of knowledge (not invention) which a workman of competent skill in his art may be presumed to have. You may call upon him to exercise all the actual existing knowledge common to the trade, but you cannot call upon him to exercise anything more. You have no right to call upon him to tax his ingenuity or invention.'

"From which it seems to follow that persons skilled in the art to which the specification is addressed are in fact those of ordinary and fair information, but not those having very great technical knowledge relating to the subject-matter of the invention. And if, to them, the specification sufficiently and well describes the invention or process, it is quite sufficient. Now, the courts have always been generous towards inventors, in their application of these principles of the law, and their consequent judgment of the validity of a specification. Although the specification may be in some degree incorrect, or vague or incomplete, if from it, taken in connection with accompanying drawings and models and plans and formula, and especially the rest of the letters patent, one skilled in the art, as above defined, can, by exercise of purely non-inventive powers, succeed in constructing a machine or in following the process, or in combining the ingredients of matter mentioned into one whole, it is suffi-

cient. On the other hand, if experiment and inventive skill on the part of a skilled operator or user is necessary, in addition to the instructive statements of the specification, to render the invention available and the use successful, then the specification is fatally defective, and the patent based thereon is void. Lockwood v. Faber, 27 Fed. 63; McNamara v. Hulse, 2 Webst. Pat. Cas. 128; Tyler v. Boston, 7 Wall. 327."

The particular phrascology and syntax of the description do not affect its validity. If it is a full, clear and exact description, it is, so far as its language is concerned, sufficient. In one case[279] it was actually "argued by the defendant that the specifications are ungrammatically expressed, prolix, misleading, and are erroneous in their statement of the scientific principles which govern the movements of the currents of air. Nevertheless," said the court, "I can see no reason why a skilled person, attempting to construct a kiln according to the specifications and the drawings of the patent should not be able to do it." The patent was accordingly upheld.

STATEMENT OF PRINCIPLE. A statement of the principle of the invention is required in the specification by rule No. 36 which reads, "The specification must set forth the precise invention for which a patent is solicited, and explain the principle thereof, and the best mode in which the applicant has contemplated applying that principle, in such manner as to distinguish it from other inventions." But where the principle is not an essential element in the differentiation of the device from other inventions, a statement of it is not necessary to constitute a sufficient description, and the fact that in such case it is not set forth does not invalidate the patent. If some principle is set forth, and is in truth incorrect, the mistake is immaterial; it can be treated as mere surplusage.[280]

[279] Emerson Co. v. Nimocks, 99 Fed. 737.

[280] Emerson v. Nimocks, 99 Fed. 737. An incorrect theory was actually assigned to account for the operation of the invention, but the court said, "The scientific principle is not part of the process, is not patentable and need not be set forth." Eames v. Andrews, 122 U. S. 40, 55, quoting Andrews v. Cross, 19 Blatch. 294, 305; "It may be that the inventor did not know what the scientific principle was, or that, knowing it, he omitted,

It is highly desirable, however, for the inventor, or, more particularly, the draftsman of the application, to know and understand the particular mechanical principle, or the principle of nature, involved in the invention. As we have seen, no matter what a man may have invented, he is protected only as to what he actually claims protection for. He can not claim either the mechanical principle on which his invention is based, nor the natural principle which it utilizes. But it must be remembered that both the mechanical principle and the principle of nature involved in a device may serve as the characteristic

from accident or design, to set it forth. That does not vitiate the patent. He sets forth the process or mode of operation which ends in the result, and the means for working out the process or mode of operation. The principle referred to is only the why and the wherefore. That is not required to be set forth. Under § 26 of the act of July 8, 1870, 16 Stat. 201, under which this reissue was granted, the specification contains a description of the invention and of 'the manner and process of making, constructing, compounding, and using it,' in such terms as to enable any person skilled in the art to which it appertains to make, construct, compound, and use it; and, even regarding the case as one of a machine, the specification explains the principle of the machine, within the meaning of that section, although the scientific or physical principle on which the process acts when the pump is used with the air-tight tube, is not explained. An inventor may be ignorant of the scientific principle, or he may think he knows it and yet be uncertain, or he may be confident as to what it is, and others may think differently. All this is immaterial, if by the specification the thing to be done is so set forth that it can be reproduced." "It is certainly not necessary that he understand or be able to state the scientific principles underlying his invention, and it is immaterial whether he can stand a successful examination as to the speculative ideas involved." Diamond Rubber Co. v. Consolidated Tire Co., 220 U. S. 428, "He must, indeed, make such disclosure and description of his invention that it may be put into practice. In this he must be clear. He must not put forth a puzzle for invention or experiment to solve but the description is sufficient if those skilled in the art can understand it. This satisfies the law, which only requires as a condition of its protection that the world be given something new and that the world be taught how to use it. It is no concern of the world whether the principle upon which the new construction acts be obvious or obscure, so that it inheres in the new construction." "Of course a mechanical device may be patentable although the true story of it is not understood." Steward v. Am. Lava Co., 215 U. S. 161, 166; Toch v. Zibell, etc., Co., 233 Fed. 993.

which above all other characteristics distinguishes it from other devices similar in mere tangible form. Therefore, while an inventor can not patent the particular principle--which he has not created—he may validly claim all devices involving that principle, which differ from the device described by him only as the result of mere mechanical skill. But a draftsman who does not understand the principle involved might so formulate the description and claims as unwittingly to eliminate the principle as a characteristic of the invention, and by the precision of his words confine the patent to the single tangible form characterized by the description. A very pointed illustration is the case of Steward v. American Lava Co.[281] The patentee had described a form of tip for burning acetylene gas. As described, it was not materially different from those in use. At the trial, however, it was urged that the particular form of tip accomplished the purpose of the other forms by the utilization of an entirely different natural principle. Justice Holmes intimated that if this were true the patent would be upheld. But there was conflicting evidence as to whether the burner did really involve that principle, and the scale was turned against the patentee by the fact that he had indicated no realization of such a principle in his description. The court also said in criticizing the indefiniteness of the claim, "Vacillation in theory led to uncertainty of phrase."[281a]

[281] 215 U. S. 161.

[281a] A further, and very precise, illustration is found in the recent case of Minerals Separation Co. v. Butte, etc., Co., 39 Sup. Ct. Rep. 496 (June, 1919). The patent was for the process of separating minerals from the crushed ore by agitating the mass in a mixture of oil and water. The essence of the invention was the use of less than 1% of oil. The defendants in this case used more than 1% of oil, which was, superficially, not an infringement. But the oil which they used was a mixture of pine oil and petroleum oils. The pine oil itself was less than 1%. The patentees contended that the pine oil was the only kind that had any effect; that the petroleum oil was worse than useless and was added only to make a pretense of non-infringement through the apparent use of more than 1% of oil. The Supreme Court refused relief to the patentees on the ground that their patent did not refer to any particular kind of oil, but claimed only the use of less than 1% of "oils having a preferential affinity for metalliferous matter" or "oily substance." They said that the petroleum product

INCLUDES ALL DESCRIPTIVE PARTS. When it is said that the "specification" or "description" must set forth the invention, the words are not confined to the nominally descriptive part of the application only, but are used, evidently, as including all of the application from which an understanding of the invention can be obtained.[282] "The word 'specification' when used separately from the word 'claim' in section 2916, means the entire paper referred to in section 4888, namely, the written description of the invention, 'and of the manner and process of making, constructing, compounding, and using it,' and the claims made. The word 'specification,' meaning description and claims, is used in that sense in sections 4884, 4895, 4902, 4903, 4917, 4920 and 4922. In some cases, as in sections 4888 and 4916, the words 'specification and claim' are used, and in section 4902 the word 'description' and the word 'specification' are used. But it is clear that the word 'specification,' when used without the word 'claim,' means description and claim." In the rules of practice 'specification' is undoubtedly used as inclusive of the claim. Indeed rule 37 reads, "The specification must conclude with a specific and distinct claim or claims of the part . . . which the applicant regards as his invention or discovery." It is a perfectly logical assumption therefore that the rule requiring the "specification" to set forth the invention includes the claim within the term, and that the latter may properly be looked to, if necessary, to aid in describing the invention and giving it the comprehensibility required. This is the view taken by the courts.[283]

was an "oily substance" and did not have a preferential affinity for the metallifferous matter, and thus met the terms of the patent. As it was used in quantities exceeding 1% its use did not infringe. The court's decision was that if the patentees had intended to patent the use in small quantities of particular kinds of oil, they should have specified those particular kinds in the description of their process. One gathers from the evidence that the reason the patent was not so limited is because the patentees did not themselves realize that there was a difference in effect of the different oils.

[282] Wilson v. Coon, 6 Fed. 611, 615.

[283] Electric Smelting & Aluminum Co. v. Carborundum Co., 102 Fed. 618, 629, "If a claim, uncertain when considered apart from the description,

INCLUDES DRAWINGS. Even the drawings may be referred to for the purpose of rendering intelligible the verbal description of the invention and giving to it the exactness and clarity necessary to its validity. In Earle v. Sawyer.[284] one ground of alleged error was "that the Court directed the jury, that the drawings annexed, and referred to in the specification, constituted a part thereof; and that they might be resorted to, to aid the description, and to distinguish the thing patented from other things known before. In point of fact, the drawings were annexed to the specification in the patent, and it made perpetual references to them, distinguishing thereby the new parts from the old, so that it was unintelligible without them. The Court, therefore, in the first part of the direction, did no more than state the fact, as it was; and the other part was correct, unless the description must be wholly in writing. The argument now is, that by the very terms of the patent act, there must be a written description (without any reference to drawings), in such full, clear, and exact terms, as to distinguish the things patented from all other things; and that, in case of a machine, the act requires drawings in addition

can by reference to the latter be rendered so clear as to satisfy the requirement of the statute, that the inventor "shall particularly point out and distinctly claim" his invention, by parity of reasoning a doubtful point in the description, when considered apart from the claims, can by reference to the latter, when in themselves unambiguous, be rendered so clear as to satisfy the other requirement of the statute that the inventor shall fully and clearly set forth his invention in the description. That under such circumstances a description uncertain or indefinite when considered alone, but not inconsistent with the claims, may be rendered certain and sufficient to meet the requirements of the statute by reading the whole specification together has frequently been recognized and is, we think, a sound rule of law. Battin v. Taggert, 17 How. 74 85, 15 L. Ed. 37; The Corn-Planter Patent, 23 Wall. 181, 224. 23 L. Ed. 161; Carver v. Manufacturing Co., 2 Story, 432, 446 ;Howes v. Nutes 4 Cliff. 173 174, Fed. Cas. No. 6,790; Ryan v. Goodwin, 3 Sumn. 514, 520, Fed. Cas. No. 12, 186; Myers v. Frame, 8 Blatchf. 446, 457, Fed. Cas. No. 9,991; Parker v. Stiles, 5 McLean, 44, 56, Fed. Cas. No. 10,749; Lowell v. Lewis, 1 Mason, 182, 188, Fed. Cas. No. 8,568; 1 Robb's Pat. Case 131." Am. Automotoneer Co. v. Porter, 232 Fed. 456.

[284] 4 Mason 1, 9.

thereto. For this position, the case, Ex parte Fox (1 Ves. & Beames, 67), before Lord Eldon, has been cited. It was a petition to the Lord Chancellor for the grant of a patent, against which a caveat had been entered. On hearing the parties, Lord Eldon granted the patent, and on that occasion is reported to have said, 'I take it to be clear, that a man may, if he chooses, annex to his specification a picture or a model, descriptive of it; but his specification must in itself be sufficient, or I apprehend it will be bad.' As I understand this language, it is not intended to assert the doctrine for which it is cited. It means, that the specification must in itself be sufficient, and that the mere annexation of a picture or model will not help any defect in the specification. This may be true, where such picture or model is not referred to, as constituting a part of the specification itself. But if the explanations of the specification call for drawings, and refer to them as a component part in the description, they are just as much a part of the specification, as if they were placed in the body of the specification. Indeed, in many cases it would be impracticable to give a full and accurate description of the form, adjustments, and apparatus of very nice and delicate machinery, without drawings of some of the parts, as everything might depend on size, position, and peculiar shape. Lord Eldon could not have meant, that if drawings and figures were necessary to a full description of a machine in the specification, there was still some stubborn rule of law prohibiting it. That would be to require the end, and yet to refuse the means. One of the objections in Boulton vs. Bull (2 H. Bl. 463) was, that the specification was imperfect, and it was pressed, that there ought to have been drawings to explain the machinery. How was this objection met? Not by stating, that by law no explanatory drawings would help a specification, even if referred to in it, but by showing the specification sufficient without them. Mr. Justice Rooke said (p. 480), 'As to the objection of a want of a drawing or model, that at first struck me as of great weight. I thought it would be difficult to ascertain, what was an infringement of a method, if there

was no additional representation of the improvement, or thing methodized.' 'If they (the jury) can understand it without a model, I am not aware of any rule of law, which requires a model or drawing to be set forth, or which makes void an intelligible specification of a mechanical improvement, merely because no drawing or model is annexed. It seems to me then there is no ground for this objection to the charge, even upon the law of patents in England, where the specification constitutes no part of the patent itself, but is required by a proviso in every grant, to be enrolled in the Court of Chancery, within a limited time, and particularly to describe and ascertain the nature of the invention, and in what manner the same is to be performed. But how stands our own law on this subject; for by this the question must, after all, be decided? The patent act requires, that the inventor 'shall deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear, and exact terms, as to distinguish the same from all other things before known, &c., &c.; and in the case of a machine, he shall fully explain the principle and the several modes, in which he has contemplated the application of that principle or character, by which it may be distinguished from other invention; and he shall accompany the whole with drawings and written references, where the nature of the case admits of drawings,' &c. This is an explicit direction to annex drawings, where the nature of the case admits of them, with written references; and when so annexed, they become part of the written description required by the act. They may be indispensable to distinguish the thing patented from other things before known. Surely, then, the act could not intend studiously to exclude them as part of the written description. That would be to require the end and deny the means."[285]

[285] Accd. Schneider v. Lovell, 10 Fed. 666; Banker v. Bostwick, 3 Fed. 517; Hogg v. Emerson. 11 How. 587, 606, "Under the instructions of the court the jury found that it (the description) was clear enough to be understood by ordinary mechanics, and that machines and wheels could be readily made from it, considering the specifications as a whole, and adverting to the drawings on file. This is all which the law requires in respect to clearness. . . ." Tannage Patent Co. v. Zahn, 66 Fed. 984, 990.

But while the drawings may be adverted to in connection with the written description to give it exactness sufficient to enable one skilled in the art to understand the invention and to construct or use it; while they may be used to explain and interpret it, they may not be considered for the purpose of amplifying or supplementing a description which is not in itself complete. They can not be used to extend the scope of the written description. The propriety of such use was explicitly denied in the case of Caverly v. Deere.[286] The patent there sued on could be saved from a change of anticipation only by holding that the device described had certain knife-blade parts set at an angle of 45°. It was admitted that this at least might constitute patentable novelty. The drawings showed these parts set at that angle, but nothing whatever was said in the specification to indicate that the inventor intended them to be set especially at such an angle, or at any particular angle except such a one as would produce the best results, and the court held the patent invalid.[287]

§ 3. Claim

Claim an important part. The claim itself, while only a part of the whole application, is an extremely important part. By the claim the extent of the monopoly covered by the patent is determined.[288] The statute provides, precisely, that the applicant must, in his specification, "particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery."[289] The purpose of

[286] 66 Fed. 305.

[287] Tinker v. Wilber Eureka etc. Co., 1 Fed. 138, "The drawing could and should be looked at, if necessary, in order to explain an ambiguous or doubtful specification, and to make the invention capable of being understood and used. But it can not supply an entire want of any part of a specification or claim in a suit upon a patent, although it might afford ground for a re-issue covering the part shown by it."

[288] Description extraneous to the claim itself is necessary, because while, as said above, the claim may be used to explain the description, the claim can not be utilized for expanding the description. Nothing can, therefore be effectively claimed which is not described.

[289] § 4888.

the statute is primarily to benefit the public, not the individual. It gives to the individual a monopoly for a limited time, as an inducement for him to reveal his invention to the public. If he chooses to give his invention to the public without the recompense of a monopoly he is as free to do so as ever he was, and he may make his revelation by describing it and making it public in any way he wishes. For him to describe it in a written instrument filed with the Commissioner of Patents has *no other effect, so far as he is concerned, than if he had* sent his writing to the editor of a magazine. He must ask for a patent to receive one, and his request is the claim. Without any claim, he asks for nothing; what he does ask for is what he has included in his claim. Only that which he claims, therefore, is granted to him by the patent. The descriptive part of the application may set out with clarity and exactness a device which constitutes an invention and would be patentable, but the patentee does not acquire by that particular part a monopoly of the described device unless he has claimed it. The phrase "by that particular patent" is inserted in the preceding sentence because it seems clear that he might later protect himself by a new application containing a proper claim. (This question, whether failure to claim a described device amounts to an actual loss of the right or merely to a presumptive abandonment which can be rebutted by a proper showing, is discussed above.) But, at any rate, no protection is given by the particular patent issued on the application. This is well illustrated by the case of Merrill v. Yeomans.[200] The claimant sued for infringement of an improved manufacture of heavy hydro-carbon oils. The defendants were dealers in oils and not manufacturers of them. The court found as an issue that, "If the appellant's patent was for a new oil, the product of a mode of treating the oils of that character which he describes in his application, the defendants may be liable; for they bought and sold, without license or other authority from him, an oil which is proved to be almost if not quite identical with the one which he produced. If, however, appellant's

[200] 94 U. S. 568.

patent is only for the mode of treating these oils invented and described by him,—in other words, for his new process of making this new article of hydro-carbon oil,—then it is clear the defendants have not infringed the patent, because they never used that process, or any other, for they manufactured none of the oils which they bought and sold." The appellant contended that his patent was in fact for the product. The defendant urged that it was for the process of manufacture only. It was admitted by all parties that the product as well as the process was sufficiently described in the specification, and the court found that on the description as it stood the inventor might have had a valid patent for both the product and the process. But the court came to the conclusion that he had not in fact *claimed* the product and that his patent, therefore, gave him no monopoly of anything but the use of the process of manufacture. Mr. Justice Clifford dissented on the ground that the claim, as properly construed, did cover the product as well as the process.[291]

[291] It might be noted that the laborious and unsatisfactory reasoning of the decision as made was unnecessary; the same evidently desired result might have been reached on the ground that the oil sold by the defendants was not the same as the product which the complainants claimed to have patented. The cases consistently accord with the principle that the method of manufacture is one of the distinguishing elements of a product. In this case the court had distinctly found "that the oils sold by defendants were produced by a process very different from that described by appellant." This being so, the claimant could not have hoped to cover it, no matter what his claim. Accord, that nothing is protected which is not claimed; "He cannot go beyond what he has claimed and insist that his patent covers something not claimed, merely because it is to be found in the descriptive part of the specification." Railroad Co. v. Mellon, 104 U. S. 112, 118; Stirrat v. Excelsior Mfg. Co., 61 Fed. 980; Wells v. Curtis, 66 Fed. 318; "The claims measure the invention," Paper Bag Patent Case, 210 U. S. 405, 419; Anderson, Foundry & Mach. Wks. v. Potts. 108 Fed. 379.

It is pertinent to note the remark of the court that, "no such question (of construction) could have arisen if the appellant had used language which clearly and distinctly points out what it is that he claims in his invention."

The necessity of determining just what it is that a patentee has claimed and been awarded thereon by the patent office, arises out of the question whether the idea of means, for the unauthorized use of which suit has

MULTIPLICITY OF CLAIMS. Applications for patents, and the patents issued thereon, frequently contain more than one claim as to the part, improvement or combination which constitutes the invention. In part this arises from the recognized custom of joining two or more distinct inventions in one patent.

Several inventions. Whatever may be the theory, it is indisputably the fact that single patents are, in certain cases, issued for more than a single invention. As an illustration, a combination which is itself patentable as a means to an end may contain elements which are themselves inventions. An explosion turbine for instance might be patentable as a novel combination of parts, and the particular form of valves used, or the combination of parts of the rotor element, might in themselves be new. In such cases, a single patent can legitimately be issued to cover the entire combination, as an invention, and to cover also the new parts or sub-combinations as inventions. In the same way, an idea of static means for accomplishing a result, a peculiar shaped collar button for instance, might be of inventive quality, and the idea of dynamic means for making such a button might also be the novel result of inventive genius. Each of these ideas of means is an invention in itself, but the courts seem to permit the patenting of them both through one application and under a single patent.

The right to join distinct inventions in a single application

been brought, is covered by the claim. It is simply a way of stating the issue of infringement. If the alleged infringer has used a device precisely described in the claim, the infringement is evident, and there is no necessity for construing the claim. But the scope of the protection given by a patent is not limited to the precise substantial device described and claimed therein. As we have already said, it covers the idea of means set forth, as well as the particular substantial means actually described. It covers every thing which is essentially identical with the means described. When the alleged infringer has used a device different from the means particularly described in the patentee's claim, he is guilty of infringement only if his device was *essentially* described in the claim. It becomes, therefore, necessary to determine whether the claim does set out an idea of means broad enough to include the defendant's device. In a sense, the claim must be construed. A discussion of this construction and interpretation of claims will be found under the subject of infringement.

and patent is covered by rules of the Patent Office.[292] "Two or more independent inventions can not be claimed in one application: but where several distinct inventions are dependent upon each other and mutually contribute to produce a single result they may be claimed in one application. If several inventions, claimed in a single application, be of such a nature that a single patent may not be issued to cover them, the inventor will be required to limit the description, drawing, and claim of the pending application to whichever invention he may elect. The other inventions may be made the subject of separate applications, which must conform to the rules applicable to original applications. If the independence of the inventions be clear, such limitation will be made before any action upon the merits; otherwise it may be made at any time before final action thereon, in the discretion of the examiner. A requirement of division will not be repeated without the written approval of a law examiner. After a final requirement of division, the applicant may elect to prosecute one group of claims, retaining the remaining claims in the case with the privilege of appealing from the requirement of division after final action by the examiner on the group of claims prosecuted."

These rules are discussed by the court in the case of Steinmetz v. Allen.[293] At that time the rule of the Patent Office forbade the inclusion in a single patent of a machine and its product, or of a machine and the process in the performance of which it was used, or of a process and its product. The petitioner had been required by the Commissioner of Patents to eliminate certain claims from his application on the ground that they should be the subject matter of a separate application. The court's discussion of the law is worth quoting, and is as follows: "There is nothing in the language of the section (R. S. 4886) which necessarily precludes the joinder of two or more inventions in the same application. But the section does distinguish inventions into arts (processes), machines, manufactures and compositions of matter, and the earliest construction of the law denied the right of joinder.

[292] Rules of Practice No. 41 and 42.

[293] 192 U. S. 543.

An exception, however, came to be made in cases of dependent and related inventions. In Hogg v. Emerson, 6 How. 437, it was said: 'The next objection is, that this description in the letters thus considered covers more than one patent and is therefore void. There seems to have been no good reason at first, unless it be a fiscal one on the part of the government when issuing patents, why more than one in favor of the same inventor should not be embraced in one instrument, like more than one tract of land in one deed or patent for land. Phil. Pat. 217. Each could be set out in separate articles or paragraphs, as different counts for different matters in libels in admiralty or declarations at common law, and the specifications could be made distinct for each and equally clear. But to obtain more revenue, the public officers have generally declined to issue letters for more than one patent described in them. Renouard, 293: Phil. Pat. 218. The courts have been disposed to acquiesce in the practice, as conducive to clearness and certainty. And if letters issue otherwise inadvertently to hold them, as a general rule, null. But it is a well established exception that patents may be united, if two or more, included in one set of letters, relate to a like subject, or are in their nature or operation connected together. Phil. Pat. 218, 219; Barret v. Hall, 1 Mason, 447; Moody v. Fiske, 2 Mason, 112; Wyeth et al. v. Stone et al., 1 Story, 283.'

"This language would seem to imply that not the statute but the practice of the Patent Office required separate applications for inventions, but the cases cited were explicit of the meaning of the statute. Mr. Justice Story, in Wyeth v. Stone. said: 'For, if different inventions might be joined in the same patent for entirely different purposes and objects, the patentee would be at liberty to join as many as he might choose, at his own mere pleasure, in one patent, which seems to be inconsistent with the language of the patent acts, which speak of the thing patented, and not of the things patented, and of a patent for invention, and not of a patent for inventions; and they direct a specific sum to be paid for each patent.' But he confined the requirement to independent inventions, and his il-

lustrations indicated that he meant by independent inventions not those which, though distinct, were 'for the same common purpose and auxiliary to the same common end.' Hogg v. Emerson came to this court again, and is reported in 11 How. 587. Of one of the objections to the patent the court said: 'It is that the improvement thus described is for more than one invention, and that one set of letters patent for more than one invention is not tolerated by law. But grant that such is the result when two or more inventions are entirely separate and independent, though this is doubtful on principle, yet it is well settled in the cases formerly cited, that a patent for more than one invention is not void if they are connected in their design and operations. This last is clearly the case here.' Many other cases are to the same effect."

The court went on to say that the line between independent and related inventions is vague and unplacable, and that "It is difficult, perhaps impossible, to lay down any general ruie by which to determine when given inventions or improvements shall be embraced in one, two, or more patents. . . . It is often a nice and perplexing question. The discretion which must necessarily therefore, reside in the Commissioner of Patents, is not final, in him, but is reviewable." "The Patent Office has not been consistent in its views in regard to the division of inventions. At times convenience of administration has seemed to be of greatest concern; at other times more anxiety has been shown for the rights of inventors. The policy of the office has been denominated that of battledore and shuttlecock, and rule 41 as it now exists was enacted to give simplicity and uniformity to the practice of the office. Its enactment was attempted to be justified by the assumption that the patent laws gave to the office a discretion to permit or deny a joinder of inventions. But, as we have already said, to establish a rule applicable to all cases is not to exercise discretion. Such a rule ignores the differences which invoke discretion, and which can alone justify its exercise, and we are of opinion therefore that rule 41 is an invalid regulation." In this particular case the court held that a process and an apparatus might be such

related inventions as to be capable of inclusion in a single patent, and that inasmuch as the rule purported rigidly to preclude such a combination it was invalid.[204]

It is often desirable to take advantage of this right to join inventions, both because it is a monetary saving so to do, and because the failure to claim one of the inventions might be construed as showing an intent to abandon it.

Repetition of claims. Another cause for a multiplicity of claims is found in the difficulty of making clear to all minds, by mere words, precisely what it is that is claimed. As one court expressed it,[205] "While, according to strict rules of law, two distinct claims for the same substantial matter, differing only in nonessentials, cannot both be sustained, yet, out of regard to the frailty of human methods of expression, and the variety of views among different legal judicial tribunals as to the construction of instruments of the character of letters patent, and conceding, also, the difficulty of always correctly defining what one's invention really is; the practice has become settled to allow the same substantial invention to be stated in different ways, very much as the same cause of action, or the same offense intended to be covered by indictment, are per-

[204] Leeds & Catlin v. Victor Talking Machine Co., 213 U. S. 301, 318, "A process and an apparatus by which it is performed are distinct things. They may be found in one patent; they may be made the subject of different patents. So may other dependent and related inventions." Benet v. Fowler, 8 Wall. 445; DuBois v. Kirk, 158 U. S. 58; Thomson-Houston Elec. Co. v. Elmira & H. Ry. Co., 71 Fed. 396; Benj. Elec. Mfg. Co. v. Dale Co., 158 Fed. 617. Merrill v. Yeomans, 94 U. S. 568. The patent in this case was for the process of making certain hydro-carbon oils. The defendants were charged with selling oils similar to those made by the patented process but in fact made by an entirely different process. The court held that the patent had not been infringed because the oils had not been made by the defendants, nor even by the same process and because the right to use and vend the oils as a *product* had not been covered by the patent. This case contains the strongest sort of intimation that two distinct things, namely, the process and the product, could have been and should have been claimed in the one patent. In another case, Rubber Co. v. Goodyear, 9 Wall. 788, syll. 7 reads, "A process and the product of a process may be both new and patentable, and are wholly disconnected and independent of each other."

[205] Dececo Co. v. Geo. E. Gilchrist Co., 125 Fed. 293, 300.

mitted to be propounded in different counts, with a general verdict on all of them."

The fact that one or more of these claims covers matter to which the patentee is not, in the court's opinion, entitled, and is therefore void, does not necessarily invalidate the entire patent. A notable example of this is the patent issued for the Morse telegraph concept.[296] It contained eight claims, of which seven were held valid and the eighth so broad as to be invalid. While the court would not go so far as to concede the contention that this void claim might be treated as a nullity and of no effect at all upon the patent, it did hold that it might, before or after the conclusion of the suit, be disclaimed, and the rest of the patent thereby be rendered valid and effective. In the later case of Carleton v. Bokee[297] the fourth claim of the patent was held void because of anticipation. "One void claim, however," said the court, "does not vitiate the entire patent, if made by mistake or inadvertence and without any willful default or intent to defraud or mislead the public." It is evident from the case that the court did not consider the claiming of too much, under a real belief that he might be entitled to it all, to show an intent to defraud or mislead the public.[298]

It has grown, therefore, to be a legitimate practice to claim not only all that the inventor may seem entitled to, but, lest this be too much, or the claim be misunderstood, to claim also narrower and surer degrees of comprehensiveness.[299]

[296] O'Reilly v. Morse, 15 How. 62.

[297] 17 Wall. 463.

[298] Leeds & Catlin v. Victor Talking Machine Co., 213 U. S. 301, syll. "Separate claims in the same patent are independent inventions, and the infringement of one is not the infringement of the others, and the redress of the patentee is limited to the injury he suffers; nor is the validity and duration of valid claims affected by the invalidity or expiration of any other claim."

The English rule seems to be otherwise. The United Horsenail Co. v. Stewart, 2 R. P. C. 132. Also 59 Law Times 561. 13 Att. Cases 401.

[299] The course of "multiplying claims unnecessarily" was criticized by the court in Westinghouse Air-brake Co. v. N. Y. Air-brake Co., 112 Fed. 424. Criticism is justly due the too frequent practice of multiplying

A multiplicity of claims may be of value for its effect upon the courts under certain circumstances. A patent for a combination is of such narrow credit that its use, with the omission of a single element, is often held not to be an infringement. Technically the claimant of a combination, who has not expressly and explicitly limited himself to the one precise form, should be given a scope of equivalents appropriate to the deserts of his invention. This breadth of scope should be given him, theoretically, and in harmony with other decisions, whether he has mentioned the particular equivalents or not. In other words, if he has not explicitly limited himself, his invention entitles him to protection against all merely formal evasions of it; and if a later device is not a mere formal evasion, it could not properly have been included under the patent for the first invention had the patentee thought of including it. Therefore, the recital of various forms of the combination is, theoretically, either mere surplusage—such forms being included in the one combination as stated in its broadest form—or they are distinct and independent of the invention and not properly included in the patent.

It is possible, however, that such variant claims do have a *practical* value, owing to the effect upon the courts' opinions, of matters extraneous to the mere merits of the invention. A court which, because of the narrowness of an invention, might refuse it any range of unexpressed equivalents, may perhaps be induced to hold it broad enough to cover mere mechanically skillful variations which have been actually expressed in the patent.

claims because of the solicitor's own uncomprehension of the law. Many patent attorneys, as well as some courts, are still obsessed by the notion that nothing can be property that is not tangible, or represented by something tangible. They fail, therefore, to realize that it is the idea of means which is patented and not merely the means literally described. In order to secure the protection to which they feel the inventor is entitled, they literally describe as many variations in the *embodiment* of the idea as they can think of. The actual result is that they often, by the very extent and prolixity of their descriptions limit the scope of protection unnecessarily, and they always confuse the records of the patented art.

§ 4. Disclaimer

With these possible exceptions, the necessity for including several claims, and even the value of so doing is dubious. The practice is not essential in preventing harm when it appears that too much has been claimed in the effort to get all that is allowable. The statute[300] provides, "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 things patented; and any such patentee, his heirs or assigns, whether of the whole or 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 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." This is a specific statement to the effect that the "patent shall be valid for all that part which is truly and justly his own," without limitation to such part as has been stated in a separate claim, valid in itself. In the words of the statute, a claim would appear to be equally valid whether it is that part of a single claim which is left after pruning off the surplus and invalid parts, or is a claim, originally complete in itself, left after other excessive claims have been removed.[301]

[300] R. S. § 4917.

[301] "Matters properly disclaimed cease to be a part of the invention; and it follows that the construction of the patent must be the same as it would be if such matters had never been included in the description of

Even when a disclaimer has not been filed before suit, the statute provides[302] that "Whenever, through inadvertence, accident, or mistake, and without any willful default, or intent to defraud or mislead the public, a patentee has, in his specification, claimed to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the original and first inventor or discoverer, every such patentee, his executors, administrators, and assigns, whether of the whole or any sectional interest in the patent, may maintain a suit at law or in equity, for the infringement of any part thereof, which was bona fide his own, if it is a material and substantial part of the thing patented, and definitely distinguishable from the parts claimed without right, notwithstanding the specifications may embrace more than that of which the patentee was the first inventor or discoverer. But in every such case in which a judgment or decree shall be rendered for the plaintiff, no costs shall be recovered unless the proper disclaimer has been entered at the Patent Office before the commencement of the suit. But no patentee shall be entitled to the benefits of this section if he has unreasonably neglected or delayed to enter a disclaimer."[303]

Failure to claim all that the patentee might have been entitled to can not be corrected by means of disclaimer. That is to say, a patentee can not under pretense of disclaiming the invention or the claims of the specification." Dunbar v. Meyers, 94 U. S. 187; Schwartzwalder v. New York Filter Co., 66 Fed. 152.

An interesting instance in which the patentee, in fear of proof of anticipation, disclaimed the only feature on which his patent could be upheld, and thereby worked his own defeat is found in Brunswick, Balke, Collender Co. v. Klumpp, 131 Fed. 255. Disclaimer not allowed to be corrected account of mistake, Hillborn v. Hale & Kilborn Mfg. Co., 66 Fed. 958.

[302] R. S. § 4922.

[303] Failure to file a disclaimer does not become unreasonable until it is evident on the face of the patent that it is too broad or until the decision of a court has shown it to be necessary. Seymour v. McCormick, 19 How. 96; O'Reilly v. Morse, 15 How. 62; Gage v. Herring, 107 U. S. 640.

part of his claim so alter the rest as to make it include more than it would have done in its original form.[304]

§ 5. Reissue

Such failure to claim all that the invention included can be corrected only by a reissue such as the statute provides for.[305] This provision is, "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 specifications, 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

[304] Albany Steam Trap Co. v. Worthington, 76 Fed. 966; Hailes v. Albany Stove Co., 123 U. S. 582; Collins Co. v. Coes, 130 U. S. 56; Carnegie Steel Co. v. Cambria Iron Co., 185 U. S. 403.

[305] R. S. § 4916.

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."

It will be observed that this section provides for a reissue only when an existing patent is "inoperative or invalid," by reason of the deficiency in specification, etc. It does not, in terms, cover the case of a patent which is perfectly valid and effective, but which, because of the mistake in specification, etc., does not give the patentee all of the protection which he might have had if he had properly claimed it. The right to a reissue originated, however, prior to any specific statutory provision, as a judicial interpretation of the spirit of the law as a whole. This appears in the case of Grant v. Raymond.[306] Grant had secured a patent which, through inadvertency, was so vague and inaccurate in its specification as to be ineffective. On discovering this he petitioned the Secretary of State to issue a new patent, containing a correct description of his invention and a valid claim which should protect him for the unexpired part of his term, and to cancel the old patent. This the Secretary did although no part of the Patent Statute specifically authorized it. Grant then sued Raymond for infringement of his reissued patent, and the defense was that there was no authority for the second, the corrected patent, and that it was void. A number of very practical objections to even authorized reissue were also raised. The court held, however, that although there was no specific authority, the reissued patent was good. Chief Justice Marshall, in delivering the opinion, said, "If the mistake should be committed in the department of state, no one would say that it ought not to be corrected. All would admit that a new patent, correcting the error, and which would secure to the patentee the benefits which the law intended to secure, ought to be issued. And yet the act does not in terms authorize a new patent, even in this case. Its emanation is not founded on the words of the law, but is indispensably necessary to the faithful execution of the

[306] 6 Peters 218 (1832).

solemn promise made by the United States. Why should not the same step be taken for the same purpose, if the mistake has been innocently committed by the inventor himself? . . . 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 is 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. . . . The communication of the discovery has been made in pursuance of law, with the intent to exercise a privilege which is the consideration paid by the public for the future use of the machine. If, by an innocent mistake, the instrument introduced to secure this privilege fails in its object, the public ought not to avail itself of this mistake, and to appropriate the discovery without paying the stipulated consideration. The attempt would be disreputable in an individual, and a court of equity might interpose to restrain him."[307]

The original patent in that case appears to have been actually inoperative and ineffective to give any protection. But the reasoning on which the court proceeded would equally well sustain the correction of a patent which, while in fact operative, did not protect the inventor as fully as his invention entitled him to be protected. And the courts do extend it to just such cases. Thus in Wilson v. Coon[308] it was contended that the reissued patent was void because the original was in

[307] The court also answers the practical objections that to allow a reissue for mistake would vest judicial power in the Secretary of State, and that the reissue would retroact upon persons who had lawfully taken advantage of the failure to protect the invention. That a reissue may be granted to correct a mistake of the Patent Office itself, as suggested in Grant v. Raymond, see, Railway Register Co. v. Railroad Co., 23 Fed. 593. In Hobbs v. Beach, 180 U. S. 383, a reissue was allowed to correct a mistake, not in the specification but in the drawings.

[308] 6 Fed. 611.

fact valid and operative. But the court rejected the proposition, saying, "a patent may be inoperative from a defective or insufficient description, because it fails to claim as much as was really invented, and yet the claim may be a valid claim, sustainable in law, and there may be a description valid and sufficient to support such claim. In one sense such patent is operative and is not inoperative. Yet it is inoperative to extend to or claim the real invention, and the description may be defective or insufficient to support a claim to the real invention, although the drawings and model show the things in respect to which the defect or insufficiency of description exists, and show enough to warrant a new claim to the real invention. It can never be held, as it never has been held, in a case where the point arose for decision; that a patent can not be reissued where a suit could be sustained on the specification and claim as they are."[309]

INADVERTENCE, ACCIDENT, OR MISTAKE are essential in the justification for a reissue. The whole theory of a reissue is the correction of such an error only. If the inventor has deliberately omitted matter which he knew belonged in his specification and claim, he will be presumed to have intended not to claim it and to have abandoned it to the public.[310] "A clear mistake, inadvertently committed, in the wording of the claim is necessary."[311] What amounts to inadvertence or mistake depends upon the circumstances. It should be noted however that the question will be much more strictly examined when the attempt is to expand the claim (as discussed in the follow-

[309] "To justify a reissue it is not necessary that the patent should be wholly inoperative or invalid. It is sufficient if it fail to secure to the patentee all of that which he has invented and claimed," Hobbs v. Beach, 180 U. S. 383, 394; Miller v. Brass Co., 104 U. S. 350; American etc. Co. v. Porter, 232 Fed. 456.

[310] For further discussion of this point see the topic Abandonment.

[311] Parker, etc. Co. v. Yale Clock Co., 123 U. S. 87, 103; "Where it is apparent on the face of the patent, or by contemporary records, that no such inadvertence, accident, or mistake, as claimed in a reissue of it, could have occurred, an expansion of the claim cannot be allowed or sustained," James v. Campbell, 104 U. S. 356, 371; Stafford Co. v. Coldwell Co., 202 Fed. 744. See also the cases cited in the following paragraphs.

ing paragraphs) than when it is only to perfect, without broadening, an existing patent.[312]

It seems to be a generally accepted rule that courts will not review the decision of the Commissioner of Patents that the defect was in fact the result of mistake and inadvertence, if the purpose of the reissue is only to perfect the protection which the original purported to grant and not to enlarge the scope of the protection. There is a great deal of conflict and more confusion upon the question of review. Many cases say specifically that the Commissioner's finding of mistake, etc., will not be reviewed; many more say that, on one ground or another, it will be reviewed. So far as the confusion can be cleared at all, the weight of opinion seems to be that where the reissue does not give any wider scope of protection than the original claimed, the decision will not be reviewed; but if the reissue enlarges the claimed protection the courts will review the question of mistake, etc., if there seems to be any real doubt of the matter.[313]

PURPOSE OF REISSUE. The statute authorizes a reissue only in cases where the specification is defective or insufficient, or the claim is for more than the inventor is entitled to. But the reasoning of the decision in Grant v. Raymond, *supra*, that a reissue might be had independently of statute, justifies it for purposes other than those stated in the statute. It has become a settled rule that reissues may be had for the purpose of expanding original patents which, through mistake and inadvertence, claimed less than the inventor was entitled to. "If a patentee who has no corrections to suggest in his specification except to make his claim broader and more comprehen-

[312] As to what constitutes mistake, etc., see Autopiano Co. v. American Player Co., 222 Fed. 276; Morey v. Lockwood, 8 Wall. 230; James v. Campbell, 104 U. S. 356; Yale Lock Co. v. James, 125 U. S. 477; American etc. Co. v. Porter, 232 Fed. 456; Moneyweight Co. v. Toledo Scale Co., 187 Fed. 826.

[313] "This court will not review the decision of the Commissioner upon the question of inadvertence, accident or mistake, unless the matter is manifest from the record," Hobbs v. Beach, 180 U. S. 383, 395, quoting from Topliff v. Topliff, 145 U. S. 156, 171; Mahn v. Harwood, 112 U. S. 354.

sive, uses due diligence in returning to the Patent Office, and says, 'I omitted this,' or, 'my solicitor did not understand that,' his application may be entertained, and, on a proper showing, correction may be made."[314]

It is this right to have a reissue for the purpose of enlarging the scope of protection afforded, as well as for perfecting that originally claimed, which has caused much of the confusion of statement in regard to reissues. If the original patent actually claimed a certain breadth of protection, but the specification upon which the claim was based was inaccurate, or described so much as to be vague, or had some such defect, there could not be the objection, and the necessity for close scrutiny in allowing a reissue, that there would be if the patentee were trying to secure something which he did not even attempt to claim in the original. In the latter case the courts will scrutinize the grounds for the reissue most carefully. To quote further from Miller v. Brass Co.[315] "We think it clear that it was not the special purpose of the legislation on this subject to authorize the surrender of patents for the purpose of reissuing them with broader and more comprehensive claims, although, under the general terms of the law, such a reissue may be made where it clearly appears that an actual mistake has inadvertently been made. But by a curious misapplication of the law it has come to be principally resorted to for the purpose of enlarging and expanding patent claims. And the evils which have grown from the practice have assumed large proportions. Patents have been so expanded and idealized, years after their first issue, that hundreds and thousands of mechanics and manufacturers, who had just reason to suppose that the field of action was open, have been obliged to dis-

[314] Miller v. Brass Co. 104 U. S. 350, 352; Topliff v. Topliff, 145 U. S. 156, 170; while it is clear that a reissue for the purpose of broadening claims would be permissible on the authority of Grant v. Raymond, *supra,* and this seems the real authority, the case of American etc. Co., v. Porter, 232 Fed. 456, brings such a re-issue under the statute by saying that "specification" includes "claim" and therefore a too limited claim is an "insufficient specification."

[315] 104 U. S. 350.

continue their employments, or to pay an enormous tax for continuing them. Now whilst, as before stated, we do not deny that a claim may be enlarged in a reissued patent, we are of opinion that this can only be done when an actual mistake has occurred; not from a mere error of judgment (for that may be rectified by appeal), but a real bona fide mistake, inadvertently committed: such as a Court of Chancery, in cases within its ordinary jurisdiction, would correct. Reissues for the enlargement of claims should be the exception and not the rule."

THE REISSUE MUST BE FOR THE SAME INVENTION as the original. It is not a new patent, but a correction of one already issued which did not protect the invention for which it was issued. "Two leading and imperative requirements stand in the path of a reissue; First, that the error must have arisen, 'by inadvertence, accident, or mistake'; and, second, that the new patent is to be for the 'same invention.' Consequently, it must appear, in some manner provided by law, that the invention for which the reissue is granted was in the contemplation of the patentee at the outset. . . ."[316]

That the new matter claimed in the reissue was really a part of the original invention must be shown, said the same court, by "clear and positive proof, in harmony with the universal rules of equity not to disturb the existing status except by proof of that character. No mere inferences can take the place of such proof. Ordinarily, what is called for by the words 'same invention' should appear in some way on the face of the original patent, and it cannot be gathered from mere inferences or suggestions with reference to what the patentee might or might not have conceived." To determine just what was the scope of the original invention, beyond what was originally claimed, is an extremely difficult proposition. The natural tendency of the human mind is to look at any invention in the light of later progress, and to ascribe to an inventor that which to later and more completely educated minds seems

[316] Stafford Co. v. Coldwell Co., 202 Fed. 744; McDowell v. Ideal Concrete Co., 187 Fed. 814; Parker v. Yale Clock Co., 123 U. S. 87, citing much authority.

so obvious that he could not but have known it. The inventor himself is still more inclined to believe that he knew and foresaw at the time of his invention all that subsequent experience has taught him. Therefore, "if enlargement is to come, not from evidence contained in the original patent (or in the proceedings to obtain it), but from what the inventor subsequently says (truthfully or untruthfully) was in his mind prior to filing the original application, a region of danger, of temptation to fraud and deception, would be opened wide. . . ."[317] The statement of the court first quoted is, that "ordinarily" all that is covered by the reissue "should appear in some way on the face of the original patent." While there are a number of decisions which do not absolutely require this, the later Supreme Court decisions refuse to allow any claim in a reissue, the substance of which is not at least shadowed in the original application.[318] A real workable understanding of what the

[317] M'Dowell v. Ideal etc. Co., 187 Fed. 814, 821.

[318] A full discussion of this matter is found in Parker v. Yale Clock Co. 123 U. S. 87; Yale Lock Co. v. James, 125 U. S. 447; "If the claims of the reissue are limited, as they must be, to the specific mechanism described in the specification . . ." Electric Gas Co. v. Boston Elec. Co., 139 U. S. 481. 503; Freeman v. Asmus, 145 U. S. 226; "It is settled by the authorities that to warrant new and broader claims in a reissue, such claims must not be merely suggested or indicated in the original specification, drawings or models, but it must further appear from the original patent that they constitute parts or portions of the invention which were intended or sought to be covered or secured by such original patent. It is also settled by the authorities that in applications for reissue the patentee is not allowed to incorporate or secure claims covering or embracing what had been previously rejected upon his original application," Corbin Lock Co. v. Eagle Co., 150 U. S. 38, 42; American etc. Co. v. Porter, 232 Fed. 456, "The further and last statutory condition is that the reissue must be for "the same invention." It is true that, for purposes of determining infringement, the identity of the patented invention is fixed by the claims; but to apply the same test to identity of invention as between original and reissue loses sight of the difference between the real invention and the originally patented invention, and unless there is such a difference, there is no occasion for reissue. To recognize that difference and permit it to be corrected is the whole purpose of the reissue statute; and so it seems quite destructive of the statute to assume that the identity of the actual invention is permanently declared and fixed by the form

courts will recognize as indicated in the original application, can be had only in study and comparison of the cases themselves, much more fully than can be set out in a text book. The presumption is in favor of the validity of the reissue, as it is in favor of the validity of any patent, and the original must be introduced in evidence as the basis of an attack.[319]

THE TIME WITHIN WHICH A REISSUE MUST BE ASKED is not limited by the statute in any way, although of course there would be no point in a reissue after the term of the original had expired. Where the reissue is sought for the purposes specified in the statute, namely, to correct a defective or insufficient specification, or to narrow the claim, there could be no real objection to its being granted at any time.[320] But as we have seen, the right to a reissue for the purpose of *broadening* a claim appears to be founded on judicial interpretation of the general law, not on specific statute. There might well be objection to broadening a patent after the lapse of time; and the same judicial authority which inaugurates the right can of course limit it. The Supreme Court, accordingly, has limited the time, within which a reissue for the purpose of broadening claims may be had, to what is reasonable under all the circumstances. In Miller v. Brass Co.,[321] the court says, "Reissues for the enlargement of claims should be the exception and not the rule. And when, if a claim is too narrow,—that is, if it does not contain all that the patentee is entitled to,—the defect is apparent on the face of the patent, and can be dis-

which the original claims are inadvertently allowed to take. In the same way as with reference to mistake, the question of identity is submitted to the Patent Office, and for the same reason its conclusion is to be taken as prima facie right. The last sentence of section 53 even permits the Patent Office, in certain cases, to go entirely outside the record to determine what the original invention was. It follows that only when it is clear that the reissue is not for the same invention are the courts justified in reaching that conclusion; and we take this to be the rule of the decisions hereinafter cited."

[319] Seymour v. Osborne, 11 Wall. 516; Second reissue may be compared directly with the original, Hoskin v. Fisher, 125 U. S. 217; But cf. *post*.

[320] Accord, Sewing-Machine Co. v. Frame, 24 Fed. 596.

[321] 104 U. S. 350.

covered as soon as that document is taken out of its envelope and opened, there can be no valid excuse for delay in asking to have it corrected. Every independent inventor, every mechanic, every citizen, is affected by such delay, and by the issue of a new patent with a broader and more comprehensive claim. The granting of a reissue for such a purpose, after an unreasonable delay, is clearly an abuse of the power to grant reissues, and may justly be declared illegal and void. It will not do for the patentee to wait until other inventors have produced new forms of improvement, and then, with the new light thus acquired, under pretence of inadvertence and mistake, apply for such an enlargement of his claim as to make it embrace these new forms. Such a process of expansion carried on indefinitely, without regard to lapse of time, would operate most unjustly against the public, and is totally unauthorized by the law. In such a case, even he who has rights, and sleeps upon them, justly loses them. The correction of a patent by means of a reissue, where it is invalid or inoperative for want of a full and clear description of the invention, cannot be attended with such injurious results as follow from the enlargement of the claim. And hence a reissue may be proper in such cases, though a longer period has elapsed since the issue of the original patent. But in reference to reissues made for the purpose of enlarging the scope of the patent, the rule of laches should be strictly applied; and no one should be relieved who has slept upon his rights, and has thus led the public to rely on the implied disclaimer involved in the terms of the original patent. And when this is a matter apparent on the face of the instrument, upon a mere comparison of the original patent with the reissue, it is competent for the courts to decide whether the delay was unreasonable, and whether the reissue was therefor contrary to law and void."[322]

Since the matter depends upon circumstance, it is obvious that there can be no arbitrary length of time after which the right to a reissue will be automatically lost. A rule of pre-

[322] Reiterated, Mahn v. Harwood, 112 U. S. 354.

sumption was stated, however, in Topliff v. Topliff,[323] as follows: "due diligence must be exercised in discovering the mistake in the original patent, and, if it be sought for the purpose of enlarging the claim, the lapse of two years will ordinarily, though not always, be treated as evidence of an abandonment of the new matter to the public to the same extent that a failure by the inventor to apply for a patent within two years from the public use or sale of his invention is regarded by the statute as conclusive evidence of an abandonment of the invention to the public."[324] But while it thus appears that the presumption of invalidity does not begin to run until two years have passed, a much shorter time than this may demonstrate such unjustified delay as will bar the right to a reissue.[325]

THE INVENTIVE QUALITY of the matter covered by the reissue will, as in the case of all inventions, be considered as of

[323] 145 U. S. 156, 171.

[324] "Where a reissue expands the claims of the original patent, and it appears that there was a delay of two years, or more, in applying for it, the delay invalidates the reissue, unless accounted for and shown to be reasonable." Hoskin v. Fisher, 125 U. S. 217, quoting Wollensak v Reiher, 115 U. S. 96; American, etc. Co. v. Porter, 232 Fed. 456. "By the issue of a patent, the inventor dedicates to the public everything which he does not claim as his monopoly. Upon this dedication, the public has a right to rely, and if members of the public devote time and money to the manufacture of a device which the inventor has so dedicated, or to the devising, inventing and patenting of structures which embody such a feature, it may be presumed that this is done upon the faith of the dedication; and so the inventor may not be permitted thereafter to enlarge his monopoly to the prejudice of these new rights,—even though, except for them, the reissue would be permissible. The settled doctrine has come to be that from a delay of more than two years, and in the absence of any sufficient contrary evidence, these fatal intervening rights (public or private) will be presumed; in the presence of less delay, they must be proved. But see White v. Dunbar, 119 U. S. 47, 52, 7 Sup. Ct. 72, 30 L. Ed. 303, and Milloy Co. v. Thompson Co. (C. C. A.) 148 Fed. 843, 847, 78 C. C. A. 533."

[325] The authorities on the matter of time allowed are not as numerous as they appear to be. In many cases in which it is said that too long a time has been allowed to pass, it is specifically held that the reissue is not for the same invention, and it would, therefore, have been invalid even if applied for within two hours. Cf. Haines v. Peck, 26 Fed. 625.

As instance of what will excuse a long delay, see Whitcomb v. Coal Co., 47 Fed. 658; Cf. Wollensak v. Sargent, 151 U. S. 221.

the date of the invention. Since the reissue is only a correction of the original patent and covers only the original invention, the date must be that of the original invention. Also since the reissue is considered not as a new patent, standing by itself, but as a correction of the old patent, the fact that the device involved has been in public use or on sale more than two years prior to the *application for reissue* does not necessarily bar the reissue, as it would bar an original patent. That fact will, however, have an important bearing on the question of whether or not a reissue is lost through undue delay in applying for it.[326]

§ 6. Amendment

When the defect is discovered before the patent has actually been issued, it may be corrected by amendment of the application. There is no express provision of the statute upon this subject, but it seems to follow as a matter of course. The rules of practice of the Patent Office provide that[327] "the applicant has a right to amend before or after the first rejection or action; and he may amend as often as the examiner presents new references or reasons for rejecting." The rules also provide when and how the amendment shall be made.

The patentee can not by amendment make the application cover a different device than the one claimed in his original application. He may so correct the description, or even add to it as to make it cover the entire invention, but he can not describe what would amount to another invention. He is restricted to the remedying of defects in the description thereof and in the claims.[328]

[326] Grant v. Raymond, 6 Peters 218, 244; Stimpson v. Railroad Co., 4 How. 380; Coffield Co. v. Howe Co., 172 Fed. 668.

[327] Rule No. 68.

[328] Hobbs v. Beach, 180 U. S. 383, 395—holding the defense that the claims had been unlawfully expanded before issue of the patent not sustained. Eagleton Mfg. Co. v. West, etc. Mfg. Co., 111 U. S. 490; Kirchberger v. Am. Acetylene Burner Co., 128 Fed. 599; Cleveland Foundry Co. v. Detroit Vapor Stove Co., 131 Fed. 853; American Lava Co. v. Steward, 155 Fed. 731.

If the change desired is such as would amount to the description of another idea of means, a different invention, than the one actually though incompletely described and claimed, a new application under oath must be made, as for a new and distinct invention.

§ 7. New Applications

Abandoned applications. All applications for a patent must be completed so as to be ready for examination by the Commissioner within one year from the time the application is filed.[329] An application consists[330] of the petition, specification, oath, fee of $15.00, and when required, drawings, model and specimen. It is not complete until all these parts are received by the Patent office.[331] If it is not so completed within the year it will be regarded as abandoned, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable.[332]

When the application is completed, if it has been acted upon unfavorably and the applicant has been notified thereof, it is his duty to take some further action to secure his patent. If he fails to prosecute his application within one year from the date of the adverse action[333] he is presumed to have abandoned it just as in case of failure to complete it.

The right to a patent may be abandoned to the public by the inventor regardless of his actions in respect to securing a patent. Such abandonment is a matter of his real intent as evinced by his conduct. The abandonment of an *application,* and consequent possible loss of his patent, is quite another matter, in that it has nothing whatever to do with his real

[329] R. S. § 4894. Until amendment of 1897 the time limit was 2 years.

[330] Rule No. 30.

[331] "It is desirable that all parts of the complete application be deposited in the office at the same time, that all the papers embraced in the application be attached together; otherwise a letter must accompany each part, accurately and clearly connecting it with the other parts of the application."

[332] R. S. § 4894.

[333] Two years prior to amendment of 1897.

intent. The abandonment of an application, is an arbitrary condition fixed by statute, and resulting from the mere lapse of time. There is the ameliorating provision, however, that this condition of abandonment shall not be deemed to exist if the delay is excused to the satisfaction of the Commissioner. This possibility of excuse should not be confounded with the fact that when certain circumstances give rise to an appearance of real intent to abandon, it is possible to refute that appearance by a showing of other facts which nullify the inference from the first ones. The arbitrary conclusion decreed by the statute, and the conclusion of intent deduced from the facts, are, however, often enough confused in the opinion to make some seeming conflict.[334] Real abandonment arising from apparent intent thereto has already been discussed.[335]

New applications. An important difference between abandonment of the invention, and abandonment of the application is, that when the former is satisfactorily shown by the circumstances it is irretrievable. The abandonment of the application, however, even if the delay be not excused, does not *ipso facto* preclude the inventor from later securing a patent.[336] He may file another application and does not lose his right to a patent unless, and until, such time has elapsed before the filing of that application that the device has been in public use or on sale more than two years prior thereto.[337]

The two years dates from the filing of the new application and not from the filing of the original one. This question has come squarely before the court.[338] In 1894 an inventor filed an application which was rejected, and notice given to him, the same year. He failed to take further action for more than a year. This delay he attempted to excuse, but the reasons given were not satisfactory to the Commissioner. Accordingly

[334] Beverly v. Henderson, Fed. Cas. No. 1379, 9 Blatch. 50.

[335] Commissioner's decision against sufficiency of excuse held to be final. Hayes-Young Tire Plate Co. v. St. Louis Transit Co., 137 Fed. 80.

[336] Western Electric Co. v. Sperry Elec. Co., 58 Fed. 186.

[337] Western Elec. Co. v. Sperry Elec. Co., 58 Fed. 186; Hayes-Young Tire Plate Co. v. St. Louis Transit Co., 137 Fed. 80.

[338] Hayes etc. Co. v. St. Louis Transit Co., 137 Fed. 80.

he filed a new application in 1901. A question of pleading raised the issue whether the patent would be valid if the invention had been in public use more than two years before this later application, though not before the date of the first application. The court said that the two years would date from the application of 1894 if that of 1901 could be considered a mere amendment and continuation of the former. But they held that, "the abandonment of an application destroys the continuity of the solicitation of a patent. After abandonment a subsequent application institutes a new and independent proceeding, and the two years public use or sale which may invalidate the patent issued upon it must be counted from the filing of the later application."[339]

As the public use or sale is effective to defeat patentability regardless of the inventor's consent therein, it is wise, where the time on which abandonment is predicated has passed, unless the inventor is certain there has been no such use with or without his consent, to present excuse, if possible, for the delay, rather than to let the original application go and file a new one.

FAILURE TO PAY FINAL FEE. If after an application has been allowed and a patent ordered to issue, the patentee fails to pay the final fee within six months after the sending of notice to him, a new application becomes necessary.[340] It has been held that such new application may contain more in breadth of claim than the original one did, so long as the invention itself is not exceeded.[341] A new application, in the sense of a new petition, oath, description, etc., while it is apparently allowable, is not necessary. The statute provides that in such case of non-payment, "Any person who has an interest in" the invention, "whether as inventor, discoverer or assignee" may make an application for a patent. It logically follows that the statute does not here use "application" with

[339] Citing, Beverly v. Henderson, Fed. Cas. No. 1379, 9 Blatch. 50; Mowry v. Barber, Fed. Cas. No. 9892; Lindsay v. Stein, 10 Fed. 907; Lay v. Indianapolis Brush & Broom Mfg. Co., 120 Fed. 831.

[340] R. S. § 4897.

[341] Bowers v. San Francisco Bridge Co., 69 Fed. 640.

the same meaning it has elsewhere, and requires only an application for the issue of the patent already adjudged.[342]

§ 8. Appeal in Case of Rejection

The statute[343] provides "Whenever, on examination, any claim for a patent is rejected, the Commissioner shall notify the applicant thereof, giving him briefly the reasons for such rejection, together with such information and references as may be useful in judging of the propriety of renewing his application or of altering his specification." The applicant may then, if he chooses, alter his claims so as to eliminate therefrom matter which has in the opinion of the Commissioner been anticipated and offer the altered claims for approval. If they are again rejected as too broad, he may again correct them, and this rejection, correction and resubmission may continue until limited by the subject matter itself. When, at any stage in this procedure, the applicant does not believe that the earlier patents, referred to by the Commissioner as anticipations, necessitate a change in his claims, the statute provides, "And if, after receiving such notice, the applicant persists in his claim for a patent, with or without altering his specifications, the Commissioner shall order a re-examination of the case."

If upon this re-examination, the application is again rejected, the applicant may then, and then only, appeal. Although the statute reads as though these examinations and rejections were made by the Commissioner, they are in fact the work of "preliminary examiners," and the appeal is made from their decisions to a group of examiners, also subordinate to the Commissioner, called the board of examiners-in-chief.[344] If the applicant is dissatisfied with the decision of this board he may, on payment of the fee prescribed,[345] appeal to the Commissioner in person.[346] If he is still dissatisfied,

[342] Ex parte Livingston, 20 O. G. 1747.

[343] R. S. § 4903.

[344] R. S. § 4909. The course of procedure is described by the court in Butterworth v. Hoe, 112 U. S. 50.

[345] $20.00, Rule 140.

[346] R. S. § 4910.

after the decision of the Commissioner he may carry his appeal to the Court of Appeals of the District of Columbia.[347] A favorable decision by this court affects only the right to have a patent issued and does not in any way determine the validity of the patent after it has been issued.[348]

The rules of procedure of appeals, the time for filing papers, notices to be given, forms, etc. can be found in the Rules of the Patent Office and in books upon the detail work of soliciting patents, and are too technical to be discussed here.[349]

If the decision of the Court of Appeals is adverse to the claimant, or if he does not choose to appeal to that court at all, he has still a further proceeding to compel issue of a patent to him.[350] "Whenever a patent on application is refused, either by the Commissioner of Patents or by the Supreme Court of the District of Columbia upon appeal from the Commissioner, the applicant may have remedy by bill in equity; and the court having cognizance thereof, on notice to adverse parties and other due proceedings had, may adjudge that such applicant is entitled, according to law, to receive a patent for his invention, as specified in his claim, or for any part thereof, as the

[347] Prior to the act of February 9, 1893 creating this court, the appeal was to the Supreme Court of the District of Columbia, R. S. § 4911. It was changed by § 9 of the act. By the act of March 3, 1911 (Judicial Code § 250) the decision of the Court of Appeals is declared to be final except in certain cases which do not include patent matters, subject to certiorari by the Supreme Court of the United States or certificate to it. If the examiner or the Commissioner should refuse to act at all, a writ of mandamus would undoubtedly be proper. Steinmetz v. Allen, 192 U. S. 543.

[348] R. S. § 4914, Rousseau v. Brown, 21 App. D. C. 73.

[349] It has been held that there is no appeal from the Commissioner to the Secretary of the Interior on his finding as to patentability. Butterworth v. Hoe, 112 U. S. 50. The multiplicity of appeals and difficulty of acquiring a patent is severely criticized by U. R. Lane, in Dilatory Patent Procedure, 20 Green Bag 503.

[350] R. S. § 4915. By § 24 of the Judicial Code, the action is within the primary jurisdiction of the United States District Courts. In Butterworth v. Hill, 114 U. S. 128, it was held, without deciding where the action should be brought, that it could not be brought in any other district than the one of which the Commissioner was an inhabitant.

facts in the case may appear. And such adjudication, if it be in favor of the right of the applicant, shall authorize the Commissioner to issue such patent on the applicant filing in the Patent Office a copy of the adjudication, and otherwise complying with the requirements of law. In all cases, where there is no opposing party, a copy of the bill shall be served on the Commissioner; and all the expenses of the proceeding shall be paid by the applicant, whether the final decision is in his favor or not." This right has been held to be available only when the application has been rejected on the ground that the alleged invention is not, on its merits, entitled to a patent.[350a]

This proceeding must be brought within the one year limited for the prosecution of applications after adverse action,[351] unless the delay is satisfactorily excused,[352] and to secure a decision in its favor the alleged invention must not only be prior in time to the one specifically set up in anticipation by the Commissioner, but must also be patentable on its own merits.[353]

§ 9. Interferences

Whenever an application is filed, setting out an alleged invention which the Commissioner feels is anticipated by an unexpired patent or earlier application for a patent, and there is a contention that the device for which application was last made was in fact invented before the one already patented or for which patent was first asked, the Commissioner is required by the Statute to give notice to the parties and to try the question of priority of invention.[354] The statute reads, "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 Com-

[350a] Butterworth v. Hoe, 112 U. S. 50.
[351] R. S. § 4894.
[352] Gandy v. Marble, 122 U. S. 432.
[353] Hill v. Wooster, 132 U. S. 693.
[354] R. S. § 4904.

missioner 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." Literally taken, this covers all cases where the later application is, in the opinion of the Commissions, anticipated by an earlier one, for in all such cases one would interfere with the other. But it is obvious that a question of priority does not arise, so as to be triable, in all such cases. Even if the opinion of anticipation is not acquiesced in, the controversy may be solely over the essential identity of the two devices, and *priority* of one or the other be admitted. In such circumstance the statute would not require notice and trial. When a trial as to priority is had under the statute, the procedure, taking of testimony, etc., is governed by the statutes and the rules of the office. Appeal from the decision of the Commissioner is the same as in other cases of unfavorable decision upon an application.[355]

§ 10. Protest Against Issue

One who is not a party in any way to a patent, may, on learning that a patent is pending in the patent office, file with the Commissioner a protest against its allowance, on the ground of public use or sale more than two years prior to the filing of the application.[359]

[355] The question of what constitutes priority of invention is discussed *supra*.

[359] In re National Phonograph Co., 89 O. G. 1669; U. S. ex rel. v. Allen, 101 O. G. 1133; Ex parte Kephart, 103 O. G. 1914; Ex Parte Hartley, 136 O. G. 1767; Kneisely v. Kaisling, 174 O. G. 830; In re Lewthwaite, 176 O. G. 525.

CHAPTER VII

Actions to Avoid Patents

After a patent has once been issued by the patent office, in proper form, it is too late for that office to revoke it or otherwise actively to affect its validity. "It has passed beyond the control and jurisdiction of that office, and is not subject to be revoked or concelled by the President or any other officer of the Government.[360] It has become the property of the patentee, and as such is entitled to the same legal protection as other property.[361] The only authority competent to set a patent aside, or to annul it, or to correct it for any reason whatever, is vested in the courts of the United States, and not in the department which issued the patent."[362]

Government action to invalidate. The government may bring an action in the courts to have a patent that has been issued annulled and set aside, and this may be done "not only when it has a proprietary and pecuniary interest in the result, but also when it is necessary in order to enable it to discharge its obligation to the public, and sometimes when the purpose and effect are simply to enforce the rights of an individual."[363] Such suits must be based on the ground that the patent has been improperly issued on account of fraud, accident, mistake or the like, and the fraud or other matter on which invalidity is predicated must be clearly proved.[364]

[360] McCormick Machine Co. v. Aultman, 169 U. S. 606, citing U. S. v. Schurz, 102 U. S. 378; U. S. v. Am. Bell Telephone Co., 128 U. S. 315, 363.

[361] Citing Seymour v. Osborne, 11 Wall 516; Cammeyer v. Newton, 94 U. S. 225; U. S. v. Palmer, 128 U. S. 262, 271.

[362] Citing Moore v. Robbins, 96 U. S. 530; U. S. v. Am. Bell Telephone Co., 128 U. S. 315, 364; Mich. Land & Lumber Co. v. Rust, 168 U. S. 589, 593.

[363] U. S. v. Am. Bell Telephone Co., 167 U. S. 224, 264; Id. 128 U. S. 315.

[364] U. S. v. Am. Bell Telephone Co., 167 U. S. 224; in this case delay of

INTERFERING PATENTS. When two patents have been issued, whether by oversight of the patent office, or for any other reason, which one of the patentees believes to cover the same invention, the question is ordinarily decided in the usual procedure of an infringement suit. The defense is made that the plaintiff's patent is invalid, or if valid does not include the device which the defendant is making, vending or using under the second patent. A decision in favor of the defense, sustains either the non-identity of the inventions or the invalidity of the plaintiff's patent. As the decision may be in the defendant's favor on either ground, it does not necessarily determine the validity or invalidity of the plaintiff's patent unless the court so specifies particularly. But a decision in the plaintiff's favor settles the identity of the patents and the priority of the plaintiff's patent, and thus indirectly, determines the defendant's patent to be invalid. The statute provides in addition to this procedure an action whereby one of the patents may be directly declared void. The section reads,[356] "Whenever there are interfering patents, any person interested in any one of them, or in the working of the invention claimed under either of them, may have relief against the interfering patentee, and all parties interested under him, by suit in equity against the owners of the interfering patent; and the court, on notice to adverse parties, and other due proceedings had according to the course of equity, may adjudge and declare either of the patents void in whole or in part, or inoperative, or invalid in any particular part of the United States, according to the interest of the parties in the patent or the invention patented. But no such judgment or adjudication shall affect the right of any person except the parties to the suit and those deriving title under them subsequent to the rendition of such judgment."

It is to be noted that the result of the decision affects only the parties to the suit and those *subsequently* deriving title from them. Its practical advantage is therefore not much greater than that of the ordinary infringement action. The

the patent office from the time of application in 1877 to an issue in 1891 without any intermediate action was held not to invalidate the patent.

[356] R. S. § 4918.

statute also provides that both patents may be declared invalid on a proper showing, so that there is a certain risk in bringing the action to the plaintiff, unless he has, as in some actions, something to gain and nothing to lose. It was actually held, in the case of Palmer Pneumatic-tire Co. v. Lozier,[357] that both patents were invalid. Counsel on both sides agreed that the court could decide nothing but the priority of one or the other of the patents and such had been the opinion of the court below, which decided that the patent later applied for and issued really represented the prior invention and was therefore the valid one of the two. "On the contrary," said the Appellate Court, "we think the court is bound to determine whether, upon identifying the subject matter of the interfering patents, the invention therein stated is patentable. If it is not, and the court should go on and pronounce a decree of nullity against one of the patents, it would do so at the instance of one who has no right to protect, and consequently no standing on which to assail his adversary. The parties would not stand on equal ground in such a litigation, and consequently the power of the court would be perverted to the determination of an unprofitable inquest as to who was the first discoverer of a nullity. The outcome would be that, while one pretender would be dislodged, the other would occupy the field unscathed. We think that if, upon inspection of the patents, or in the course of the investigation it must make in order to determine the nature of the alleged invention, the court should see that the patents are void for lack of patentable subject matter, it ought not to proceed to an inquiry as to who first discovered the thing which the court finds to be null, and decree thereon, but should dismiss the bill." The general state of the art as shown by evidence outside of the patents themselves is admissible in this action as it is in others.[358]

INSUFFICIENCY OF REMEDIES. It will be observed that neither of these actions gives any remedy to the individual who believes an existing patent to be void and unenforcible, but who is not certain of the fact. The statute authorizes an ac-

[357] 90 Fed. 732.

[358] Simplex Ry. Appliance Co. v. Wands, 115 Fed. 517.

tion to question the validity of a patent only when the complainant is himself the owner of another patent, or otherwise interested in an existing patent. The action by the government, to have a patent declared void, may be started in the interest of an individual, but it appears to be maintainable only where the patent is attacked on the ground of fraud, or something more fundamental than the mere lack of invention in the thing patented. Yet these seem to be the only cases in which a patent can be attacked when the owner of the patent has not himself started the action and will not do so.

The only way, therefore, that the validity and effectiveness of a patent can be ascertained by one who wishes to enjoy the use of the thing patented without the permission of the patentee, is for him to make use of the invention and take his chances either of not being sued by the patentee, or, if he is sued, of being able to defeat the patent. But such a course involves unjust risk. Many inventions require the investment of considerable fixed capital for their utilization. If one should make such investments in a mistaken belief that the patent was void, and then be successfully restrained by the patentee from infringing what the courts should hold to be a valid patent, his loss, through inability to utilize his fixed capital, would be far in excess of the compensatory damages which might be recovered by the plaintiff. That is, he would not only have to pay damages to the patentee, but also would lose his own investment. Even if no great initial investment were required, men might hesitate to go into the manufacture of a patented article, even though advised by expert counsel that the patent was invalid, knowing that if the patent should be held good by the courts, all their profits would be swept away and a carefully built up business destroyed.

Even when capitalists are perfectly willing to take the risk of operating in contravention of what they are convinced is an improperly issued and worthless patent, they can not always do so, successfully, on account of the patent. The patentee may himself be too doubtful of the validity of his patent to go into court where it can be attacked, and yet he may nevertheless successfully prevent serious infringement. The Vac-

uum Cleaner Co., for instance, had patents covering certain elements of the usual construction of vacuum cleaners. The Electric Renovator Co. manufactured cleaners which the Vacuum Co. asserted infringed its patents. As the Renovator Co. denied that it was infringing a valid patent, the Vacuum Co. sent out circulars and threatening letters warning the wholesale houses and other customers of the Renovator Co., that the Renovator Co. had no license and that whoever handled its products would be prosecuted for infringement of the Vacuum Co.'s patents. For two years it continued this practice of frightening off the Renovator Co.'s customers, while at the same time persistently refusing to bring suit against anyone, in which the validity of its patents could be tried out. Finally, the Renovator Co., in the absence of any other remedy, sued for an order restraining the Vacuum Co. from continuing its unfair practice. The court granted the injunction on the ground that the allegation of infringement and the warnings sent out were not made in good faith, and that the lack of good faith was indicated by the refusal to bring suit in which the matter could be tried out.[364a] But even in this case the validity of the patent itself was not tried out; the defendant was merely enjoined from *unfair* practices. It is quite conceivable that, without going so far as to be demonstrably unfair, the owner of an invalid patent might make it almost impossible for any one successfully to invade his unjust monopoly.

It is a serious defect in the patent law that it does not furnish any practical method by which the individual public can protect itself against the menace and extortionate monopolies of invalid patents. It may be that in time an action of some form will be provided, whereby one who honestly doubts the validity of an existing patent can get the judgment of a court, without having to await the dangerous convenience of the patentee.[364b]

[364a] Electric Renovator Co. v. Vacuum Cleaner Co., 189 Fed. 754. Accord, Adriance Co. v. National Harrow Co., 121 Fed. 827.

[364b] For a discussion of "declaratory judgments" in general see the article by E. R. Sunderland in 16 Michigan Law Rev. 69. See also that of Borchard in 28 Yale Law Rev. 1. The state of Michigan now provides for such declaratory judgments, Pub. Acts of 1919, No. 150.

CHAPTER VIII

The Ownership of the Monopoly

§ 1. Duration

The statute provides[305] that the owner of a valid patent shall have the exclusve right, to make, use and vend the invention or discovery covered by it throughout the United States and its Territories. This exclusive right is given for a period of 17 years. The time begins to run from the date of issue of the patent, and is unaffected by the date of invention or the date of application. The right to acquire a monopoly dates from the time of the invention, and the first inventor alone is entitled to a patent, no matter if another has been the first applicant. The duration of the monopoly, however, dates from the time the patent is issued.[305a] An extreme illustration of the materiality of this difference is found in the case of United States v. American Bell Telephone Co.[306] From about 1878 that Company had been operating its phones with transmitters that were covered by patents issued at that time. In 1891 another patent

[305] R. S. § 4884.

[305a] It is obvious, of course, that since the monopoly dates from the issue of the patent, the inventor has no monopoly until then. He can not prevent others from using his invention prior to the issue of his patent, nor can he recover anything as damage. "A patentee can not recover damages for the sale or use of his invention prior to the issuance of a patent but the fact that articles embodying the invention were manufactured before the patent was issued, unless by the patentee's consent, does not authorize their use thereafter." (Syl.) Columbia & N. R. R. v. Chandler, 241 Fed. 261. See also cases cited infra.

One who has applied for a patent may, however, mark his product "Patent Applied For" and this does have a practical deterrent effect, because it warns the user of the invention that his invested capital may be rendered worthless by the granting of the patent.

[306] 167 U. S. 224. The "Oldfield Bill," H. R. 1700, April 1913, which failed of passage in Congress, contained a provision limiting the monopoly to a maximum period of 19 years from the date of application.

was issued to them for precisely the same invention. On investigation it appeared that the invention on which this latter patent was issued had been made prior to that of the patents under which the Company had been securing protection. Application for this patent had been made at the proper time, thus saving the right to a patent, but the whole matter had been neglected by the Patent Office, and no patent had been issued till 1891. On suit to set aside this long delayed patent the court decided that the delay was not the result of fraud in any form and that the patent was valid and operative from the time of its issue. The result was that the company, having operated for many years under a very effective appearance of monopoly, although without any actual right whatever thereto, now acquired a valid and actually enforcible monopoly for another 17 years longer.

Conversely, the inventor has no right to the exclusive enjoyment of his invention, no monopoly of it at all, until a patent has actually been issued to him.[366a]

The patent must be issued by the Patent Office within three months from the date of payment of the final fee, which must itself take place not later than 6 months from the date on which notification that the application was passed and the patent allowed, was sent to the applicant. If this fee is not paid within the proper time the statute provides that the patent shall be withheld. A new application must then be made in order to secure the issue of the patent.[367]

THE MONOPOLY IS ABSOLUTE. After the patent has been

[366a] Standard Scale Co. v. McDonald, 127 Fed. 709; D. M. Steward Co. v. Steward, 109 Tenn. 288.

[367] Patents for designs are granted for the term of 3 years and 6 mo., or for 7 years, or for 14 years, as the applicant may in his application elect." § 4931 R. S. The statute prior to the amendment of March 3, 1897, provided that patents issued in this country for inventions already patented in a foreign country, should expire coincidentally with the expiration of the shortest of the foreign patents, but this phraseology was changed by the amendment, R. S. § 4887. See the statement, in 1915, in regard to this in Fireball Gas Co. v. Commercial Acetylene Co., 239 U. S. 156; and in Cameron Septic Tank Co. v. City of Knoxville, 227 U. S. 39.

issued the right which it confers is absolute. The right is not the invention nor the enjoyment of the invention. It is the monopoly of the right to enjoy it. The patentee may utilize the invention, may make, use and vend the things covered by it if he chooses, but whether he does exercise his privilege of enjoyment or not, his right to exclude others is absolute, and is not affected by his own non-use of the privilege. This is established beyond doubt by the cases. In the Paper Bag Patent case[368] the question was passed upon in actual decision, not as mere dictum. It was contended in the case that a court of equity had no jurisdiction to restrain by injunction the infringement of letters patent, the invention covered by which had "long and always and unreasonably been held in non-use . . . instead of being made beneficial to the art to which it belongs." It was conceded, the court said, even by the claimant, that the monopoly was not defeated by the non-user of the privilege; that an action at law for infringement would still lie. The only contention was that the right to an injunction was lost; that, for the good of the public, unauthorized persons should be allowed to make, use and vend the invention without restraint by the courts, if the patentee would not exercise the privilege himself, and that the patentee should be left to his legal remedy of damages. This contention the court absolutely rejected, on the ground that Congress had given to a patentee not merely the right to make, use and vend his invention himself, but the absolute right of keeping others from so doing, and that this monopoly was not lost by neglect to put the invention into use.[369]

[368] 210 U. S. 405.

[369] Button Fastener Cases, 77 Fed. 288, 35 L. R. A. 728, cited with approval Henry v. Dick, 224 U. S. 1, 28: "If he will neither use his device nor permit others to use it, he has but suppressed his own. That the grant is made upon the reasonable expectation that he will either put his invention to practical use or permit others to avail themselves of it upon reasonable terms, is doubtless true. This expectation is based alone upon the supposition that the patentee's interest will induce him to use, or let others use, his invention. The public has retained no other security to enforce such expectations. A suppression can endure but for the life of the patent, and the disclosure he has made will enable all to enjoy the

§2. Transfer of the right

The monopoly conferred by the patent may be transferred to others at the will of the patentee as freely as any other form of incorporeal personal property. It is personal property and descends to the personal representatives of a deceased owner, rather than to his heirs.[369a] The owner may also enter into agreements in respect to the enjoyment of the right, which agreements may, like other contracts, be either written or oral. The transfer of the title to the patent, that is to say, the complete ownership of the monopoly itself, can be made only by an instrument in writing, as the statute is interpreted. The statute provides that "every patent or any interest therein shall be assignable in law by an instrument in writing,"[370] and the conveyance, to be effective, is apparently limited to this method.[371]

fruit of his genius. His title is exclusive, and so clearly within the constitutional provisions in respect of private property that he is neither bound to use his discovery himself nor permit others to use it." Victor Talking Machine Co. v. The Fair, 123 Fed. 424. An attempt was made to change this rule by a bill introduced in Congress, April 7, 1913—H. R. 1700—called the "Oldfield Bill." It provided, among other minor changes, that when it should be proved that the owner of a patent was withholding or suppressing all benefit to the public, from the invention, he might be compelled, by court action, to license others to make use of it upon proper terms of recompense. The bill failed to pass and prominent patent attorneys and inventors were reported as having testified that deliberate suppression of marketable inventions was practically non-existant. The act of July 13, 1832 provided that in case of patents issued to aliens, they should become void in the event of failure to introduce the invention into public use within one year and to continue such use. This was repealed four years later.

A commendation, on economic grounds, of the fact that inventions need not be put into use in this country, is uttered by O. C. Billman in The Compulsory Working of Patents, 24 Green Bag 513, 21 Case & Com. 276.

[369a] Wilson v. Rousseau, 4 How. 646, 674; De la Vergne Mach. Co. v. Featherstone, 147 U. S. 209.

[370] R. S. § 4898.

[371] Gayler v. Wilder, 10 How. 477, 492; Blakeney v. Goode, 30 O. S. 350; But see *dictum*, Paulus v. Buck, 129 Fed. 524. An oral contract to assign future inventions will be enforced in equity, Dalzell v. Dueber Mfg. Co., 149 U. S. 315.

Such a transfer of the ownership of the patent right vests in the assignee all the rights which the assignor has under the patent. It is in effect like any other sale of property. The new owner, by virtue of the transfer, may sue for infringement, may resell the monopoly, or in any other way exercise the same power that his assignor could have used.[372]

The transfer is, "void as against any subsequent purchaser or mortgagee for a valuable consideration, without notice, unless it is recorded in the Patent Office within three months from the date thereof."[373] Such recording is not obligatory and does not affect the validity of the assignment except as against subsequent purchasers without notice. The usual rules as to what constitutes actual notice are applicable in respect to these assignments.

Although the patent monopoly itself is created by Federal law, its sale, and other contracts concerning it, are subject to regulation by State law in the same way that other personal property is. A number of states have exercised this power in requiring such sales to be recorded, or in declaring promissory notes given for the purchase price to be void, unless they show on their face that they are so given. It behooves the purchaser, as well as the seller, of a patent right, therefore, to examine the statutes of the particular state upon the matter.[373a]

No SPECIAL FORM OF ASSIGNMENT is set out or suggested by the statute, nor is any particular form requisite. Anything that would be sufficient at the Common Law to indicate a clear intention to transfer the patent right, properly executed, would

[372] Assignee may sue his assignor, if the latter infringes, just as he could any one else. Littlefield v. Perry, 21 Wall. (88 U. S.) 205. In short, he is the "owner" of the patent, in place of the original patentee.

[373] R. S. § 4898. Compare, National Cash Reg. Co. v. New Columbus Co., 129 Fed. 114.

[373a] A Kansas statute, (Gen. Stat. of 1901, 4356 ff.) requiring the seller to file affidavits of ownership, etc, was held valid, in Allen v. Riley, 203 U. S. 347; John Woods & Sons v. Carl, 203 U. S. 358. A somewhat similar statute had been held not valid in Hollida v. Hunt, 70 Ill. 109. Parish v. Smith, (Ark.) 204 S. W. 415.

This should not be confused with the power of the state, which also exists, to regulate the sale of articles embodying a patented invention.

undoubtedly be sufficient.[374] A seal upon the assignment is not necessary to its validity.[375]

An acknowledgment before a notary or other official is unnecessary to the effectiveness of the instrument. It is however provided in the statute that[376] "If any such assignment, grant, or conveyance of any patent shall be acknowledged before any notary public of the several States or Territories or the District of Columbia, or any commissioner of the United States circuit court, or before any secretary of legation or consular officer authorized to administer oaths or perform notarial acts under section seventeen hundred and fifty of the Revised Statutes, the certificates of such acknowledgment, under the hand and official seal of such notary or other officer, shall be prima facie evidence of the execution of such assignment, grant, or conveyance."[377] It would seem a wise policy therefore to have it acknowledged and recorded, both because of the evidentiary effect of the acknowledgment and because of the protection which the record gives against a fraudulent second sale by the assignor.

EFFECT OF THE TRANSFER. The sale and transfer of a patent monopoly has the same effect, and creates only the same rights and liabilities as does the sale of any personal property. The seller, for instance, gives up all property interest in the monopoly. He has no lien upon the patent right for payment, and if the buyer resells, the sub-buyer is not liable to the original seller if the first buyer fails to pay. The recent English case of Barker v. Stickney,[377a] although it arose out of the

[374] Campbell v. James, 18 Blatch. 92; Siebert Cylinder Oil-Cup Co., v. Beggs, 32 Fed. 790; Delaware Seamless Tube Co. v. Shelby Steel Tube Co., 160 Fed. 928; Myers v. Turner, 17 Ill. 179; Hill v. Thuermer, 13 Ind. 351. Forms of assignment whose use is recommended are given in the Rules of Practice of the Patent Office.

[375] Gottfried v. Miller, 104 U. S. 521.

[376] R. S. § 4898.

[377] It is not necessary that the acknowledgment be made at the same time the assignment is executed. It will be effective as *prima facie* proof of the execution whenever made. Lanyon Zinc Co. v. Brown, 115 Fed. 150; Murray Co. v. Continental Gin Co., 149 Fed. 989.

[377a] (1918)2 K. B. Div. 356, citing many other English decisions.

transfer of a copyright, is a precise analogy on this point. The plaintiff was author of a book. He had granted to a publisher the exclusive right to publish the book, and the ownership of the copyright when procured. The publisher agreed, in consideration, to pay a certain royalty and not to dispose of the copyright to others except, "subject to the terms of this agreement, so far as the same is applicable." This publishing company fell into financial difficulties, and a receiver was appointed, who sold the copyright, and other assets, to the defendant. *The defendant knew of the terms on which the copyright had been sold by plaintiff* to the publishing company, and, indeed, bought the assets from the receiver, "subject to all equities or other claims thereon." Plaintiff sued to recover the agreed royalties upon volumes published by the defendant, and also for the amount of royalties which had not been paid on volumes published by the first company. The court held, that the defendant was not liable either for unpaid royalties on volumes published by the first company nor on those published by itself; that such liability could be founded only on contract between the defendant and plaintiff, or on the theory of some sort of lien attaching to the property, i.e. the copyright; and that neither a contract nor a lien existed.[377b]

It is not impossible, that by express provisions in the contract of sale a right in favor of the seller could be attached to the patent, so as to bind subsequent purchasers with knowledge thereof. The court, in the decision just referred to, strongly intimates that it could be done, and, indeed, says as a matter of *dictum*, that "the assignment will create a vendor's lien for royalties if some of the provisions of the document fairly, though impliedly, point to a reservation of such a lien by the patentee or author, provided that the effect of such provisions is not negatived by the other terms of the bargain."[377c]

[377b] In Dancel v. United Shoe Mach. Co., 120 Fed. 839, it was held without discussion that the successor in ownership of the assignee of a patent right was not liable to the seller, in law, but that he might be liable, under certain conditions, in equity.

[377c] In Bagot Pneumatic Co. v. Clipper Co. (1902), 1 Ch. Div. 146, 157, is a dictum to the effect that, "If you had notice of a contract between

The question of how far legal or equitable servitudes can be imposed upon personal property seems never to have been very positively settled, however. Instances are not infrequent of patentees having sold their patents, without payment in cash, to corporations which have later become bankrupt and whose assets, including the patent, have been sold to pay debts. By virtue of the rule just stated, the inventor, having transferred the title to his patent to the corporation, would have no right whatever against the purchasers from the corporation or from the trustee in bankruptcy. There is no doubt but that such transactions have occasionally been brought about with deliberate intent to "freeze out" the original owner of the patent. It is possible that the terms of the original sale might be so made as to provide for a revesting of title in the seller in case of the buyer's subsequent bankruptcy, etc. The safest method, however, for a patentee to protect himself against such a contingency would be to sell not to the corporation itself, but to a trustee to hold for the corporation on stated terms.

The seller having transferred the ownership of the right to the buyer, can not take it back again merely because the buyer fails to pay as agreed, or has become insolvent, nor because the buyer has failed to do other things agreed upon.[377g] But the actual fraud of the buyer, in the inducement of the contract, will, of course, permit the seller to rescind the contract, as against the buyer, and take back the title. And the parties may effectually provide by express stipulation that the title shall revert to the seller on the buyer's failure to perform certain conditions, or on the occurrence of certain extraneous events.[377h]

the person under whom you claim property, real or personal, and a former owner of the property, whereby a charge or incumbrance was imposed upon the property of which you thus take possession, and have the enjoyment, you take the property subject to that charge or incumbrance, and can only hold it subject thereto." The real decision, however, was: that the sub-licensee of the right to enjoy a patent was not liable in any way to the owner of the patent.

[377g] Morgan v. National Pump Co., 74 Mo. App. 155; Barclay v. C. R. Parmele Co., 70 N. J. Eq. 218; Comer v. Byers, 40 Tex. Civ. App. 239.

[377h] Pierpoint Boiler Co. v. Penn etc. Co., 75 Fed. 289; Janney v. Pancoast etc. Co., 122 Fed. 535; Van Tuyl v. Young, 13-23 Ohio C. C. 15.

Conversely, it appears that, in the absence of fraud, the buyer can not rescind the agreement and get his money back, or refuse to complete his payment, merely because the patent turns out to be worthless.[377i] But, like any other contract of sale, it may be rescinded if it was induced by the fraud of the seller.[377j]

Although a buyer of the title to a patent right is not affected by prior sales of which he has no knowledge, actual or constructive, he does take the monopoly subject to the prior rights of those to whom his seller has given *licenses.* And this seems to be true even though the buyer had not even constructive knowledge of the existence of such licenses.[377k] But the buyer does not necessarily assume the personal obligations of his seller toward the licensee.[377e]

Furthermore, the mere sale of the patent right, without also an assignment of the seller's contracts under it, does not vest in the buyer any right to the royalties due from licensees of his seller. Thus, in Carlton v. Bird[377f] it appeared that G. E. Carlton had been the owner of a certain patent and that while owner he had given the defendant a license to use the invention, for which the defendant had agreed to pay certain yearly royalties. Thereafter, he sold the patent to his wife. The sale

[377i] Nilsson v. De Haven, 47 N. Y. App. Div. 537, affd. 168 N. Y. 656; United States v. Harvey Steel Co., 196 U. S. 310; Eclipse Bicycle Co. v. Farrow, 199 U. S. 581.

[377j] Pratt v. Hawes, 118 Wis. 603; Holmes v. Bloomingdale, 76 N. Y. S. 182; Rose v. Hurley, 39 Ind. 77; Rice v. Gilbreath, 119 Ala. 424; Swinney v. Patterson, 25 Nev. 411. There is conflict on this point, however. Thus in Marston v. Swett, 66 N. Y. 206, the court says, by way of *dictum,* "It is the settled law of this and several other states that the invalidity of a patent is a defense to an action for the purchase price of the same, on the ground of a failure of consideration," citing, Dunbar v. Marden, 13 N. H. 311; Geiger v. Cook, 3 Watts & Serg. 266; Dorst v. Brockway, 11 Ohio 471; McClure v. Jeffrey, 8 Ind. 79; Mullikin v. Latchen, 7 Blatchf. 136.

[377k] Fort Wayne etc. Rr. v. Haberkorn, 15 Ind. App. 479; Pratt v. Wilcox Mfg. Co., 64 Fed. 589; Whitson v. Phonograph Co., 18 App. D. C. 565; N. Y. Phonograph Co. v. National Phonograph Co., 144 Fed. 404; McClurg v. Kingsland, 1 How. 202, 206.

[377e] Bradford Belting Co. v. Kisinger-Ison Co., 113 Fed. 811.

[377f] 94 Me. 182.

was of "all the right, title and interest I have in the above described invention. . . ." The grantee thereafter started this suit, as an action in debt for the royalties due since she had become owner of the patent. The court dismissed the action because "the case does not show any assignment of the contract (to pay royalties) to her, except in so far as the deeds of the patent rights, already quoted from, may have the effect of an assignment. . . . We are, therefore, of the opinion that a suit for the breach of a purely personal covenant, such as the one in suit, must be brought in the name of the convenantee, and that this action, for that reason can not be maintained."

These rules make it incumbent upon the buyer of a patent to examine the character of the seller as well as the value of the patent itself. If the seller has no *title,* this fact will show on the records of the Patent Office, or else the buyer will not be affected by prior sales. But if the seller has theretofore granted *licenses* to use the invention, these grants may not show on the records, but nevertheless will be effective even against the innocent buyer. It may happen therefore that instead of getting an absolute monopoly in respect to the invention the buyer will find himself subject to the competition of one or more licensees, from whom he is not even entitled to collect the royalties they have contracted to pay. His only safety lies in the honesty and financial reliability of the seller, although he may find some advantage in having the seller make affidavit that there are no licensees, or in taking from him an assignment of his rights against all possible licensees.

The sale of the monopoly transfers the ownership of the monopoly only, and does not invest the buyer with any right to recover damage suffered by the prior owner. The buyer, therefore, acquires no right to sue on account of infringement which took place before his purchase.[377k]

CONDITIONS AND OTHER PROVISIONS may be put into the assignment to the same extent as in any other instrument of sale, and will be given effect to the same extent, provided they

[377k] "Claims for damages for past trespasses do not pass by any conveyance of the thing trespassed upon." Superior Drill Co. v. Ney Mfg. Co., 98 Fed. 734.

do not so limit the quantity of the interest passed as to prevent the transaction from being in fact an assignment of the ownership of the patent right. In such case the transfer would not be entirely void, but the assignee could not sue in his own name, or otherwise act as owner.[378]

PARTIAL ASSIGNMENTS. It is occasionally said by courts, that the patent right can not be divided into parts.[379] It is true that it can not be divided subjectively, as it were, so that a part of the invention is controlled by one person and a part by another, and the statements, in their context, really mean, though loosely expressed, that the *invention* can not be divided.[380] This follows obviously from the fact that an invention is a unity—a single idea, existing only as an entirety—although the concrete embodiment of it may consist of many parts, and although it may have various applications or uses.

[378] In Rude v. Westcott, 130 U. S. 152, an assignment was made by an instrument which the court found to be amply sufficient to convey the assignor's entire interest in and title to the patent. It contained, however, a provision that the net profits were to be shared with the assignor. It was contended that this so deprived the instrument of effect as an assignment that the complainants—the assignees—had not title under which to sue. The court denied this proposition, saying, "The concluding provision, that the net profits arising from sales, royalties, or settlements, or other source, are to be divided between the parties to the assignment so as to give the patentee one fourth thereof, does not, in any respect, modify or limit the absolute transfer of title. It is a provision by which the consideration for the transfer is to be paid to the grantor out of the net profits made; it reserves to him no control over the patents or their use or disposal, or any power to interfere with the management growing out of their ownership." Boesch v. Graff, 133 U. S. 697; Waterman v. Mackenzie, 138 U. S. 252. In this case the assignment contained a condition of defeasance upon performance of a condition and was in reality a mortgage.

[379] Waterman v. Mackenzie, 138 U. S. 252, 255.

[380] Pope Mfg. Co. v. Gormully, 144 U. S. 248; In this case the patentee had transferred to plaintiff all his right, title and interest in and to a patent on velocipedes so far as the patent related to the saddle part of the velocipede. It was contended that the plaintiff had not title on which to sue and the court upheld this contention on the ground that "the assignment was neither of an undivided interest in the whole patent, nor of an exclusive right within a certain territory."

But the ownership of the patent right may, it is well settled, be divided in a geographical apportionment. The patentee can not transfer the title to a part of the *invention*, but he may transfer title to a part of the *right* which the patent gives him. Thus, he may assign the right to the whole invention, to make, use and vend it, throughout a particular territory. The transferee of the right acquires by the transfer all the rights and privileges of the transferor, in the same degree as any assignee of the entire patent right, subject only to the restriction as to territory in which they may be exercised. Such assignee of the right in a particular district may sue as owner and otherwise comport himself as one having complete title within that territory.[381]

[381] Littlefield v. Perry, 21 Wall. 205; Gayler v. Wilder, 10 How. 477, "By the fourteenth section, the patentee may assign his exclusive right within and throughout a specified part of the United States, and upon such an assignment the assignee may sue in his own name for an infringement of his rights. But in order to enable him to sue, the assignment must undoubtedly convey to him the entire and unqualified monopoly which the patentee held in the territory specified,—excluding the patentee himself, as well as others. And any assignment short of this is a mere license. For it was obviously not the intention of the legislature to permit several monopolies to be made out of one, and divided among different persons within the same limits. Such a division would inevitably lead to fraudulent impositions upon persons who desired to purchase the use of the improvement, and would subject a party who, under a mistake as to his rights, used the invention without authority, to be harassed by a multiplicity of suits instead of one, and to successive recoveries of damages by different persons holding different portions of the patent right in the same place. Unquestionably, a contract for the purchase of any portion of the patent right may be good as between the parties as license, and enforced as such in the courts of justice. But the legal right in the monopoly remains in the patentee, and he alone can maintain an action against a third party who commits an infringement upon it. This is the view taken of the subject in the case of Blanchard v. Eldridge, J. W. Wallace, 337, and we think it the true one. Applying these principles to the case before us, the action was properly brought by the plaintiff below, and could not have been maintained by Herring. The agreement is singularly confused and complicated. It purports to grant to Herring the exclusive right to make and vend the Salamander safe in the city, county, and state of New York; and Herring agrees to pay to the defendant in error a cent a pound for every pound the safes might weigh, to be paid

UNDIVIDED INTEREST. So, also, the assignment may be of an undivided interest in the patent right; in which case the assignee becomes an owner in common with the assignor and acquires the rights and liabilities of owners in common of personalty generally.[382]

There is a very grave danger inherent in joint ownership of patents which should be well considered before one shares a title. It lies in the fact that each owner has the right to use and enjoy the invention to the fullest extent as owner, and, hence, is not accountable to anyone for such use. One's only control, therefore, over the acts of his co-owner lies in the honesty of such owner.

An illustration of what may happen is found in Blackledge v. Weir and Craig Mfg. Co.[382a] The plaintiff, Blackledge, had been the co-owner of a patent with one Silberhorn. They two had licensed the defendant to use the invention on a royalty basis. Later, however, the defendant managed to buy Silberhorn's half interest. Thereafter it, the defendant, continued to use the invention but it no longer paid any royalties to the plaintiff. Furthermore, it, as an owner of the patent, granted licenses to other persons for which it got royalties, but for which the plaintiff got nothing. When the value of these royalties and this use by the defendant had amounted to $10,000, the plaintiff sued, as co-owner, to recover half of the amount. The court rejected the suit. The defendant, it held, was an owner of the patent right and as such he had a com-

monthly. But at the same time it reserves to Wilder the right to set up a manufactory or works for making these safes in the state of New York, provided it is not within fifty miles of the city, and to sell them in the state of New York, paying to Herring a cent a pound on each safe so sold within the state. It is evident that this agreement is not an assignment of an undivided interest in the whole patent, nor the assignment of an exclusive right to the entire monopoly in the state or city of New York. It is therefore to be regarded as a license only, and under the act of Congress does not enable Herring to maintain an action for an infringement of the patent right. The defendant in error continues the legal owner of the monopoly created by the patent." Paulus v. Buck, 129 Fed. 594.

[382] Waterman v. Mackenzie, 138 U. S. 252; Gayler v. Wilder, 10 How. 477, 493.

[382a] 108 Fed. 71; Acc'd. Paulus v. Buck Mfg. Co., 129 Fed. 594.

plete right of enjoyment of it. The only limitation was that he could not exclude the other owner from a similar enjoyment. As owner, he did not have to pay anyone for his use of the invention; the granting of licenses is part of the enjoyment and use of a patent right and as the defendant did not have to pay for his enjoyment, he did not have to account to the plaintiff for the royalties received from such licenses. The de-defendant could not, the court said, keep the plaintiff from likewise using the device and licensing others to do so, but he could use it himself or sell his right of use without accounting to anyone.

So it follows that when a patent is owned jointly, anyone who wishes to use it has two possibilities. If the two owners, expecting to divide the returns, put too high a royalty on the license, he may, if one of them is susceptible, pay a little more than half such royalty to that one alone and get almost as valuable a license. He may even buy outright the right to use it and to license others, and the deceived co-owner will be helpless. The only difference in the result to the buyer will be, that if he had bought from both owners he might have acquired an *exclusive* right, whereas if he buys only from one he can not eclude the other or the other's licenses.[382b]

BEFORE EXISTENCE OF THE PATENT. An assignment may be made of a patent right which has not yet been acquired by the assignor. This is different from an assignment so made and recorded that the patent will issue in the name of the assignee. The patent will be issued to the inventor, but his prior assignment of the rights which he is to get, will operate upon those rights just as though it had been made after their acquisition. This was declared by the court in the case of Gayler v. Wilder.[383] The defense was made in this case

[382b] Lalance & Grosjean Mfg. Co. v. National Enameling Co., 108 Fed. 77, one co-owner may sell without consent of other; no sufficient evidence to show an agreement to account for the proceeds. But one co-owner's release will not affect prior accrued damages, Lalance & Grosjean Mfg. Co. v. Haberman Mfg. Co., 107 Fed. 487; Id., 93 Fed. 197.

The respective rights of the co-owners may be regulated by contract, as between themselves. Harrison v. Ingersoll, 56 Mich. 36.

[383] 10 How. 477.

that the plaintiff had no legal right to the monopoly, and therefore could not sue in his own name, because the assignment under which he claimed had been executed before the patent was in existence. The invention, however, had been perfected at the time the transfer was made. The court upheld the plaintiff's right to sue, saying, "The inventor of a new and useful improvement certainly has no exclusive right to it, until he obtains a patent. This right is created by the patent, and no suit can be maintained by the inventor against any one for using it before the patent is issued. But the discoverer of a new and useful improvement is vested by law with an inchoate right to its exclusive use, which he may perfect and make absolute by proceeding in the manner which the law requires. Fitzgerald possessed this inchoate right at the time of the assignment. The discovery had been made, and the specification prepared to obtain a patent. And it appears by the language of the assignment, that it was intended to operate upon the perfect legal title which Fitzgerald then had a lawful right to obtain, as well as upon the imperfect and inchoate interest which he actually possessed. The assignment requests that the patent may issue to the assignee. And there would seem to be no sound reason for defeating the intention of the parties by restraining the assignment to the latter interest, and compelling them to execute another transfer, unless the act of Congress makes it necessary. The court thinks it does not. The act of 1836 declares that every patent shall be assignable in law, and that the assignment must be in writing, and recorded within the time specified. But the thing to be assigned is not the mere parchment on which the grant is written. It is the monopoly which the grant confers; the right of property which it creates. And when the party had acquired an inchoate right to it, and the power to make that right perfect and absolute at his pleasure, the assignment of his whole interest, whether executed before or after the patent issued, is equally within the provisions of the act of Congress."[384] Of course, a plaintiff

[384] Acc. *Littlefield v. Perry*, 21 Wall. 205; Hendrie v. Sayles, 98 U. S. 546; Hammond v. Mason, 92 U. S. 724; Brush Elec. Co. v. California

who is not the person named in the patent, must prove his title to it; that is, must prove the assignment, before his suit can be maintained.

§ 3. Contracts to Transfer

Even before the invention itself comes into existence a contract *to* assign it when it shall have been made, may be validly entered into and will be enforced like any other contract.[385] There can not be an actual transfer of the invention before it comes into existence, for the evident reason that there is nothing in existence to be transferred. There is not even the right to a patent, such as was made the subject of a transfer in Gayler v. Wilder, *supra*. But a contract to transfer the right to the patent when the invention does come into existence, or to transfer the patent which shall have been acquired for an invention that is to be made, is possible; just as is a contract to do any act upon the happening of certain events. When the events have transpired, that is to say, when the invention has been made, the courts will enforce the contract to transfer the patent the right to a patent.[386]

Elec. Light Co., 52 Fed. 945; Nilsson v. De Haven, 47 N. Y. App. Div. 537; affd. 168 N. Y. 656; Burton v. Burton Stock Car Co., 171 Mass. 437. Such an assignment will not, however, affect an assignee of the issued patent without knowledge, even though the first assignment was recorded in the Patent Office, Nat'l Cash Reg. Co. v. New Columbus Co., 129 Fed. 114.

[385] Reece v. Fenwick, 140 Fed. 287; American Brake Beam Co. v. Pungs, 141 Fed. 923; Littlefield v. Perry, 21 Wall. 205; Dalzell v. Dueber Mfg. Co., 149 U. S. 315.

[386] Regan Vapor-Engine Co. v. Pacific Gas Engine Co., 49 Fed. 68; "The agreement of May 15, 1886, is not the assignment of a patent, though it contains language—'grant and convey'—sufficient for that purpose if there was anything to assign. It may be good as an agreement to sell and assign a future invention, but it can not operate as a sale or assignment of such an invention, even when made. No one can sell that which he hath not."

A court of equity will order an inventor to apply for a patent and to assign it, in favor of one with whom the inventor has contracted so to do. Adams v. Messinger, 147 Mass. 185; Runstetler v. Atkinson, MacArthur & Mackey (D. C.) p. 382.

EXPRESS AGREEMENTS. It is not altogether infrequent for employers to insert in the contract of employment an express provision that any invention produced by the employee in the course of the employment shall become the property of the employer.[387] Such contracts appear to have been uniformly enforced. In Thibodeau v. Hildreth,[388] Thibodeau had contracted in writing with Hildreth to enter his employ, and to give him his best services and also the full benefit and enjoyment of any kind and all inventions and improvements which he had made or might thereafter make relating to machines or devices pertaining to said Hildreth's business. Suit was brought involving the conveyance of an invention under the terms of the contract, and the court said of it, "This contract is neither unconscionable nor against public policy. Such an agreement is not uncommonly made by an employee with his

[387] Rudyard Kipling notes, in his descriptions of India, that the East Indian Railway Co. at that time required all employees to sign such a contract—to the great decrease in inventive production.

[388] 124 Fed. 892, 63 L. R. A. 480. For an interpretation of this contract see Hildreth v. Duff, 143 Fed. 139. A still broader contract was upheld in Hulse v. Bonsack Mach. Co., 65 Fed. 864. Here Hulse had agreed as a stated condition precedent to any contract of employment that any inventions he might make in respect to cigarette machines would be "for the exclusive use of the said company whether they should be made while he was in the employment of the company, or at any time thereafter." This contract was enforced despite the contention that, being perpetual, it was unconscionable, unreasonable and contrary to public policy. On the latter point the court said, "Is the contract void as against public policy? Does it injure the public? Here we have the case of an ingenious man, without opportunity of developing his talent, and struggling under difficulties, enabled by this contract to secure employment in a large and prosperous corporation, where he could give his inventive faculties full play. He in this way was afforded every opportunity of discovering and removing defects in cigarette machines. He secured this employment by signing this contract. He could not have obtained it if it had been understood that this contract had no validity. Then, in all human probability, the public would have lost the benefit of his discovery. In this point of view, a contract of this character cannot be said to be against public policy." Binney v. Annan, 107 Mass. 94; Wright v. Volalion Organ Co., 148 Fed. 209, contract that a half interest should appertain to the employer.

employer, and it may be necessary for the reasonable protection of the employer's business."

Such contracts to assign inventions have nothing whatever to do with the patentability of the invention or the validity generally of the patent. They do not involve the patent statute, despite the fact that the property with respect to which they relate is created by that statute, but, like any contract create only rights *in personam*. Their enforcement, therefore, lies within the normal jurisdiction of the state courts and is not exclusively the province of the federal courts.[389]

The title to inventions not covered by the terms of the contract is not affected, of course, by the contract. In one case, for illustration,[390] one Dice contracted in writing to work for the company in whatever capacity "pertaining to the manufacturing of shellers and powers, and disposing of the same," the company might direct. He further agreed that all improvements he might make should belong to the Company. After the making of this contract, the company took up the manufacture of "check rowers," which had no relation to "shellers and powers," and Dice was employed at that work for part of his time. He then invented an improvement in "check-rowers," for an assignment of which the company brought this suit. The bill was dismissed on the ground that Dice had not contracted to assign this invention; that the written contract had reference only to "shellers and powers" and not to "check rowers." In another case,[391] one Thibodeau had bound himself by written agreement to allow his employer the use of all inventions which he might make "relating to machines or devices pertaining to" the employer's business, which was that of candy manufacturing. Suit was brought by

[389] Binney v. Annan, 107 Mass. 94; American Circular Loom Co. v. Wilson, 198 Mass. 182; Holt v. Silver, 169 Mass. 435; Keyes v. Eureka Mining Co., 158 U. S. 150; Shoemaker v. South Bend Spark Arrester Co., 22 L. R. A. 332, 135 Ind. 471: title in this case was derived through judgment of another court. Carleton v. Bird, 94 Me. 182, even though state court has to construe the patent.

[390] Joliet Mfg. Co. v. Dice, 105 Ill. 649.

[391] Hildreth v. Duff, 143 Fed. 139, affirmed 148 Fed. 676.

the employer to compel assignment of the patent for a machine for pulling candy which Thibodeau had invented. This was refused by the court, which said that by the contract Thibodeau had been employed to work on "machines for use in the manufacture of candy, and especially for sizing, shaping, cutting, wrapping, and packing, also the pulling of molasses candy." "At the time the paper was signed," said the court, "machines for pulling candy, such as that here in question, to take the place of the men who pulled the candy over hooks to whiten it, were not known in the art. No such machine was in use in Hildreth's business nor in course of construction for him. Under the circumstances, neither Hildreth or Thibodeau could have contracted with immediate reference to such a machine. At that time, however, machines performing a different kind of pulling operation were known to and used in the trade. The function of that machine was to pull the candy down to the requisite size to feed the cutting and wrapping machine, doing the work of a girl who was accustomed to pull the candy down to the required size. A pair of such pulling machines were built for Hildreth in March, 1897, about two months before the Thibodeau contract was signed. Thibodeau was familiar with that class of pulling machines, but had no knowledge whatever with respect to any other machine for pulling candy. Therefore it is well within reasonable belief that he understood the words 'also for the pulling of molasses candy,' especially in view of their associated words, to refer to that class of then known and used pulling machines, as he testifies he did so understand them." "In the recital of the paper in controversy, which is the key to the meaning of the parties, it is not machines generally, but 'a certain machine or machines,' which Hildreth is desirous of having 'perfected and manufactured,' and it is on such machines that Thibodeau is to be employed for the purpose of 'constructing, improving and perfecting.' Now, this recital, in view of its specific reference to a certain machine or machines, cannot fairly be construed to cover a machine not then known to the art and radically different from any known machine. The more general

words subsequently employed in the body of the paper ought not to be held to have a larger scope than the language of the recital, especially as they expressly relate to machines or devices 'pertaining to said Hildreth's business.' McFarland v. Stanton Manufacturing Company, 53 N. J. Eq. 649, 650, 33 Atl. 962, 51 Am. St. Rep. 647. Looking at the whole paper, it seems to me that Thibodeau had a right to understand that the contract related to Hildreth's business as then conducted, and that the machines mentioned in the body of the paper were not other than such as had already been made the subject of recitation."

IMPLIED AGREEMENTS. A promise to give another an interest in an invention to be produced, need not be in express words. It, like any other promise, may be implied by circumstances. These implied promises are often, loosely, spoken of as if they arose out of estoppel. Properly speaking they have nothing in common therewith. Estoppel is essentially a preclusion, for equitable reasons, from denying the existence of certain facts, whatever the reality may be. But in the case of an implied promise there is no preclusion of the truth; there is an assumption that the promise exists because the evidence indicates a tacit intent that such should be the result and there is no countervailing evidence produced. It is a judicial conclusion of fact, based upon all the circumstances of the case, not a fiction of truth imposed out of equity. The implied contract is the reciprocal intent which the court believes must have actuated the parties as normal men, under the circumstances, when they do not appear to have had any conscious intent.

An intent that the employer shall have an interest in an invention of the employee will not be assumed by the courts from the mere relation of employer and employee. Every employment is the result of a contract, of one sort or another, whereby the employee, in consideration of certain recompense, agrees to do certain things. The courts will not read into such contracts an agreement by the employee to make inventions for the benefit of the employer, unless unusual circumstances indicating it are present. It is impossible to formu-

late any rule of law as to when the circumstances are such as do indicate an intent that the employer shall have an interest in the employee's inventions, and when they do not so indicate.

As a broad rule it may be said, that the courts will never assume a tacit agreement that inventions *outside the actual scope of the employee's normal occupation* shall be for the benefit of the employer. Neither will an agreement that the employer shall have the benefit of the employee's inventions be assumed when the employment is one of merely mechanical or routine labor. A ditch-digger, inventing a shovel, or a bookkeeper, inventing an account-book, would not be bound to allow his employer any interest whatsoever therein.

It may further be said that an agreement to vest the *ownership* of an invention in the employer will practically never be deduced from mere tacit circumstances. The most that will be assumed without express words, is an intent that the employer shall have a right to use the invention, with or without further payment.[392]

[392] American Circular Loom Co. v. Wilson, 198 Mass. 182. "The plaintiff has not established its right to require an assignment of the tubing machine patent, the letters patent numbered 543,587, and dated July 30, 1895, upon a machine for making tubing. This was the invention of the defendant himself, made while he was employed by the plaintiff as the superintendent of its manufacturing department. The machine was designed to turn out the same product, a flexible covering and protection for electric wires, which the plaintiff was already producing under the Herrick patent, so called, for the use of which the plaintiff held an exclusive license; and it was a material improvement upon the previous mode of obtaining that product. One of the defendant's duties under his employment was to look after the plaintiff's machinery and to make improvements therein. The expenses of procuring the patent were paid by the plaintiff. Many machines embodying the invention and built under the patent have been constructed under the direction and supervision of the defendant at the expense of the plaintiff, and have been used by it in its business with his knowledge and consent; and the success of its business has largely depended upon its use of these machines. But these circumstances and the other facts which have been found do not show that the plaintiff is entitled to the property right in the invention itself and in the letters patent which secure that right. The invention and the patent thereon belong to the inventor, to whom the patent has been issued, unless he has

When one has been employed for the express purpose of devising means for accomplishing a certain end, the courts generally assume a tacit agreement that the employer shall have at least a license to use without further pay any inventions that may be produced for that purpose. A very clear indication of such intent is illustrated by the circumstances of Solomons v. United States.[393] The government was seeking a practicable stamp for use in internal revenue collections. A committee of Congress was appointed to consider the matter. One Clark was, at the time, head of the Bureau of Engraving and Printing. He was directed by the committee, apparently as part of his employment in the Bureau, to devise a stamp, with the understanding that the best one he should devise would be put into use. Nothing whatever was said by either party in regard to the government's right to use the stamp. Clark did devise a stamp which was adopted by the government. It was subsequently patented by Clark, who brought an action to recover for its use by the government. The Supreme

made either an assignment of his right or a valid and enforceable agreement for such an assignment, even though it was his duty to use his skill and inventive ability to further the interests of his employer by devising improvements generally in the appliances and machinery used in the employer's business." Hildreth v. Duff, 143 Fed. 139; Hapgood v. Hewitt, 119 U. S. 226; Dalzell v. Dueber Mfg. Co., 149 U. S. 315; Joliet Mfg. Co. v. Dice, 105 Ill. 649; Burr v. DeLaVergne, 102 N. Y. 417, "The proposition asserted in behalf of the defendant, that one partner acquires no right or interest, legal or equitable, in an invention made by his copartner during the existence of the partnership by reason merely of the copartnership relation, although the invention relates to an improvement in machinery to facilitate the business carried on by the firm, and although the partner making the invention, uses copartnership articles to devote his whole time and attention to the firm business, is a doctrine supported by authority and consonant with reason. Slemmer's Appeal, 58 Penn. St., 155, 164; Belcher v. Whittemore, 134 Mass. 330." Pressed Steel Car Co. v. Hansen, 137 Fed. 403; Barber v. National Carbon Co., 129 Fed. 370; But compare Solomon v. U. S. 137 U. S. 342; Pressed Steel Car Co. v. Hansen, 128 Fed. 444, assumption not warranted by mere fact that the employee has theretofore assigned other inventions to his employer.

[393] 137 U. S. 342.

Court denied his right to recover saying, "An employee, performing all the duties assigned to him in his department of service, may exercise his inventive faculties in any direction he chooses, with the assurance that whatever invention he may thus conceive and perfect in his individual property. There is no difference between the government and any other employer in this respect. But this general rule is subject to these limitations. If one is employed to devise or perfect an instrument, or a means for accomplishing a prescribed result, he cannot, after successfully accomplishing the work for which he was employed, plead title thereto as against his employer. That which he has been employed and paid to accomplish becomes, when accomplished, the property of his employer. Whatever rights as an individual he may have had in and to his inventive powers, and that which they are able to accomplish, he has sold in advance to his employer. So, also, when one is in the employ of another in a certain line of work, and devises an improved method or instrument for doing that work, and uses the property of his employer and the services of other employes to develop and put in practicable form his invention, and explicitly assents to the use by his employer of such invention, a jury, or a court trying the facts, is warranted in finding that he has so far recognized the obligations of service flowing from his employment and the benefits resulting from his use of the property, and the assistance of the coemployees, of his employer, as to have given to such employer an irrevocable license to use such invention." These statements of the court are undoubtedly too broad and in their breadth are in conflict with the actual decisions in other cases, but the finding of implied intent as to the right of the government to use is quite in accord with other decisions.[394]

If the evidence shows that in addition to being employed to improve known methods of accomplishing a given purpose the employee has used his employer's materials and machinery in the development of his invention and has actually permitted the employer to use it without further agreement, the con-

[394] Cf. cases cited supra.

clusion that his employment gave his employer a right to use the invention is particularly clear.

The cases involving the matter are not numerous enough for any real classification of facts to be made and a rule of judicial custom founded thereon. The best that can be done by an attorney is to examine particular cases, seek the closest analogy, and hope that the force of the analogy will influence the court to a similar conclusion.[395]

ESTOPPEL. The decision in a number of cases appears to have been based on a real estoppel. The expressions of the court rather indefinitely combine tacit contract and estoppel, but the moving factor of these latter decisions seems to be that the employee has allowed the employer to change his position, upon a supposition of a right in the invention, to such an extent that it would be inequitable to allow the employee to deny

[395] An often cited case is that of McClurg v. Kingsland, 1 How. 202. Here the inventor was employed at a weekly wage, apparently as a mere mechanician. After his invention he allowed his employers to use it, and his wages were increased in consequence. Eventually he left their employ, and subsequently brought suit on account of their continued use of the invention. The trial court charged the jury that these facts would fully justify the presumption of a license, and that they amounted to a consent and allowance of such use and *gave the defendants a right to the continued use of the invention*. This charge was sustained by the Supreme Court, and approved by it again in Solomon v. U. S. 137 U. S. 342.

In Lane & Bodley Co. v. Locke, 150 U. S. 193, the inventor had been employed as a designing engineer and draughtsman to assist in the development and construction of elevators and other machinery. He used his employers' tools and machinery in perfecting his invention of a check valve for elevators and subsequently allowed them to use the invention without a claim for compensation. These facts were held to demonstrate a license to the employers to continue the use of the invention even after a termination of the contract of employment.

See also, Continental Windmill Co. v. Empire Windmill Co., 8 Blatch. 295, Fed. Cas. No. 3142; Magoun v. New England Glass Co., 3 Bann & Ard, 114, Fed. Cas. No. 8960; Davis v. U. S. 23 Ct. Cl. 329; Barry v. Crane Bros. Mfg. Co., 22 Fed. 396; Bensley v. Northwestern Horse-Nail Co., 26 Fed. 250; Withington-Cooley Mfg. Co. v. Kinney, 68 Fed. 500; Herman v. Herman, 29 Fed. 92; Jencks v. Langdon Mills, 27 Fed. 622; Fuller & J. Mfg. Co. v. Bartlett, 68 Wis. 73, 60 Am. Rep. 838; Keyes v. Eureka Mining Co., 159 U. S. 150.

the reality of that right. It is quite impossible, however, to draw any line between those which turn upon pure estoppel and those which base their decision upon a conclusion of an implied license to a limited use. An illustration is the case of Barber v. National Carbon Co.[396] Barber had been in the employ of the defendants as a mechanical engineer, for the purpose of improving their processes of manufacture. While so employed he invented a valuable device which, with the defendant's knowledge, he patented. Six machines embodying this device were constructed under his direction for the company and used by them without any mention of royalty. The use of the machines by the company had involved the construction of special buildings and necessitated other expensive arrangements. On suit for infringement brought by Barber, the court held that there was no indication that he had agreed to assign title to his invention to the defendants, as was suggested, but that the defendants were, nevertheless, justified in the continued use of the machines already constructed. At the beginning of one paragraph the court says, "We think that the presumption is that he (Barber) intended to grant to the Carbon Company the right to use his process in connection with the machines, for which space in the several factories had been specifically arranged with his knowledge and under his direction." This would indicate a finding of constructive intent, but at the close of the same paragraph the court says, "By his conduct, Barber has estopped himself from asserting that the use of his invention to this extent is an infringement of his right as a patentee." Either doctrine leads to the same result.

The case of Gill v. U. S.[397] was a clear case of estoppel and was expressed as such. The plaintiff had persuaded the government to defray the cost of embodying and perfecting mechanically an invention which he had made while in government employ, and had allowed the government to use the completed invention without any mention of recompense. His suit

[396] 129 Fed. 370.
[397] 160 U. S. 426.

to recover for this use was dismissed. The court said, "The principle is really an application or outgrowth of the law of estoppel in pais, by which a person looking on and assenting to that which he has power to prevent, is held to be precluded ever afterwards from maintaining an action for damages. A familiar instance is that of one who stands by, while a sale is being made of property in which he has an interest, and makes no claim thereto, in which case he is held to be estopped from setting up such claim. The same principle is applied to an inventor who makes his discovery public, looks on and permits others to use it without objection or assertion of a claim for a royalty."

An inventor may lose his right of exclusive enjoyment, to a limited extent, not only through estoppel as just discussed, but also through the provision of the statute itself which reads, "Every person who purchases of the inventor or discoverer, or, with his knowledge and consent, constructs any newly invented or discovered machine, or other patentable article, prior to the application by the inventor or discoverer for a patent, or who sells or uses one so constructed, shall have the right to use, and vend to others to be used, the specific thing so made or purchased, without liability therefor."[397a]

A CONTRACT TO ASSIGN WILL BE SPECIFICALLY ENFORCED. As a contract gives only a right against the person of the promissor, and does not create any right in the particular thing concerning which the contract was made, it follows that no right in the invention itself vests in the purchaser under such a contract *to* transfer. An *actual transfer* is necessary.[398] If the inventor refuses to make such a transfer, according to the terms of his contract, he will be liable in damages just as in any other case of breach of contract.

Furthermore, equity will step in and compel the inventor to perform his contract specifically and to make the transfer, unless the rights of third parties have intervened or it would for

[397a] Wade v. Metcalf, 129 U. S. 204.

[398] Milwaukee Carving Co. v. Brunswick-Balke-Collender Co., 126 Fed. 171.

other reasons be inequitable to do so.[399] Equity will not act to compel such an actual transfer if it would reflect injuriously upon some other purchaser for value, without notice, from the inventor. The mere recording of the *contract to* assign, even though it be in form a present assignment, is not constructive notice to any one purchasing the invention or an interest therein, after the invention is in existence. Hence, even a contract so recorded does not give the buyer therein named any interest as against one without actual knowledge of the contract, to whom the patentee has subsequently conveyed the patent.[400]

§ 4. Licenses

The name of "assignment" is technically and properly limited to those transactions by which the *ownership* of the patent right is transferred. It includes not only transfers of the absolutely unlimited ownership, but also those which convey an absolute ownership of the right within a particular geographical limit and those which convey a joint, but otherwise absolute, ownership.[402] The conveyance of anything less than the ownership creates in the person to whom it is conveyed only a right to do certain things in respect to the invention without interference from the owner of the patent. Such a transaction is properly called a "license," and the person in whom the privilege is created a "licensee." These two relations, i.e. that of assignee or that of licensee are the only ones which the patentee can create, although various other names are sometimes given to them. That is to say, a particular person must be either owner of the patent monopoly, or not owner of it.

[399] Dalzell v. Dueber Mfg. Co., 149 U. S. 315.

[400] National Cash Reg. Co. v. New Columbus Watch Co., 129 Fed. 114. An exception to the rule as stated is made in this case as regards future improvements. Concerning this the court says, "That an assignment of a patent, together with any future improvements thereon, is recordable and operative as a notice to subsequent assignees of patents for improvements may be conceded. Littlefield v. Perry, 21 Wall. 205, 22 L. Ed. 577; Aspinwall Co. v. Gill et al (C. C.) 32 Fed. 697."

[402] Waterman v. Mackenzie, 138 U. S. 252; Paulus v. Buck Mfg. Co., 129 Fed. 594; Pope Mfg. Co. v. Gormully, etc. Co., 144 U. S. 248.

though his position may be given various indicative names. The same thing is, of course, true of all other forms of personal property, one is either owner or not owner, as the terms are employed in their never yet defined legal usage, but it is necessary to speak of it because confusion on this point is noticeable in some cases.[403]

If one is not owner, he has only such rights in respect to the monopoly as his agreement with the owner, directly or intermediately, gives to him. Towards third person he is not owner, and can not assume such position, and therefor can not bring suit against them in his own name. "In equity as in law, when the transfer amounts to a license only, the title remains in the owner of the patent; and suit must be brought in his name, and never in the name of the licensee alone, unless that is necessary to prevent an absolute failure of justice, as where the patentee is the infringer, and can not sue himself. Any rights of the licensee must be enforced through or in the name of the owner of the patent, and perhaps, if necessary to protect the rights of all parties, joining the licensee with him as a plaintiff."[404]

CHARACTER OF THE TRANSACTION. The particular name by which the parties have called the transaction does not determine its character. It does not amount to a transfer of ownership merely because it is called an assignment by the parties; it will be called an assignment by the courts only if it does transfer the title. Whether the transaction is a transfer of ownership, or merely confers a right to make, use or vend the invention with permission of the owner of the monopoly, depends wholly

[403] A mortgage amounts to a transfer of the ownership and vests title in the mortgagee, subject to defeasance upon performance of the condition. Waterman v. Mackenzie, 138 U. S. 252, Waterman v. Shipman, 55 Fed. 982.

[404] Waterman v. Mackenzie, 138 U. S. 252, 255; Paper Bag Cases, 105 U. S. 766; Birdsell v. Shaliol, 112 U. S. 485; Rice v. Boss, 46 Fed. 195; Moore Mfg. Co. v. Cronk Hanger Co., 69 Fed. 998; Bogart v. Hinds, 25 Fed. 484; Littlefield v. Perry, 21 Wall. 205; Suydam v. Day, 2 Blatch. 20, Whether an assignment needs to be in writing or not, a license, it is settled, may be created by parole.

upon the intention of the parties as determined by the courts. In cases of doubt as to this intention the name by which the parties called their transaction would undoubtedly be of influence upon the decision,[405] so that it is well to use the terms in their accepted sense, and in accord with the real intent. The intention of the parties as to the relations created, the scope of the rights conveyed, and so forth, will be determined from the facts and circumstances of the entire transaction under the same rules of evidence and presumption as apply to the interpretation and construction of other agreements.[406] As in other cases of written instruments, the instrument itself controls and will be enforced according to its own terms if its meaning be clear and indisputable; it can be "interpreted" from the extrinsic circumstances only when the true meaning is in doubt.[407]

Rights of Licensee. Because a mere license conveys to the licensee no title to the monopoly itself, but only the right to invade it without liability, and, in consequence, does not invest him with any right to sue as owner of the monopoly, his power to protect his own rights is, in theory at least, indirect only. If a license is so construed as to give the licensee nothing more than a right himself to invade the monopoly, he is not entitled to any protection whatever against other persons who may also invade the monopoly. So long as his own

[405] Moore Mfg. Co. v. Cronk Hanger Co., 69 Fed. 998.

[406] Nicholson Pavement Co. v. Jenkins, 81 U. S. 452, "An assignment of an interest in an invention secured by letters patent, is a contract, and like all other contracts, is to be construed so as to carry out the intention of the parties to it." Illingworth v. Spaulding, 43 Fed. 827; In Littlefield v. Perry, 21 Wall. 205, it was held that a record instrument containing in unmistakable language an absolute assignment of title to a patent would not be reduced to a mere license and the assignee precluded from suing as owner, by a subsequent oral agreement limiting the assignee's right of user. The second agreement was said to be in effect a license back to the assignor from the assignee of the complete ownership.

[407] Railroad Co. v. Trimble, 10 Wall. 367. For the interpretation of particular licenses on possibly recurrent points see, Pelzer v. City of Binghamton, 95 Fed. 823; Western Elec. Co. v. Robertson, 142 Fed. 471; Indiana Mfg. Co. v. J. I. Case Co., 154 Fed. 365.

freedom of enjoyment is not itself restricted, his right is not lessened, although his profits may be more or less eliminated. He has no cause for action against the others who make, use or vend the invention, nor against his licensor for allowing such others to do it.

If his license gives him, either expressly or by implication, an *exclusive* right to make, use or vend the invention in certain particulars, the exercise of such privilege by others is obviously an invasion of his own right. This matter of exclusiveness of the right granted must be determined, of course, by the ordinary rules for construing contracts, before the procedure of protecting it can become a pertinent issue.

If it is an exclusive right and the assignor himself invades it, he, the assignor, is undoubtedly liable in an action for breach of contract.[408] Since the title, however, is still in the assignor and he is therefore the only person entitled to sue because of infringement of the patent monopoly, it is the only logical conclusion that the licensee can not sue him for infringement, any more than he could sue a third party, and that action in breach of contract is the licensee's only remedy. He, the licensee, acquires no right *in rem* to the patent monopoly, but only a right *in personam* against the owner of the monopoly, who has agreed to let the licensee, and the licensee only, invade the monopoly without liability.[409]

[408] In N. Y. Phonograph Co. v. Edison, 136 Fed. 600, affd. 144 Fed. 404, the licensee was allowed to bring action based on contract liability against the assignee-with-notice of his licensor.

[409] Two cases at least have suggested, as matter of more or less loose *dictum*, that the licensee could sue the licensor for infringement in such circumstances. In Littlefield v. Perry, 88 U. S. (21 Wall.) 205 that court held that title to the monopoly had actually passed to the plaintiffs. It then went on to say, "But even if they (plaintiffs) are not technically assignees, we think this action is, nevertheless maintainable (against the infringing grantor) . . . A mere licensee can not sue strangers who infringe. In such case redress is obtained through or in the name of the patentee or his assignee. Here, however, the patentee is the infringer, and as he can not sue himself, the licensee is powerless, so far as the courts of the United States are concerned, unless he can sue in his own name. A court of equity looks to substance raher than form. When it has jurisdiction of parties it grants the appropriate relief without regard to whether they come as plaintiff or defendant. In this case, the person who

When the invasion of the licensee's right is by a third person, not the licensor or one acting by his authority, it is clear that the licensee can not sue such invader in his own name, on the ground of infringement of the patent. The patent is infringed, to be sure, but the licensee does not own it and therefore cannot sue to protect it.[410] He may, however, sue in the name of his licensor, if his license is exclusive.

Under these circumstances, is the licensor bound by his contract himself to sue the invader of the licensee's right? In other words, did he contract only that the licensee should have the exclusive right of enjoying the invention, with power to protect himself in the licensor's name: or did he further agree that he would *himself*, under his right to prevent infringement, protect the licensee. The question is a material one, because the financial burden of protecting the licensee from infringement of the patent might be extremely heavy. To hold that the licensor, the patentee, does, by granting an exclusive license, impliedly undertake to protect the licensee against infringement of the patent by others, is to throw a possibly heavy burden upon the licensor; a burden for which compensation could not be estimated in advance. If the licensor has not expressly agreed to protect the licensee against infringement he is apparently not bound to do so.[411] This has been said to be the case even where the licensor has agreed "to protect the patent," as distinct from protecting the licensee.[412]

should have protected the plaintiff against all infringements has become himself the infringer. He held the legal title to his patent in trust for his licensees. He has been faithless to his trust, and courts of equity are always open for the redress of such a wrong. This wrong is an infringement. Its redress involves a suit, therefore, arising under the patent laws, and of that suit the Circuit Court has jurisdiction." It might well be doubted whether the court would have said invasion of the licensee's exclusive right *by way of contract* was an *infringement* of the *patent monopoly* if that question had really been involved. See also, Waterman v. McKenzie, 138 U. S. 252, 255; Waterman v. Shipman, 55 Fed. 982.

[410] See authorities *supra*.

[411] In re McLeod, 66 N. Y. S. 253; Martin v. New Trinidad Lake Asphalt Co., 255 Fed. 93, citing authority.

[412] Kline v. Garland Co., 135 Mich. 313.

If the licensor has expressly agreed to protect the licensee against infringement he will, of course, be required to do so at his own cost.[413]

As between the licensor and licensee, the validity of the patent should not be capable of becoming an issue in court proceedings. The agreement of a licensee to pay royalties, or whatsoever the consideration may be, *can* be made dependent on the validity of the patent. In such event, it would be a proper defense, perhaps, to allege and attempt to prove the invalidity of the patent. But unless such conditional liability on the licensee's part is clear from the terms of the license, his agreement is to pay the consideration named in return for immunity from prosecution for infringement by the licensor; the validity or invalidity of the patent is not an element in the mutual considerations, is not a condition precedent, and consequently not a proper defense.[414] Where the evidence is clear that the acts of a defendant have been done under the pretense of a license from the patentee, he will be estopped to deny that they were in fact so done.[415]

[413] Foster v. Goldschmidt, 21 Fed. 70; Such an agreement is valid, Virtue v. Creamery Co., 227 U. S. 8, 32; Bailey v. Milier, 15 Ind. Ap. 475; Clark v. Cyclone, etc. Co., 22 Tex. Civ. Ap. 41; Macon Knitting Co. v. Leicester, etc. Co., 113 Fed. 844, affd. 116 Fed. 196, cost of suit divided by agreement. The obligation to protect the licensee does not run with the ownership of the patent, so as to bind an assignee of the licensor, Bradford Belting Co. v. Kisinger Iron Co., 113 Fed. 811.

[414] Platt v. Fire-Extinguisher Mfg. Co., 59 Fed. 897; Moore v. National Water-Tube Boiler Co., 84 Fed. 346; Martin v. New Trinidad Asphalt Co., 255 Fed. 93; Tilghman v. Proctor, 102 U. S. 707, 734, dictum. Marston v. Sweet, 66 N. Y. 206; In re McLeod, 66 N. Y. S. 253; Eureka Co. v. Bailey Co., 11 Wall. 488; Fair v. Sheiton, 128 N. C. 105.

[415] The Illinois Watch Case Co. v. Ecanbert, 177 Ill. 587, syll. "One who has paid fees or royalties to the owner of a patent for the use thereof, and who has enjoyed the benefits of the patent, is estopped to set up that he is not a licensee but an infringer, in order to defeat the jurisdiction of the State court of an action for royalties claimed to be due and unpaid." Accd. Am. Street Car Advertising Co. v. Jones, 122 Fed. 803; Marston v. Sweti, 82 N. Y. 526, *dictum;* Marston v. Swett, 66 N. Y. 206; Holmes v. McGill, 108 Fed. 238.

If the defendant could show that the contract had been repudiated, or in other ways put an end to before the acts complained of took place, or that such acts were, for any other reason, not within the purview of a contract, he would then be free to contest the claim of the plaintiff in the same way that any alleged infringer could do.[416]

A suit to recover royalties due under the contract is purely a contract action and, although the contract deals with a patent right, the suit is not one which, because it arises under the patent laws, gives the Federal courts a jurisdiction which they would not otherwise have.[417]

The extent to which a licensee can assign his license to others is purely a matter of contract law, and is essentially the same in respect to licenses under patents as in respect to any other contracts of similar type. The mere fact that a licensee does assign his license, without right to do so, does not give the patentee any right of action in contract against such assignee. In such case the patentee's right is not on contract, which does not exist between him and the assignee, but for infringement of the patent, on the ground that such assignee is using the invention without authority from the patentee.[417a]

[416] It has been held that the failure of the licensee to pay the royalties contracted for does not in itself terminate the contract; which is quite in accord with the law in respect to other contracts, such as those for the payment of rent. White v. Lee, 3 Fed. 222; Wagner Typewriter Co. v. Watkins, 84 Fed. 57; Standard Dental Mfg. Co. v. National Tooth Co., 95 Fed. 291; Am. Street Car Advertising Co. v. Jones, 122 Fed. 803. The fact that a patent had been invalidated by interference proceedings in the Patent Office was held *ipso facto* to terminate a contract for the payment of royalties in Marston v. Swett, 82 N. Y. 526.

Estoppel to deny validity of the patent ceases on termination of the contract, regardless of the motive in terminating it. Stimpson, etc. Co., v. Stimpson, 104 Fed. 893. As to right to sell articles made during life of the contract, compare Pelzer v. City of Binghamton, 95 Fed. 823.

[417] Briggs v. United Shoe Co., 239 U. S. 48; Even though the State court has to construe the patent, Carleton v. Bird, 94 Me. 182; Odell v. Farnsworth Co., 39 Sup. Ct. Rep. 516 (June, 1919).

[417a] Wilson v. Mechanical, etc. Co., 68 N. Y. S. 173, 170 N. Y. 542; Moore v. Coyne, etc. Co.. 98 N. Y. S. 892; A promise to pay royalties will not be implied from the mere fact that the defendant has deliberately in-

In general it may be said, that he can not assign it unless his contract with the owner of the patent expressly so provides. He may, however, arrange to enjoy his license through the use of other persons as employees.

§ 5. Restrictions in Licenses

The statute gives a patentee the exclusive right to make, use and vend his invention. We have seen that he can transfer the ownership of this monopoly to another without destroying it. He need not make any use of the invention himself nor permit others to use it; he may keep all advantage of it from the world during the period of his patent, if he so chooses.[422] But if he chooses to put his invention into use he can, as we have seen, open his monopoly to one or more particular persons; that is to say, he may license certain persons to invade his monopoly, without thereby throwing it open to the public.

Furthermore, the patentee may limit this permitted invasion of his monopoly not only to the particular person, but also to the particular extent. He may limit the invasion permitted to enjoyment of the invention in a particular territory or at a particular place,[423] or for a particular time,[424] or for a particular purpose only,[425] or to a particular person without right of transfer.[426] So also the limitation in a permission to *use* embodiments of the invention but *not to make* them has been upheld.[427] All of these restrictions have been recognized as

fringed the patent monopoly, May v. Western Lime Co., 65 Wash. 696, 44 L. R. A. (N. S.) 333.

[422] Continental Paper Bag Co. v. Eastern, etc. Co., 210 U. S. 405; Heaton-Peninsular Co. v. Eureka, etc. Co., 77 Fed. 288.

[423] Rubber Co. v. Goodyear, 9 Wall. 788.

[424] Mitchell v. Hawley, 16 Wall. 544.

[425] Pope Mfg. Co. v. Gormully, 144 U. S. 248, Gamewell, etc. Co. v. Brooklyn, 14 Fed. 255.

[426] Waterman v. Shipman, 55 Fed. 982; Oliver v. Rumford Chemical Works, 109 U. S. 81.

[427] Brush Elec. Co. v. California, etc. Co., 52 Fed. 945; In Oliver v. Rumford Chemical Works, 109 U. S. 75, the patent covered the process of making an acid to be used in the manufacture of certain kinds of flour.

proper, and the *limited permission* to invade the monopoly and enjoy the invention did not create in the license a complete right to use and enjoy the invention.

RESTRICTIONS ON RESALE, OR USE OF EMBODIMENTS. From the fact that the patentee can thus limit the extent to which others are permitted to invade his monopoly, it would seem to follow that he could validly limit the licensee in respect to the profit he might, or must, make and the ways in which he might use embodiments of the invention. Such is undeniably the logical proposition, and it is one which was accepted by the courts until recently. Thus in Bement v. National Harrow Co.[428] the plaintiff had contracted, for certain considerations, to let the defendant make and sell embodiments of his invention, on the agreement of the defendant, however, not to sell the embodiments at less than a stipulated price. In suit to recover damages for the defendant's breach of this contract, it was claimed that the contract was void as an attempt to restrain trade in contravention of the Sherman Anti-trust Act. The court said, "On looking through these licenses we have been unable to find any conditions contained therein rendering the agreement void because of a violation of that act. . . . The provision in regard to the price at which the licensee would sell the article manufactured under the license was also an appropriate and reasonable condition. It tended to keep up the price of the implements manufactured and sold, but that was only recognizing the nature of the property dealt in, and providing for its value so far as possible. This the parties were legally entitled to do. The owner of a patented article can, of course, charge such a price as he may choose, and the owner of a patent may assign it or sell the right to manufacture and sell the article patented upon the condition that the assignee shall charge a certain amount for such article." The decision is, that a condition on the right to enjoy the patentee's monopoly, requiring the maintainance of a stipulated sale price, The restriction of a license to make and sell such flour, but not to sell the acid itself was upheld.

[428] 186 U. S. 70.

is not invalid because of the Sherman Anti-trust Act. There seems to have been no question, even, but that except for that act, the condition was perfectly valid and enforcible.

Again, in Henry v. A. B. Dick Co.,[429] the patentee had sold a mimeograph machine, embodying his invention, upon condition that the buyer should use it only with ink made by the seller. The seller sought to enjoin a third party from inducing the buyer to use other ink in breach of the condition. In granting the injunction the court not only said that the agreement not to use other inks was valid as a contract, but it held that inasmuch as the buyer's right to use had been limited to use with the seller's inks, any other use was an unauthorized invasion of the seller's exclusive patent right. The opinion explicitly says, "We repeat. The property right to a patented machine may pass to a purchaser with no right of use, or with only the right to use in a specified way, or at a specified place, or for a specified purpose. The unlimited right of exclusive use which is possessed by and guaranteed to the patentee will be granted if the sale be unconditional. But if the right of use be confined by specific restriction, the use not permitted is necessarily reserved to the patentee. If that reserved control of use of the machine be violated, the patent is thereby invaded. This right to sever ownership and use is deducible from the nature of a patent monopoly and is recognized in the cases." This statement makes a clear distinction between the ownership of the *right to enjoy the invention* and the ownership of a chattel embodying the invention.[430] Although it is obvious from the whole opinion that the court does rather con-

[429] 224 U. S. 1.

[430] Accord, Heaton-Peninsular Co. v. Eureka Co., 77 Fed. 288; National Phonograph Co. v. Schlegel, 128 Fed. 733. To the effect that even absolute ownership of a chattel embodying a patented invention does not save the owner from liability for infringement if he makes use of his chattel, see Birdsell v. Shaliol, 112 U. S. 485. It would not be denied that one who makes a machine of his own materials is the owner of it, yet it is equally undeniable that his use of the machine would be infringement of a patent covering such machines, unless he had permission of a patentee. Dickerson v. Sheldon, 98 Fed. 621; Rodgers v. Torrant, 43 Mich. 113.

fuse the two and think of the tangible machine as being itself the invention.[431]

Thus the law stood until it was upset by the decision in Bauer v. O'Donnell.[432] The defendant in that case had purchased packages of "Sanatogen," a preparation protected by the plaintiff's patent. On each package was a notification—knowledge of which the defendant did not deny—to the effect that no one was authorized to sell such packages at less than a stated price, and anyone selling at less than that price would be guilty of infringing the pateint monopoly. The defendant did resell at less than the stated price. The issue in the case was whether this sale, at a price less than that authorized by the patentee, constituted infringement. The court held that it did not.[433] This decision was followed in a few years by that of The Motion Picture Co. v. Universal Film Co.,[434] which specifically overruled Henry v. Dick Co., *supra*. The plaintiff, as patentee of a device for operating motion picture films, had given the right to manufacture machines embodying his invention to one who in turn sold such a machine to defendant. Attached to the machine was a notice that its use was permitted by the patentee only with certain films also controlled by the

[431] So late as 1913, in United States v. Winslow, 227 U. S. 202, it was very strongly implied that a condition that the licensee should use no other machines than those furnished by the licensor was valid. In the English case of Incandescent Gas Lt. Co. v. Cantelo, 12 Rep. Pat. Cas. 262, the court said, "The patentee has the sole right of using and selling the articles, and he may prevent anybody from dealing with them at all. Inasmuch as he has the right to prevent people from using them or dealing in them at all, he has the right to do the lesser thing, that is to say, to impose his own conditions." Accord, British Mutoscope Co. v. Homer, 1 Ch. Div, 671 (1901); National Phonograph Co. v. Menck (1911), L. R. 36 A. C. 336.

[432] 229 U. S. 1. The court "distinguishes" this case from that of Henry v. Dick Co., supra, but the reality of the distinction is illuminated by the fact that the four judges who constituted the majority in Henry v. Dick Co. (only seven judges took part) were *all* opposed to the decision in Bauer v. O'Donnell, and the majority in that decision included the three judges who had dissented in the earlier one.

[433] Accord, Straus v. Victor Talking Machine Co., 243 U. S. 490.

[434] 243 U. S. 502.

plaintiff. The defendant did not deny knowledge of this restrictive condition, and admitted that he had not conformed to it. The court did not discuss the validity of a *contract* between the patentee and his licensee imposing restrictions on the licensee's right, saying that such a question was outside the scope of patent law. This left the issue squarely, whether the unauthorized use of the device with other than the specified films constituted an infringement of the patentee's monopoly. The court held that it did not.

This development of the law may be perfectly sound as a matter of public policy and economic utility.[435] But the opinion of the court is a most confusing admixture of justification of its decision upon the strength of its economic effect and attempt to justify it as a logical development of the existing law. As is usual when courts override existing law for the sake of public advantage, without frankly admitting that they are so doing, the pretense of reasoning given is, to say the least, irritating.

The real issue is, to use the court's own language, whether, "since the patentee may withhold his patent altogether from public use, he must logically and necessarily be permitted to impose any conditions which he chooses upon any use which he may allow of it." As the court says, this is not specifically answered by the patent statute, which in terms merely gives him the exclusive right to enjoy his invention. It is therefore purely a question of public policy whether, if he allows others to invade his monopoly at all, he must allow them to invade it

[435] The possible economic harm that might result from a patentee's unlimited power to restrict the right to use embodiments of his invention is indicated by the not infrequent cases in which the holder of a valid patent, covering something essential to a particular trade, has secured a practical monopoly of profit in lines not covered by his patent. An excellent presentation of the methods by which patents are used to secure monopolies wholly unrelated to the patent, is given by Mr. W. H. S. Stevens in his "Unfair Competition," Chap IV.

On the other hand, the United States Chamber of Commerce has gone on record as favoring some plan by which resale prices may lawfully be sustained. See Chicago *Herald*, May 19, 1916, p. 13.

without restriction.[436] As we have seen, the consistent custom of the courts, until the case of Bauer v. O'Donnell, *supra*, had been to allow the patentee to restrict and limit the extent to which he would allow others to enjoy his monopoly. But, beginning with that case, the court decided not to permit the patentee to restrict the extent to which his monopoly might be invaded by purchasers of chattels embodying his invention. This is clear enough, and probably satisfactory as a matter of public policy. The confusion arises because the court has endeavored to place such purchaser's right to invade the monopoly on the fact of his ownership of the chattel. This absence of distinction between the ownership of a chattel embodying an invention, and the owner's right to use it in contravention of another's patent was foreshadowed in Henry v. Dick Co., *supra*, and carried to an extreme in the subsequent cases.[437] The sum total of the decisions, however, is clearly that a patentee who, by selling an embodiment of his invention authorizes the buyer to invade the monopoly, can not limit

[436] That public policy is the motivating reason for the decisions is indicated by the statement in the Motion Picture Co. case, 243 U. S. 515, that "The perfect instrument of favoritism and oppression which such a system of doing business, if valid, would put into control of the owner of such a patent should make courts astute, if need be, to defeat its operation."

[437] In Motion Picture Co. v. Universal Film Co., 243 U. S. 502, for instance the court says, p. 516, "The right to vend is exhausted by a single, unconditional sale, the article sold being thereby carried outside the monopoly of the patent law. . . ." This is true enough: a patentee who has sold a tangible chattel embodying his invention has given up all control whatsoever over the ownership and, directly, of the use of that chattel. But has he given up his monopoly of the use and enjoyment of the *invention?* The chattel sold was not the invention, nor was it the patentee's monopoly of the invention; that still remains in the patentee. The buyer of the *chattel* has no right whatsoever to infringe the patentee's monopoly of enjoyment of the invention, *except such right as the patentee expressly or impliedly gave him by the sale.* The fact that the patentee sold the chattel is, therefore, in no way whatever a *reason* for the decision; on the contrary it is merely a fact in the case, the effect of which is the thing to be decided, and in this case the effect of the sale on the monopoly was expressly limited. See note 430.

that right *as to the price at which the embodiment may be resold nor as to the way in which it may be used.*[438]

The existing decisions as to the time during which the right may be exercised, or the place where it must be exercised, have not yet been overruled.

The question as to whether a patentee, as the price of a license to enjoy his invention, can impose conditions upon the licencee's conduct in no way connected with the invention seems not to have been directly passed on. It was more or less discussed, however, in United States v. United Shoe Machinery Co.[439] That was a suit to have the defendant company dissolved as an illegal combination. Suit was dismissed on the ground that such combination as existed was not illegal. One of the ways by which the company was alleged to have improperly restrained trade was in granting licenses, to use machines covered by its patents, only on condition that the licensee should not use similar machines not covered by the licensor's patents and also that the licensees should rent from the licensors, and from them only, certain entirely different machines not covered by any patent. It was this "tying" to the license of terms which had no relation to the invention at all that the government objected to as an improper restraint of trade. The majority of the court held that there was nothing illegal in these "tying clauses" and that the owner of a patent may license persons to enjoy the invention on such terms as he sees fit. There was, however, a strong dissenting opinion in which the right of a patentee to restrict the conduct of a licensee in ways unrelated to the invention was flatly denied. Logically, if it is sound public policy to preclude a patentee from putting restrictions upon the *buyer* of embodiments of the invention, it should be equally sound to forbid his putting such restrictions upon the *lessee.* (As we have seen the buyer is as truly a licensee in respect to the monopoly as is a lessee

[438] For a more extended discussion of this topic see the excellent article by T. R. Powell in 17 Columbia Law Rev. 663, and that by the author in 15 Michigan Law Rev. 581.

[439] 247 U. S. 32. It is answered by implication, also in United States v. Winslow, 227 U. S. 202.

of the embodiment.) And in view of the tendency of the court it is very doubtful if such restrictions would be actually enforced.

RESTRICTIONS BY CONTRACT. Since the patentee, if he opens his monopoly at all by sale of chattels embodying the patent, must open it entirely, at least so far as resale price and use are concerned, and can not protect himself by virtue of his patent, it becomes a very natural question whether he can restrict the buyer of such chattels by a valid contract.

In Bement v. National Harrow Co.,[440] the issue was whether a contract between the patentee and his licensee, whereby the latter agreed not to sell below a stipulated price the chattels which he should make embodying the invention, was valid and enforcible. The court held that it was enforcible and did not contravene the federal anti-trust statute, (the Sherman Act). Likewise in Henry v. Dick Co.[441] it was clearly indicated that the buyer's agreement to use the machine with the seller's ink only, would be enforcible as a contract. However, these decisions were so far interwoven with the idea of the patentee's right to *partially release his monopoly*, that the basic reason expressed in the opinions has been removed by the decision in Bauer v. O'Donnell, *supra*. The only issue now possible is whether, *regardless of the patent monopoly*, or, indeed, without any such monopoly, a seller of goods can, by express contract, restrict the buyer's disposal or use of them.

In Dr. Miles Medical Co. v. Park & Sons Co.,[442] the action directly involved the validity of a contract whereby one purchasing certain chattels from the plaintiff had agreed that he would not sell below a stated price. No patent right was involved at all. The contract was one of a great number of similar ones between the plaintiff and other dealers, constituting "a system of interlocking restrictions by which the complainant seeks to control not merely the prices at which its agents may sell its products, but the prices for all sales by all

[440] 186 U. S. 70.
[441] 224 U. S. 1.
[442] 220 U. S. 373.

dealers at wholesale or retail, whether purchasers or sub-purchasers, and thus to fix the amount which the consumer shall pay, eliminating all competition." The court held that the fact that the articles were made under a "secret process" did not affect the issue; that the secret itself might be protected against fraud or breach of contract, but this had nothing to do with protection relating to specific articles made by the process. Of the contract itself the court said, "General restraint in the alienation of articles, things, chattels, except when a very special kind of property is involved, such as a slave or an heirloom, have been generally held void. 'If a man,' says Lord Coke, in Coke on Littleton, section 360, 'be possessed of a horse or any other chattel, real or personal, and give his whole interest or property therein, upon condition that the donee or vendee shall not alien the same, the same is void, because his whole interest and property is out of him, so as he hath no possibility of reverter; and it is against trade and traffic and bargaining and contracting between man and man.'"

"The present case is not analogous to that of a sale of good will, or of an interest in a business, or of the grant of a right to use a process of manufacture. The complainant has not parted with any interest in its business or instrumentalities of production. It has conferred no right by virtue of which purchasers of its products may compete with it. It retains complete control over the business in which it is engaged, manufacturing what it pleases and fixing such prices for its own sales as it may desire. Nor are we dealing with a single transaction, conceivably unrelated to the public interest. The agreements are designed to maintain prices, after the complainant has parted with the title to the articles, and to prevent competition among those who trade in them." Accordingly the restriction in the contract was declared void.

This case, together with Bauer v. O'Donnell and those subsequent to it, makes it clear that a patentee can not, even by contract, preclude one who purchases from him from reselling or using the chattel as he chooses; *at least,* if the contract is

one of a number whose tendency is unreasonably to restrain trade.[443]

A single contract, not part of an elaborate attempt to restrain trade, is probably valid. Those which are part of a system are held invalid because they unreasonably restrain trade. A single contract restricting resale or use would hardly be an unreasonable burden on commerce, and such contracts have, in fact, been held valid by the courts.[444] Even one of a number of contracts affecting the resale price has been held valid, when the restriction affected only a small part of the total commerce in the articles concerned.[445] One state court has even gone so far, so late as 1917, as to uphold a wide spreading system of such contracts. In Ingersoll & Bro. v. Hahne,[446] the issue went directly to the validity of a contract precluding dealers in Ingersoll watches from selling at a price of less than $1.35. "On

[443] Accord, United States v. Kellogg, etc. Co., 222 Fed. 725; Ford Motor Co. v. Union Motor Co., 244 Fed. 156; Hill Co. v. Gray & Worcester, 163 Mich. 12; Compare, Ford Motor Co. v. B. E. Boone Co., 244 Fed. 335; 16 Michigan Law Rev. 127.

Contra, Ingersoll & Bro. v. Hahne & Co., 88 N. J. Eq. 222, 101 Atl. 1030.

The federal statutes, 38 Stat. 730, make it unlawful for any person engaged in interstate commerce to sell, or contract to sell, or lease, any goods, whether covered by patent or not, on condition that the buyer or lessee shall not use goods of a competitor, etc.

Although such a system of contracts makes them illegal and, hence, unenforcible, it has been held by a lower court, at least, that it is not a criminal offense for a manufacturer, not acting in concert with other manufacturers, to enter into such contracts. United States v. Colgate & Co. 253 Fed. 522. But see the implied limitation on this in United States v. Colgate & Co., 39 Sup. Ct. Rep. 465 (June, 1919).

Since the foregoing was written the Supreme Court, in United States v. A. Schrader's Sons, Inc., 64 Law Ed., has "distinguished" the Colgate case on the ground that the Colgate Co. did not make *contracts* that its customers would not resell below the stipulated price, but only refused to sell to those who would not adhere to the fixed price. In the Schrader's Sons case the making of such contracts was held to be criminal.

[444] Garst v. Harris, 177 Mass. 72; Clark v. Frank, 17 Mo. App. 602; This distinction between a single contract and a system of contracts was indicated in Hill Co. v. Gray & Worcester, 163 Mich. 12.

[445] Ghirardelli Co. v. Hunsicker, 164 Cal. 355.

[446] 88 N. J. Eq. 222.

the argument there was, and in counsel's brief there is, a long discussion as to whether the contract against price cutting, evidenced by the notice, is contrary to public policy, and defendant relies upon cases in the supreme court of the United States. I am now considering the public policy of the State of New Jersey as distinguished from any public policy of the United States. Unless the article is the subject of interstate commerce, I am not bound by the opinions of the supreme court of the United States. They are entitled to great weight and careful consideration, but it must not be overlooked that the effect of the case of Motion Picture Patents Co. v. Universal Film Co., decided April 9th, 1917, is a complete reversal of Henry v. Dick 224 U. S. 1. To consider in detail the reasoning of the court in the very numerous cases which have been decided bearing upon this question would unduly extend this opinion. Suffice it to say, that after careful consideration, I have come to the conclusion that upon the general proposition, I agree with the dissenting opinion of Mr. Justice Holmes in Dr. Miles Medical Co. v. John D. Parks & Sons Co., 220 U. S. (at p. 411)." Accordingly, the contracts were held to be valid and enforcible.

CHAPTER IX

Protection of the Monopoly

§ 1. Jurisdiction of the Courts

PATENT MONOPOLY WITHIN JURISDICTION OF FEDERAL COURTS. The rights and privileges conferred by a patent are protected and enforced by the Federal courts, and these have jurisdiction that is exclusive of the state courts in such matters.[447]

PATENT RIGHT, AS PROPERTY, IS WITHIN JURISDICTION OF STATE COURTS. This does not deprive the State courts of jurisdiction of matters which do not determine rights granted by a patent, even though the ownership of such rights, whatever they may be, is involved. Whenever the patent is involved in controversy merely as a piece of property, without calling into question the effective value of such property, the state courts have the same jurisdiction that they would have in any other cases involving the ownership and control of property. Contracts concerning the patent right are likewise subject to the same jurisdiction that other contracts are. In many instances the owner of a patent who has contracted with another in regard to its enjoyment has a choice of remedies. The wrongful act of the defendant may be a branch of the contract, through a use of the invention which has been clearly forbidden by the terms of his agreement. This same act, being done without the patentee's permission, would also be an infringement of the patentee's exclusive right. If the owner chooses to treat the wrong as a breach of the contract, his suit is not within the limited jurisdiction of patent law but must be brought in the courts having proper jurisdiction of breaches of contract. If however he chooses to treat the matter as an unauthorized infringement of his patent monopoly,

[447] Act of March 3, 1911 (Judicial Code) § 24, § 256.

action must be in the Federal courts. As the court has put it,[448] "When a contract is made respecting a right under a patent, and the parties get into litigation, confusion has sometimes arisen over the question whether the cause of action originates in the contract or in the patent laws. The test is this: If the plaintiff is seeking a judgment for debt or damages, or a decree for cancellation or specific performance, on account of the defendant's breach of his covenants, the cause of action arises out of the contract: and, though the determination of the issue of breach or no breach may involve the interpretation of the patent and of the prior art, the insistence of the defendant that his device, according to the true construction of the patent and of the prior art, is not within the patent right granted him in the contract, cannot change the nature of the action. Standard Sewing Machine Co. v. Leslie, 118 Fed. 557, 55 C. C. A. 323. On the other hand, if the plaintiff is seeking a judgment for damages, or a decree for an injunction and an accounting, on account of the defendant's unauthorized use of the patent right in making or using or selling the device without license, the cause of action arises out of the patent laws; and, though the determination of the issue of infringement or no infringement may involve the interpretation of the contract, the insistence of the defendant that his act was within his rights under the contract, if properly construed, cannot change the nature of the action."[449]

[448] Victor Talking Machine Co. v. The Fair, 123 Fed. 424. Accd., Carleton v. Bird, 94 Me. 182.

[449] A suit for specific performance of a contract to furnish money for development purposes, in consideration of an interest in the profits of an invention, and for an injunction against claiming title to the patent under a fraudulent assignment, was held not to give the federal courts any jurisdiction. Kurtz v. Straus, 106 Fed. 414.

On the other hand, in Henry v. Dick Co., 220 U. S. 1, where the licensee had expressly contracted not to use anything but plaintiff's ink with the patented mimeograph but had used other ink, it was held that even though suit might have been brought in the State courts for breach of contract it might also be brought in the Federal courts for infringement of the patent. Wilson v. Sanford, 10 How. 208; Hartell v. Tilghman, 99 U. S. 547; Albright v. Teas, 106 U. S. 613, to recover royalties—no invalidity of

Care must be taken to distinguish those cases in which the remedy is optional from those in which the wrong done is not something actually precluded by the contract but something outside of it and not covered by it at all. In this latter type of case there can be no action on the contract, and the suit must be in the Federal courts, for infringement.

REMEDIES. The Federal courts have authority;—to protect the owner of the patent by awarding him compensation for the damages he has suffered by infringement, with a penalty added in certain cases; to award him the amount of profit the infringer has made; and to prevent further infringement by injunction.[450] The procedure by which these remedies are secured is not discussed in this book. It requires a knowledge of federal procedure in general, and should properly be studied as a part of that subject. To separate that part of the federal procedure which pertains particularly to patents, would still leave so much of the common fundamentals to be elucidated as to necessitate almost another volume. This treatise is, therefore, confined to the substantive part of the patent law.

Whichever remedy the plaintiff may choose to ask for, the defendant is privileged by the statute[451] to show as a defense that the patent on which suit is brought was secured by fraud of some sort and is void on that account; that it is void because the right to it had been lost through abandonment, or public use or sale more than two years prior to the application; that the patentee was not in fact the first inventor or any inventor at all and therefore was not entitled to a patent; and that even if the patent be valid the defendant has not infringed it.[452] The

patent set up; U. S. v. Palmer, 128 U. S. 262; Excelsior Wooden Pipe Co. v. Pacific Bridge Co., 185 U. S. 282.

[450] The courts can not award the patentee title to the things unlawfully made by an infringer of the patent. Belknap v. Schild, 161 U. S. 10.

[451] R. S. § 4920.

[452] This broad statement covers practically the entire range of patent law. Since the defendant may attack the validity of the patent, he may do it on any ground—anticipation, public use, fraud, or anything else. Likewise he may set up anything that supports his defense of non-infringement. These matters are all discussed under their appropriate headings,

defendant is not restricted to any one of these defenses but may avail himself, so far as his evidence allows, of them all. In short, the defendant may both attack the validity of the patent and deny infringement of its monopoly.

The patent as evidence. The burden of proof in his attack on the patent is thrown upon the defendant, because the existence of the patent is *prima facie* evidence of its own validity in whatever respect it may be attacked. In the absence of any evidence to the contrary the legal conclusion is that it was issued without fraud, to the proper person, for a real invention.[453] This presumption of validity has been carried in judicial statement to the extent that "every reasonable doubt should be resolved against" the person attacking the validity and effectiveness of the patent.[454]

Patent not real evidence of invention. But while the patent is *prima facie* evidence of its own validity, the evidence is not strong enough to have much real effect on the issue when countervailing evidence is given.[455] This lack of evidenciary force in a patent has been a potent cause of the often expressed opinion, that a patent is never worth much of anything and the patent statute is a delusion and snare. There can be no doubt but that the layman believes the fact that a patent

and it is quite unnecessary to repeat that discussion under the title of "defenses", as is done by at least one text writer who states, and partially re-discusses, twenty-nine defenses.

[453] Condit v. Bush, 132 U. S. 39; Am. Caramel Co. v. Mills & Bro., 149 Fed. 743; Parks v. Booth, 102 U. S. 96, "Neither damages nor profits can be recovered unless the complaining party alleges and proves that he or the person under whom he claims was the original and first inventor of the patented improvement, and that the same has been infringed by the party against whom the suit is brought. Both of those allegations must be proved to maintain the suit; but the patent, if introduced in evidence by the complaining party, affords him *prima facie* evidence that the patentee was the original and first inventor. That presumption, in the absence of any satisfactory proof to the contrary, is sufficient to entitle him to recover if he proves the alleged infringement." West v. Frank, 149 Fed. 423.

[454] Coffin v. Ogden, 18 Wall. 120, 124; Cantrell v. Wallick, 117 U. S. 689.

[455] Palmer v. Corning, 156 U. S. 342; Hollister v. Benedict Mfg. Co., 113 U. S. 59, 71; N. Y. Belting Co. v. Sierer, 149 Fed. 756, 770; Warren Bros. v. Owosso, 166 Fed. 309.

has been granted is legally supposed to be proof of its validity, and that a successful defense to an infringement suit amounts to some sort of an evasion of the law, and of the protection which the statute intended a patent should give. If it were the intent of the statute that the granting of a patent should be anything more than the merest *prima facie* evidence of its validity, the feeling that patents are generally undesirable, because useless, would be justified by the great number of them which the courts have declared worthless, in comparison with those which have been held valid.

But the statute clearly never intended any such effect of absolute validity to follow the issue of a patent. The procedure of the Patent Office is necessarily such that the prior art can not be examined for existing knowledge except as that knowledge has been recorded in the office, and the issue of a patent can signify nothing whatever as to the novelty of the alleged invention, except as to such recorded knowledge. A particular device might have been on sale in every shop in San Francisco, or even in Washington, for years and a patent nevertheless be issued for it, if the prior patents recorded in the Patent Office did not show it. The Patent Office does not purport to be omniscient in any respect. Furthermore, since the statute was not intended to give a monopoly for every bright idea and mechanical change in the prior art, and the decision of the Commissioner of Patents is not final as to what amounts to such narrow change from even the recorded art, it is obvious that the issue of a patent means nothing as to whether the patentee was really entitled to the monopoly he claimed. The patent simply gives him the right to a monopoly so long as no one disputes it, and then a right to prove the validity of his claim in court. When one realizes the number of persons who, having conceived what appears to be a new and useful idea of means, immediately ask for a patent on it, without any competent investigation of existing knowledge, the number of patents found by the courts to be invalid is not in the least derogatory of the protection which the patent law gives to real and original inventors.

§ 2. Proof of Infringement

Thus far we have been discussing the various matters relating to the patent itself and its validity. We come now, assuming the existence of a valid patent, to a discussion of infringement of the patent monopoly.

Issues which arise. This involves two fundamental questions in each case; first, what is the invention that is covered by the patent; second, has the defendant made, used or vended anything embodying this particular invention.

The form claimed. The first of these is a question of law, to be decided by the court,[457] and it involves, in itself, two distinct possibilities of issue. The simpler of these inquiries is, what is the invention *literally* set out and claimed. In other words, what is the formal embodiment described in the patent. It is possible that the patent is so defective in its description as not to set out anything definite at all.[458] Or there may be well founded dispute as to the thing actually described in words and phrases. To determine this seems to be a matter of interpretation of the instrument by the court.

The ordinary rules for the construction of contracts apply here. The literal scope of the patent is limited by the claims

[457] Winans v. Dennead, 15 How. 329, 337; Corning v. Burden, 15 How. 252; Parker v. Hulme, 1 Fish Pat. Cases 44, Fed. Cas. No. 10,740; Coupe v. Royer, 155 U. S. 565, syll. "In letters patent No. 77,920 granted to Herman Royer and Louis Royer, May 12, 1868, for "an improved machine for treating hides," the first claim, viz., for a "vertical shaft," and the second claim, viz., for a "groved weight," are restricted to a shaft and crib in a vertical position, and to a weight operating by the force of gravity aided by pressure; and they cannot be extended so as to include shafts and cribs in a horizontal position, and pressure upon the hides by means of false heads, actuated and controlled by gearing wheels, springs, and a crank. In jury trials in actions for the infringement of letters patent, it is the province of the court, when the defense denies that the invention used by the defendant is identical with that included in the plaintiff's patent, to define the patented invention, as indicated by the language of the claims; and it is the province of the jury to determine whether the invention so defined covers the art or article employed by the defendant."

[458] This is discussed *supra*.

and these are to be construed with the interest of both the inventor and the public in mind.[459]

The meaning and extent of the claim may be interpreted by reference to the description and drawings,[460] although it can not be expanded to include matter described but not claimed.

THE IDEA CLAIMED. But the monopoly of the patent is not necessarily limited to the device as literally set out in the description. If it were so limited, the inventor of any device would be compelled to foresee and describe all the forms in which his idea might be materially embodied, and anyone who was able by mere mechanical skill to construct a device differing in material form from those described in the patent would not be an infringer. But, as we have said before, it is not the material device actually described in the patent that constitutes the invention protected by it. And nowhere does it more clearly appear, that it is the *idea* of an art, machine, etc. that really constitutes the invention, than it does in decisions upon infringement.

In a very large proportion of cases one form of material embodiment is set forth in the patent, and only one; yet the courts have held that the patent was infringed by the use of a material device quite unlike, in substantial form, the one described. In Tilghman v. Proctor,[461] for instance, the claim of the patent was for "The manufacturing of fat acids and glycerine from fatty bodies by the action of water at a high temperature and pressure." The only material means of accomplishing this separation pointed out in the description, consisted of a long coil of strong iron pipe passing through an oven or furnace where it was subject for 10 minutes to a temperature of 612° F., that of melting lead. The defendant accomplished the same result by an obviously different material means; he used a boiler in which the fatty substances were subject for several hours to a temperature of only 400° F. The same patent had been considered, on these facts, in the case of

[459] Cases *supra*. O. H. Jewell Filter Co. v. Jackson, 140 Fed. 340, 343.
[460] O. H. Jewell Filter Co. v. Jackson, 140 Fed. 340.
[461] 102 U. S. 707.

Mitchell v. Tilghman,[462] and the court in that case found that the patent was limited to the means pointed out in the specification and that there was no infringement because of this difference in material means of accomplishing the result. This decision was overruled in the Proctor case and the court held that the device used by the defendant was in fact an infringement of the patent despite its material difference. This decision of the court was based on the ground that the patent was "for a process, and not for any specific mechanism for carrying such process into effect." Exactly what a "process" is the court does not explain, save that it comes within the meaning of "art" as used in the patent statute. But, whatever the meaning of the terms employed, it is clear that Tilghman was given protection beyond the limits of the material embodiment described in his patent. In the case of Expanded Metal Co. v. Bradford[463] the court went so far as to hold that no material means need be described at all if what the court called the "method" of reaching the specified result be so clearly set out that anyone skilled in the art could find the substantial means of accomplishing it.

Even where the invention purports to be the concept only of a machine, in its strict sense, and not an art or a process, the monopoly of the patent is not restricted to the mere description given, but the patentee is often protected against the use of machines quite dissimilar in material form to the one described. As an illustration is the case of Ives v. Hamilton.[464] The patent was for a saw mill, consisting of the combination of a saw, levers, rods, guides, etc., constituting a machine which gave to the saw a rocking or rolling motion desirable for certain purposes. The defendant secured the same rocking motion by using two straight guides set at an angle, where the plaintiff used a single, curved one, and by reversing the plaintiff's connections, at two places, so that the ultimate mo-

[462] 19 Wall. 287.
[463] 214 U. S. 366.
[464] 92 U. S. 426.

tion was the same. This formally and substantially different device was held to be an infringement of the patent.[465]

Neither is the scope of a patent limited to the particular *use* described. A patentee is entitled to all uses to which it may be put, which do not themselves involve invention.

The changes in form which do not in fact evade the monopoly of the patent are usually spoken of as "equivalents." Customarily, the proposition set out in the foregoing paragraphs is reversed, and it is said that the substitution of equivalents does not constitute invention, nor avoid infringement. Some writers have even attempted to lay down "rules" as to what will constitute an "equivalent." But, on examination, it appears that these rules are only the statements of individual cases. The truth is that the existence of invention and non-infringement is not ascertained from the fact that a change is an equivalent; it is an equivalent because its substitution did not require inventive genius. There is no such thing as a definite "equivalent" from which non-invention may be predicated; its limits and scope can no more be defined than can the concrete inclusiveness of "invention." The so-called "doctrine of equivalents" means nothing more than that the protection of a patent is not limited to the precise material embodiment of the invention as described.

It appears, therefore, that whatever the invention may be called by the inventor or the courts, it may be, in its scope, something more than the concept literally depicted by the words of the description Just how much more, if any, the invention as patented does cover, constitutes the second division of the first issue referred to above, and is the real issue in most patent litigation. This question is one to be answered by the court, and is therefore a question of law, so-called.

[465] Acc. Water-Meter Co. v. Desper, 101 U. S. 332, "It is equally well known that if any one of the parts is only formally omitted, and is supplied by a mechanical equivalent, performing the same office and producing the same result, the patent is infringed"; Westinghouse v. Boyden Power Brake Co., 170 U. S. 537, 568, "We have repeatedly held that a charge of infringement is sometimes made out, though the letter of the claims be avoided."

It is obvious that the whole actual scope of the invention can not be decided in any one case. The courts can not forsee all the formal changes, the substitution of mere equivalents, which may be made, any more than the inventor himself could. The only matter, therefore, that can be decided is, whether the scope of the invention covers the particular device which is alleged, in the suit, to infringe. The question therefore takes the true form of *an inquiry whether the defendant's device is within the scope of the patent, and not, what is the scope of the patent.* Some courts have made it appear as though there were two distinct questions, namely, the scope of the patent and, whether the defendant's device comes within it. They have said that the first is of law, the second of fact. Properly, there is no such distinction. As the first question can not be answered except by reference to the particular instance, its determination settles *ipso facto* the other question. and there is nothing left by way of further inquiry. Obviously, if the scope of the patent is broad enough to include the defendant's device, the defendant's device is within the scope of the patent, and there is nothing further to be decided. It is important to realize this, in order not to be confused by the *apparently* different cases in which the courts are deciding "the scope of the patent" and those in which they are deciding "whether the defendant has infringed."

Unless the alleged infringing device is identical with the description of the patent, this decision, any way it is looked at, can be nothing else than a matter of opinion. It can not be treated as a matter that is governed by "rules," for, by the very nature of the subject, the circumstances of two cases will never be precisely alike. Even the value of other decisions as persuasive guides is less than in other branches of substantive law, because of the essential dissimilarity of facts. The most that can be said for the value of precedents in affecting this decision is, that certain circumstances appear to have been given more weight than others by the courts and should, therefore, be of similar effect upon the opinions of later courts.

Particular cases holding one way or other on particular facts need not be given here as they can be found, classified, in the digests.

FACTORS INFLUENCING THE DECISION. The circumstances which affect the finding of infringement or non-infringement are, in theory, the same as those which affect a finding of invention or anticipation. If a production is so like something that preceded it as to lack the inventive quality, and be anticipated, it logically follows that it would be an infringement of the earlier device were that protected by a patent. Conversely, were a device held not to be anticipated by an earlier one, it would, theoretically, be held not to be infringed by it were the suit to come up in that way. Even the courts have said that "that which infringes, if later, would anticipate if earlier."[466] Conversely, it is said, "A device which, if existent before the making of a patented invention, would not anticipate it, cannot if made after the issue of the patent, be said to infringe it."[467] In Cook v. Sandusky Tool Co.[468] the opinion of Mr. Chief Justice Waite is short and to the point, being in its entirety, "If the hoe made by the Tool Company infringes the patent of the appellant, it was an anticipation of the invention, and the patent is void, for the testimony leaves no doubt whatever in our minds that the company made and sold

[466] Knapp v. Morss, 150 U. S. 221, 228; Peters v. Active Mfg. Co., 129 U. S. 530, 537; Miller v. Eagle Mfg. Co., 151 U. S. 186, 203.

[467] Cleveland Pneumatic Tool Co. v. Chicago Pneu. Tool Co., 135 Fed. 783. In this case a certain tool existent before the patent had been held not to make it void by anticipation and the court held the defendant's tool not to be an infringement because it was materially identical with the prior one. In Peerless Rubber Co. v. White, 118 Fed. 827, the court proceeded on the assumption that a device which would not have anticipated an invention could not reasonably be held to infringe it. To the writer this seems fallacious. It is quite conceivable that a device might be such an improvement on old ones as to be an invention, while if it had come first, in its entirety, the faulty one, constructed later, would be merely a clumsy infringement of the invention.

[468] 28 L. Ed. 124.

its hoes long before the date of the invention patented. If it is not an anticipation, it is not an infringement." The bill was therefore dismissed.

It does not appear in this case whether the dismissal was because there was no infringement, or because the patent was void for anticipation. The case is unique and it seldom appears that the alleged infringing device has actually existed prior to the patented invention. Ordinarily a decision of infringement or non-infringement must be made. Judging from many of these decisions, one may reasonably doubt, in actual practice, whatever be the theory, that what would have anticipated if earlier will infringe if later. In a great number of cases the defendant's device has been found not to be an infringement, although one is morally certain that it would have been held sufficient to anticipate the plaintiff's invention had the case arisen under different circumstances. As a perhaps extreme illustration may be cited the case of Poirier v. Clementson.[469] The plaintiff in this case held a patent for an improvement in pack-straps. One of its claims was for a bag having shoulder straps secured to a piece of leather across the top of the bag and their other ends arranged to fasten, after passing across the shoulders, to buckles on the lower corners of the bag. He contended that defendant's pack differed from his only in the fact that the straps were attached at a somewhat lower point. Defendants insisted that the method of attachment was different and that the load was carried in a different position. The validity of the patent was not disputed by the defense and the court dismissed the bill on the ground that there was no infringement. If the validity of the patent had been attacked and the device of the defendant had been set up as pre-existing, it seems incredible that the court would not have held the patent void as exhibiting only mechanical change from the earlier device.[470]

It appears often that the case is determined on a finding of

[469] 70 Fed. 617.

[470] See also Bragg v. Fitch, 121 U. S. 478; Crawford v. Heysinger, 123 U. S. 589; Boyd v. Janesville Tool Co., 158 U. S. 260.

non-infringement in order that, by a narrow construction, the court may evade the actual invalidity of the patent which would follow a construction broad enough to make the subsequent device an infringement.[471] Because of this, it is not safe to rely on cases in which a certain similarity has been held to constitute anticipation, as precedents for the contention that the same degree of similarity should be held to constitute infringement.

Another matter that is judicially declared to affect the court's conclusion as to the scope of a patent is the patentee's own acquiescence in its delimitation by the Commissioner of Patents. The courts have "often held that when a patentee, on the rejection of his application, inserts in his specification, in consequence, limitations and restrictions for the purpose of obtaining his patent, he cannot, after he has obtained it, claim that it shall be construed as it would have been construed if such limitations and restrictions were not contained in it."[480] "If an applicant, in order to get his patent, accepts one with a narrower claim than that contained in his original application he is bound by it. If dissatisfied with the decision rejecting his application, he should pursue his remedy by appeal."[481] Although these statements are not infrequent, it may fairly be said that they are not adhered to, except when the court is

[471] Scaife & Sons Co. v. Falls City Woolen Mills, 209 Fed. 210; Roemer v. Peddie, 78 Fed. 117.

[480] Roemer v. Peddie, 132 U. S. 313. In this particular case the lower court had reached the same conclusion of narrow scope in order to escape the necessity of holding the patent void, as it would have been if a wider scope had been ascribed to it. Roemer v. Peddie, 78 Fed. 117. It is not at all certain that the Supreme Court would have followed the letter of its own statement had there not been this additional reason.

[481] Shepard v. Carrigan, 116 U. S. 593. Here again it appears that if the scope claimed had been allowed, the patent would undoubtedly have been void for lack of novelty. Acc. Phoenix Caster Co. v. Spiegel, 133 U. S. 360; Sutter v. Robinson, 119 U. S. 530; Sargent v. Hall Safe & Lock Co., 114 U. S. 63; Singer Mfg. Co. v. Cramer, 192 U. S. 265; Computing Scale Co. v. Automatic Scale Co., 204 U. S. 609; Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co., 152 U. S. 425; Ventilated Cushion & Spring Co. v. D'Arcy, 232 Fed. 468.

influenced toward a narrow construction by other reasons, such as that a wider scope would invalidate the patent.

Occasional statements are also found to the effect that "When the terms of a claim in a patent are clear and distinct[482] the patentee, in a suit brought upon the patent, is bound by it. He can claim nothing beyond it."[483] "It is his (the patentee's) province to make his own claim and his privilege to restrict it. If it be a claim to a combination, and be restricted to specified elements, all must be regarded as material, leaving open only the question whether an omitted part is supplied by an equivalent device or instrumentality."[484] As has already been said, the scope of a patent is not limited to the material form of the embodiment of the invention as described. Such statements as these are in general merely loose expressions of the fact that the particular invention is not *deserving* of a range of equivalents or protection outside of its literal description. It is not impossible that a patentee who is ignorant of the principle embodied in his device, or who is careless in the very precision of his language, may limit himself so expressly to the specific formal embodiment claimed, that the other forms to which his protection might have been spread can only be looked upon as dedicated to the public. But the cases are few, in which a patentee who might have had greater protection under a proper claim is deprived of it because of the wording of his actual claim.

PIONEER PATENTS. Another thing which has materially affected courts in their decisions as to the scope of an invention is the distance of relationship between it and the knowledge which preceded it, or, in other words, the length of the step forward which the inventor has made. The thing patented is not the substantial thing actually described in the patent, but the idea embodied in that substantial form. It appears from the cases that, in a figurative sense, this idea must be symmetrical; it can reach so far forward to cover improvements, and

[482] As they always should be.

[483] Keystone Bridge Co. v. Phoenix Iron Co., 95 U. S. 274.

[484] Fay v. Cordesman, 109 U. S. 408. The court had already found that "this patent stands on very narrow ground" in view of the prior art.

only so far, as it is itself in advance of the prior state of the art. If it is but a slight improvement upon the known art, it has but a narrow scope of protection against infringements; if it be a long step forward, its monopoly has a wide scope of inclusiveness. Such an invention, far in advance of the known art, is usually spoken of as a "pioneer."

The reports are replete with statements of the broad scope of protection which is to be given to such patents. "If one inventor precedes all the rest, and strikes out something which includes and underlies all they produce, he acquires a monopoly, and subjects them to tribute. But if the advance toward the thing desired is gradual, and proceeds step by step, so that no one can claim the complete whole, then each is entitled only to the specific form of device which he produces, and every other inventor is entitled to his own specific form, so long as it differs from those of his competitors and does not include theirs. These general principles are so obvious, that they need no argument or illustration to support them."[472] Another opinion says, "If he (the patentee) be the original inventor of the device or machine called the divider, he will have a right to treat as infringers all who make dividers operating on the same principle, and performing the same functions by the same or analogous means or equivalent combinations, even though the infringing machine may be an improvement of the original, and patentable as such. But if the invention claimed be itself but an improvement on a known machine by a mere change of form or combination of parts, the patentee can not treat another as an infringer who has improved the original machine by use of a different form or combination perform-

[472] Railway Co. v. Sayles, 97 U. S. 554, 556. The patent in this case was for a double-acting railway car brake. The plaintiff's invention was of such excellence as to supersede other types of brakes, but it did not embody an unprecedented idea. Other double-brakes had been earlier invented, employing the same fundamental principle as his. His new idea of means was therefore only an improvement in the manner of utilizing that principle. The court restricted him therefore to a range of equivalents limited by the particular novelty of the mere improvement which he had engrafted upon the known principle.

ing the same functions. The inventor of the first improvement can not invoke the doctrine of equivalents to suppress all other improvements which are not mere colorable invasions of the first."[473]

Just what constitutes a pioneer invention is not capable of precise delimitation. "This word (pioneer)," says Mr. Justice Brown, "although used somewhat loosely, is commonly understood to denote a patent covering a function never before performed, a wholly novel device, or one of such novelty and importance as to mark a distinct step in the progress of the art, as distinguished from a mere improvement or perfection of what had gone before. Most conspicuous examples of such patents are: The one to Howe of the sewing machine; to Morse of the electric telegraph; and to Bell of the telephone. The record in this case would indicate that the same honorable appellation might be safely bestowed upon the original air-brake of Westinghouse, and perhaps also upon his automatic brake."[473a] The inventions referred to, all embodied the use of a theretofore unrecognized principle of nature, or the utilization of a natural force, for a function or purpose not before conceived of in connection with it. This fact and the verbiage of all the statements in regard to pioneer patents indicate, that a true pioneer invention is the idea of accomplishing a result by means of a principle which is sufficiently fundamental to come within that vaguely limited term "law of nature" and which has never before been thought of as useful for the particular end desired. Morse used the principle of electro-magnetism, which while well known in itself had not been used for the particular purpose. In Bell's invention, the various electrical actions and reactions had been known, but the idea of using them to reproduce articulate sounds at a distance from their place of utterance, was inchoate. Westing-

[473] McCormick v. Talcott, 20 How. 402, 404; Morley Machine Co. v. Lancaster, 123 U. S. 263; Royer v. Coupe, 146 U. S. 524, Morton v. Jensen, 49 Fed. 859; Miller v. Eagle Mfg. Co., 151 U. S. 186, 207; Paper Bag Patent Case, 210 U. S. 405; Kokomo Fence Machine Co. v. Kitselman, 189 U. S. 8; Clark Thread Co. v. Willimantic Linen Co., 140 U. S. 481, 492.

[473a] Westinghouse v. Boyden Power Brake Co., 170 U. S. 537, 561.

house's application of pneumatic pressure was to produce a result never practically connected with it. So all other admittedly pioneer inventions are found to be such as for the *first time* connect a desired result with *any definite means* of accomplishing it. Such connection of means and desideratum may be imperfect, and later inventions may excel it in utility, but those more successful ones are not the first to make the connection; they follow the pioneer. The "result" can not be patented, its accomplishment is open to other persons by means of other principles; neither can the "principle" be patented, it is said;[474] but the means of utilizing a principle for a result may, if sufficiently novel, be given a scope of protection practically equivalent to the principle itself when used for the particular result.

Not all pioneer patents are given the same scope, of course. An inventor, like a homesteader, may be a discoverer of the unknown; may "pioneer" into a known but unexplored land; or into a merely unsettled territory. And his reward differs in accord with what he has done. Bell and Morse went into a practically unknown land and were given a wide monopoly.[475] Tilghman was the real discoverer of the fact that fatty substances would separate into their constituent parts under the action of water at a high temperature and pressure, and he was accordingly awarded the monopoly of that process.[476] As the court said, "Had the process been known and used before, and not been Tilghman's invention, he could not then have claimed anything more than the particular apparatus described in the patent; but being the inventor of the process, as we are satisfied was the fact, he was entitled to claim it in the manner he did." But the fact that the ground has been fairly well explored and its possibilities realized does not deprive an inventor, who first effectuates a utilization of those possibilities, of a comparative range of equivalents. In the Paper Bag

[474] As in O'Reilly v. Morse, 15 How. 62, see the explanation of this case in Tilghman v. Proctor, 102 U. S. 707, 727 ff.

[475] The Telephone Cases, 124 U. S. 1; O'Reilly v. Morse, 15 How. 62.

[476] Tilghman v. Proctor, 102 U. S. 707.

Patent Case[477] it was contended by the defendants that the invention, not being first in its line, could not be infringed by a device materially different from the one described in the patent. The court, however, decided that, in the words of the syllabus, "The previous decisions of this court are not to be construed as holding that only pioneer patents are entitled to invoke the doctrine of equivalents, but that the range of equivalents depends upon the degree of invention; and infringement of a patent not primary is therefore not averted merely because defendant's machine may be differentiated." "The more meritorious the invention, the greater the step in the art, the less the suggestion of the improvement in the prior art, the more liberal are the courts in applying in favor of the patentee the doctrine of equivalents. The narrower the line between the faculty exercised in inventing a device and mechanical skill, the stricter are the courts in rejecting the claim of equivalents by the patentee in respect of alleged infringements."[478]

In cases where the invention is scarcely more than a mechanical change from the art which preceded it, and is given validity at all only by the narrowest margin, its range of equivalents is so correspondingly narrow as to be practically nothing. In such cases infringement occurs only when the unauthorized device corresponds precisely with the formal description of the patent.[479]

SUMMARY. The other factors, extraneous to the patent itself, such as the personality of the judge, earlier opinions, etc., which were discussed under the head of invention, influence the findings on infringement just as they do those on invention. When allowance is made for the influence of these factors, particularly the tendency to find non-infringement rather than

[477] 210 U. S. 405.

[478] Judge Taft, in Penfield v. Chambers Bros. Co., 92 Fed. 630, 649, Acc. Benbow-Brammer Mfg. Co. v. Straus, 166 Fed. 114; Boston & R. Elec. St. Ry. Co. v. Bemis Car-Box Co., 80 Fed. 287; Roemer v. Peddie, 78 Fed. 117; Mallon v. Wm. C. Gregg & Co., 137 Fed. 68; Diamond Rubber Co. v. Consolidated Tire Co., 220 U. S. 438.

[479] Poirier v. Clementson, 70 Fed. 617; Roemer v. Peddie, 78 Fed. 117; Ball & Socket Fastener Co. v. Ball Glove Fastener Co., 58 Fed. 818.

to construe a patent so broadly that it would be void for lack of novelty, and the desire to reward a pioneer inventor as completely as possible, then the issue of infringement or non-infringement is practically the same as that of invention or anticipation. The answer to both depends upon the opinion of the court as to whether the apparent difference between the earlier device and the later one is the result only of mechanical skill or proceeded from the inspiration of inventive genius. The cases involving infringement can therefore be to a certain extent grouped according to characteristic material changes which have or have not been held sufficient to avoid a charge of infringement. But, again be it said, these cases can not be analyzed into "rules," because of the intrinsic and inevitable difference of facts. Thus, it is said in many cases and by some text writers, that "mere change of form does not avoid infringement." It can not possibly be said flatly that no change of form will so amount to invention in itself as not to constitute infringement, and to say that "mere" change of form does not, still leaves open the same question in different verbiage—when is change of form "mere change," and when is it "invention" and no infringement? The nearest to any positive generalization that can be made is well expressed by one court.[487] "Mere changes of form of some of the mechanical elements of a patented combination do not avoid infringement, when the principle of the invention is adopted and form is not its essence. But the rule that changes of form do not avoid infringement has at least two exceptions—when the form of the mechanical element is the distinguishing characteristic of the invention, and when the change in the form of the element changes the principle or mode of operation of the combination." By these expressed exceptions the question is thus left as unanswered as before, being merely put into a different form of expression.

The same impossibility of positive generalization holds true of all the other types of apparent change, and nothing definite by way of rule or statement can be deduced as a help in

[487] O. H. Jewell Filter Co. v. Jackson, 140 Fed. 340, 346.

deciding an issue of infringement. This can only come from a fundamental comprehension of the whole subject of invention and non-invention. Beyond the suggestion of classification of cases which is discussed under invention, nothing further need be said about them. They stand only as separate cases and any good digest can present them more usually than a work of this kind.

§ 3. Who May Be An Infringer

There is no restriction either by statute or by the courts as to who may be guilty of infringement. Such a suit stands upon the same footing as every other type of civil action, and any person or corporation capable of being sued may be liable to action. The United States government was made liable to suit for infringement by Act of June 25, 1910.[485] This provides "Whenever an invention described in and covered by a patent of the United States shall hereafter be used by the United States without license of the owner thereof or lawful right to use the same, such owner may recover reasonable compensation for such use by suit in the Court of Claims: Provided, however, That said Court of Claims shall not entertain a suit or reward compensation under the provisions of this Act where the claim for compensation is based on the use by the United States of any article heretofore owned, leased, used by, or in the possession of the United States: Provided further, That in any such suit the United States may avail itself of any and all defenses, general or special, which might be pleaded by a defendant in an action for infringement, as set forth in Title Sixty of the Revised Statutes, or otherwise; And provided further, That the benefits of this Act shall not inure to any patentee, who, when he makes such claim is in the employment or service of the Government of the United States; or the assignee of any such patentee; nor shall this Act apply to any device discovered or invented by such employee during the time of his employment or service."[486]

[485] Ch. 423, 36 Statutes at L. 851.

[486] As to the liability of the government prior to this act, see Farnham

§ 4. What Acts Constitute Infringement

The second issue referred to at the beginning of the chapter, namely, whether the defendant has infringed or not, needs now to be considered only briefly. It is clear that a decision upon the first issue will have swallowed most of the possible forms of the second. If the court has decided that the scope of the patent is such as to include the particular form of device used by the defendant, there is no question but that the defendant's device is an infringement of the patent. The only further issue possible is, whether or not the defendant did make, use or vend the device, which he is alleged to have made, etc. This is a pure issue of fact, depending wholly upon the evidence adduced. As a general rule it would precede the consideration of the other issue, for if no use of the device alleged had actually been made by the defendant it would be futile to determine the relation of such a device to the patent. In using for any purpose the cases which make reference to the question of whether the defendant has infringed, care should be taken to distinguish between the issue of the *infringing character* of the device, and that of whether he *did use* the device complained of. The term "infringement" is used indiscriminately of both the *acts* of a defendant and of the *material device* with which he acts.[488]

The intent with which the defendant did the acts alleged is not material in determining his liability as an infringer, unless the charge be merely that he is a contributory infringer. Real absence of intent to infringe may in some circumstances reduce the amount of damages recoverable under R. S. § 4919. But the fact that the defendant was unaware that any patent had been issued for the device, or honestly believed that his own device was not an infringement of the one patented, does not prevent an adjudication of infringement.[489]

v. United States, 240 U. S. 537; U. S. v. Societe Anonyme, 224 U. S. 309; Crozier v. Krupp, 224 U. S. 290; Russell v. U. S. 182 U. S. 516; U. S. v. Berdan Arms Co., 156 U. S. 552; Schillinger v. U. S. 155 U. S. 163; Belknap v. Schild, 161 U. S. 10.

[488] Haselden v. Ogden, 3 Fish. 378, Fed. Cas. No. 6190.

[489] Parker v. Hulme, 1 Fish Pat. Cases 44, Fed. Cas. No. 10,740; Globe

The statute[490] provides expressly that no damages shall be recovered for infringement, when the defendant has not had due notification before the acts on which suit is predicated, unless the plaintiff has given general notice to the public by marking articles covered by the patent with the word "patented," and the date on which the patent was issued. If the article itself can not be so marked, it is provided that a label may be affixed to it, or to the package in which it is enclosed, containing the notice.[491] The fact that a defendant had no actual notice of the patent, and that the articles covered by it had not been marked "patented" so as to give him constructive notice, would not preclude the granting of an *injunction* in otherwise proper circumstances. The mere fact of notice of the suit for injunction would in itself constitute the notice, that the device was patented, necessary to render the defendant liable for all future infringement. If he would be liable for damages in the future, he might properly, so far as the matter of notice is concerned, be enjoined from causing them.[492] In one case it was urged by the defendants, that the infringing articles had been accidentally made in the course of other manufacturing and unintentionally sold. The court held an injunction against any further manufacturing or sale to be proper nevertheless.[493]

MAKING, USING AND VENDING NOT ALL NECESSARY. The monopoly given by the patent is the right to exclude others not only from making things covered by the patent but also from using or vending such things. One is guilty of infringe-

Wernicke Co. v. Fred Macey Co., 119 Fed. 696; Cimiotti Unhairing Co. v. Bowsky, 143 Fed. 508; It has been held to affect the patentee's right to an injunction, as distinct from mere damages, Sheridan-Clayton Paper Co. v. U. S. Envelope Co., 232 Fed. 153.

[490] R. S. § 4900.

[491] On the subject see Sessions v. Romadka, 145 U. S. 29; Coupe v. Royer, 155 U. S. 565, 583.

[492] It has been declared that a single unauthorized sale of the patented article will justify an injunction when the circumstances are such as to indicate a readiness to make other sales. Hutter v. De Q. Bottle Stopper Co., 128 Fed. 283; Johnson v. Foos Mfg. Co., 141 Fed. 73.

[493] Thompson v. Bushnell, 96 Fed. 238.

ment who does any one of these prohibited acts; it is unnecessary that he shall have done them all.[494]

A more difficult proposition is presented in regard to the use or sale of the product of a patented device. Is one who neither makes, uses, or sells the device covered by the patent guilty of infringement, if he does use or sell something *made by* the device, without authority from the patentee? Of course if he himself makes something with the device, he is guilty of using the device. But if he merely buys, directly or indirectly, something that another made unauthorizedly with the patented device, and uses it without himself having anything to do with the patented device does that constitute infringement?

There seems to be no direct decision upon this point. Unless this product of the device can be considered a part of the patented invention, the person using it but not himself using the device, is not logically guilty of making, using, or vending the invention covered by the patent. At most he would be a contributory infringer. The Supreme Court in referring to the question "whether, when a machine is designed to manufacture, distribute or serve out to users a certain article, the article so dealt with can be said to be a part of the combination of which the machine itself is another part," said, "If this be so then it would seem to follow that the log which is sawn in the mill; the wheat which is ground by the rollers; the pin which is produced by the patented machine; the paper which is folded and delivered by the printing press, may be claimed as an element of a combination of which the mechanism doing the work is another element."[495] The question itself the court does not specifically answer, on the ground that it is not perti-

[494] The manufacturing in this country of articles covered by the patent is an infringement of the monopoly granted thereby even though the articles are intended for use outside of this country only, Dorsey Revolving Harvester Rake Co. v. Bradley Mfg. Co., 12 Blatch. 202; Fed. Cas. No. 4015; Adriance Platt & Co. v. McCormick Harvesting Mach. Co., 55 Fed. 288; Bullock Elec. & Mfg. Co. v. Westinghouse Elec. & Mfg. Co., 129 Fed. 105.

[495] Morgan Envelope Co. v. Albany Paper Co., 152 U. S. 425, 431.

nent to the case, but the implication is that the article produced is not protected by a patent for its means of production.[496]

The author is not aware of any case in which it has been held that one who buys articles not themselves covered by a patent is guilty of contributory infringement merely because the articles were made by a machine or process whose use was itself an infringement.

REPAIRS. When a patented device has been sold by the patentee, or its use and enjoyment has been licensed, the purchaser or user acquires with the device the implied right to repair it. Such repair, unless expressly restricted by agreement, does not constitute infringement. As a matter of law, the proposition is settled. The practical application of the rule is troublesome, however, and the statements in regard to it are confused. The difficulty lies in the impossibility of distinguishing definitely, and definitively, between "repair" and "replacement." While the vendee is entitled to repair the machine, or other device, which he has bought, he has no right to make a new one under the guise of repairing the old one. It is obvious that the line between repair and remaking is impossible of theoretical allocation in advance of the various instances that may arise. Its determination must of necessity

[496] So declared in a reference to this case in the later case of Heaton-Peninsular Button Fastener Co. v. Eureka Specialty Co., 77 Fed. 288, 35 L. R. A. 728, 735. In Merrill v. Yeomans, 94 U. S. 568, it was held that a patent for a process for making certain heavy oils was not infringed by one who did not manufacture but did vend such oils which he had bought from an unauthorized maker. The case is not so close in point as would appear from the holding, because the court specifically found that the oil sold by the defendants was manufactured by a totally different process from that of the patent. The case might well have been decided on the simple ground that the oil sold by defendants was not the same oil as that of the patent, having been made by a different process. A somewhat distant analogy to the questions here suggested is found in the cases holding that the selling to a licensee of goods which *might* be put to infringing use is not of itself contributory infringement. See authorities cited under that subject; Cf. Sheridan Clayton Paper Co. v. U. S. Envelope Co., 232 Fed. 153.

follow the fact, not precede it, and be dependent upon the circumstances. Like so many other issues of the patent law, it is fundamentally a matter of judicial opinion in the particular case. It is capable of very little guidance from precedent instances, although an inductive and comparative study of many cases in which the issue has been passed upon may serve to reduce somewhat the width of debatable ground, as is true of other matters of judicial opinion.[497] The whole matter can not be better discussed than by quoting at length from the opinion in the case of Goodyear Shoe Machinery Co. v. Jackson.[497a] The defendants in this case were engaged in a small way in the business of general machinery repair work. Several persons who had purchased from the plaintiff shoe machines made under the patent, sent their machines to defendants to be repaired. In this work, the defendants replaced a number of parts by making new ones. The plaintiff contended that this constituted an infringement of his patent. The court was of opinion that, under the particular circumstances—which need not be set out here—there was no infringement. In the course of the opinion it said, "Infringement by the purchaser of a patented machine consists in the substantial rebuilding of such machine. A contributory infringer necessarily only makes or sells a part of the patented invention. The purchaser of a patented machine, in order to infringe, must make or reproduce, in substance, the whole patented invention. To prove infringement, in one case, it is only necessary to show a partial infringement in aid of an unlawful complete infringement, while in the other case a substantially full and complete infringment must be established. The rule that a person may be guilty of contributory infringement by making or selling a material element of the patented combination has no application to infringement by the purchaser of a machine embodying such patented combination. A purchaser stands in no differ-

[497] The cases in point are not cited here for the reason that, the problem being analyzed and understood, they can be found under appropriate headings in a digest much more satisfactorily and fully than it would be possible to give them here.

[497a] 112 Fed. 146.

ent position from an ordinary infringer, except in the circumstance that he has bought a patented machine, and, consequently, his infringement does not consist in the construction of a wholly new machine, but in the reconstruction of such machine after it is worn out or substantially destroyed. The essence of the infringement is the same in both cases.

"The ordinary infringer makes the entire patented machine; the infringing purchaser begins with what remains of the patented machine, and rebuilds it. To show infringement in the case of an ordinary infringer, where the patented invention comprises several elements in combination, it is necessary to prove that the alleged infringing machine contains all the elements (or their equivalents) which make up the combination, although some of the elements may not be material, or of the essence of the invention. To show infringement by the purchaser in such a case, the same strictness of proof is not required, for the reason that it may not be necessary for him to make the immaterial or unessential elements of the patented combination, because they may not be worn out or destroyed in his machine when the work of reconstruction begins. A practical reconstruction of the patented machine, and not necessarily a literal reconstruction of the patented combination, is all that is required to constitute infringement by the purchaser. For example, where the patent is for an improved lamp, and the whole invention resides in the burner, but the claim is for the combination of the burner and a chimney, in an ordinary suit for infringement it must be shown that the defendant made or used or sold the patented combination, namely, the burner and chimney; while in a suit for infringement against a purchaser of the lamp it would only be necessary to prove that he replaced the old burner with a new one, because, manifestly, that would constitute a substantial reconstruction of the patented invention. If a person other than the purchaser should make or sell the burner with the intent and purpose of its use by another in combination with the chimney, it would be a clear case of contributory infringement.

"In approaching the question of infringement by the purchaser of a patented machine, it is important to bear in mind what the patentee sold and the purchaser bought. The patentee has parted with his machine and the monopoly that goes with it, and the purchaser has bought the machine with the right to use the patented invention until the machine is worn out or destroyed. When the machine is worn out, or substantially destroyed, his right to use the patented invention ceases; and when he rebuilds his machine, and thereby makes substantially a new machine, it becomes subject to the patentee's monopoly, the same as in the case of any other person who unlawfully makes the patented machine. When the patented machine has passed outside the monopoly by a sale and purchase, the patentee has no right to impose any restrictions on its use for his own benefit. He cannot forbid the further use of the machine because it is out of repair in consequence of the wearing out or breaking of some of its parts, and so oblige the purchaser to buy a new machine. The purchased machine has become the individual property of the purchaser and is like any other piece of property which he owns. He may sell it, or he may use it so long as its usefulness lasts, and then throw it away, or dispose of it for junk. He may prolong its life and usefulness by repairs more or less extensive, so long as its original identity is not lost. He is only prohibited from constructing a substantially new machine. He cannot, under the pretext of repairs, build another machine.

"A purchaser, then, may repair, but not reconstruct or reproduce, the patented device or machine. Repair is 'restoration to a second, good, or complete state after decay, injury, dilapidation, or partial destruction.' Reconstruction is 'the act of constructing again.' Reproduction is 'repetition,' or 'the act of reproducing.' These definitions are instructive in bringing home to the mind that repair carries with it the idea of restoration after decay, injury, or partial destruction, and that reconstruction or reproduction carries with it the idea of a complete construction or production over again.

"But the difficult question still remains, what is legitimate repair, and what is reconstruction or reproduction as applied to a particular patented device or machine? When does repair destroy the identity of such device or machine and encroach upon invention? At what point does the legitimate repair of such device or machine end, and illegitimate reconstruction begin?

"It is impracticable, as well as unwise, to attempt to lay down any rule on this subject, owing to the number and infinite variety of patented inventions. Each case, as it arises, must be decided in the light of all the facts and circumstances presented, and with an intelligent comprehension of the scope, nature, and purpose of the patented invention, and the fair and reasonable intention of the parties. Having clearly in mind the specification and claims of the patent, together with the condition of decay or destruction of the patented device or machine, the question whether its restoration to a sound state was legitimate repair, or a substantial reconstruction or reproduction of the patented invention, should be determined less by definitions or technical rules than by the exercise of sound common sense and an intelligent judgment.

"When the patent is for a single thing, like a knitting needle, for example, and not for a device or machine composed of several things or elements combined, it is obvious that the replacement of an old needle by a new one in a knitting machine is not repair, but a reproduction of the patented thing.

"When the patent is for a device embracing the combination of several elements, a purchaser will infringe by reconstructing the device after it has fulfilled its purpose and is substantially destroyed. Where, for instance, the patent was for a cotton-bale tie, consisting of a band and buckle, and 'licensed to use once only,' it is manifest that the severance of the band at the cotton mill was intended to operate as a destruction of the tie, and that to roll and straighten the pieces of the band and rivet the ends together, at the same time using the old buckle, was a reconstruction of the tie, and not repair.

"Again, where the subject of the patent was an electric lamp, and the invention resided in the discovery that an attenuated carbon filament, if operated in a high vacuum, would withstand disintegration, and the claim was for the combination of carbon filaments with a receiver made entirely of glass, and conductors passing through the glass, from which receiver the air is exhausted, it is plain that; when the filament is destroyed, and the vacuum is destroyed by making a hole in the receiver, and nothing remains but a perforated glass bulb and the conductors, the lamp is practically destroyed, and that to replace the old filament with a new one, and again exhaust the air in the receiver, and again seal it, is substantially the making of a new lamp.

"Where the patent is for a machine, which commonly embraces the combination of many constituent elements, the question of infringement by the purchaser will turn upon whether the machine is only partially worn out or partially destroyed, or is entirely worn out, and so beyond repair in a practical sense. In the case of a patent for a planing machine composed of many parts it was held that the replacement of the rotary knives, 'the effective ultimate tool' of the machine, was repair, and not reconstruction."[498]

If the construction is such as the owner of the machine has himself a right to perform by way of repair, it is not infringement for some one else to do the work for him.[499]

§ 5. Contributory Infringement

It is a settled principle of the Common Law that one who wrongfully induces another to break a contract with a third person, or who induces another to commit a tort against a third person, is himself guilty of a tort and liable to a suit for damages. We have already seen that a patentee may license another to invade his monopoly, and utilize his invention, with a limitation upon the extent or character of the licensee's en-

[498] Morrin v. Robert White Engineering Co., 143 Fed. 519. Burguieres Co. v. Deming Co., 224 Fed. 926. Many cases are cited in the opinion. See especially, Wilson v. Simpson, 9 How. 109.

[499] Morrin v. Robt. White Engr. Co., 143 Fed. 519.

joyment. The limitation may take the form simply of a limited license, or it may be considered as a contract by the licensee not to do certain things, or it may have both forms. If the licensee exceeds the permission in his license and does what he has agreed not to do, he is not only guilty of infringing the patentee's monopoly, but he is also guilty of breach of contract.[500]

One who induces the commission of such an infringement or the breach of such a contract, or aids therein, is himself liable in damages to the patentee, under the Common Law.[501] This tortious conduct, whether it be by way of inducement to infringe, or to break a contract limiting the extent of use, is comprehensively called "contributory infringement." No distinction is made, in terms, of the particular alternative forms which it takes. It is not material, except as to jurisdiction in certain cases, whether the act of the principal wrong doer be looked upon as a true infringement or merely a breach of the contract.

One can not be held liable as a contributory infringer unless the acts which he induced were in themselves wrongful. Therefore exactly the same questions, and all of them, may arise in suits against contributory infringers as may come up in any action for infringement or breach of contract of license. The validity of the patent, the reality of the alleged infringement, the validity of the contract, the fact of its breach, and the legality of the condition in general, are all as pertinent is-

[500] For a discussion of this matter see, *ante*.

[501] "An infringement of a patent is a tort analogous to trespass or trespass on the case. From the earliest times, all who take part in a trespass, either by actual participation therein or by aiding and abetting it have been held to be jointly and severally liable for the injury inflicted." Thomson-Houston Elec. Co. v. Ohio Brass Co., 80 Fed. 712, 721. The opinion explains the case of Morgan Envelope Co. v. Albany Perf. Wrapping Paper Co., 152 U. S. 425. Dr. Miles Medical Co. v. John D. Park & Sons Co., 220 U. S. 373, syl. 1. "An actionable wrong is committed by one who maliciously interferes with a contract between two parties and induces one of them to break the contract to the injury of the other, and in the absence of an adequate remedy at law equitable relief will be granted." (Dictum.)

sues in suits against a contributory infringer as they are in suits against a principle wrong doer. The fact that the defendant is merely contributory to the wrong does not affect the issues respecting the wrong itself, and as they have already been discussed they need not be reconsidered in this connection.

But when suit is against one who is merely a contributory infringer, there is the additional issue as to whether he, as a contributor only, is liable for the wrongful acts which the party has committed. This depends upon the established Common Law doctrines of contributory wrong doing and not on any rules appertaining particularly to patent law.

INTENT NECESSARY. The existence of a wrongful intent is necessary to constitute liability for contributory infringement, and its immateriality in cases of principal infringement must not be confused with this. A possible source of confusion is in the fact that circumstances might arise in which one could be treated as either a principal infringer or a contributory one. Suppose, for instance, one should so work upon the machine of another, under the pretense of "repairing" it, that his work would be held actually a "replacement." If in such case the owner of the machine had been under contract with the patentee not even to repair it, he would be guilty of breach of contract and the one who had done the work might be guilty of contributing to the breach if it were shown that he intentionally induced it. But certainly, if the machine had been properly marked "patented," his making of a new one, although done at the request of the licensee would be, in itself, an infringement of the patent regardless of his intent. The difference in intent requisite to liability in the two grounds of action must be kept clear. It is only when the cause of action is not the infringement or breach itself, but the *inducing* of the infringement or breach, that the intent is material.

The intent need not have been expressed by the defendant, for the real mental intent of a man is not demonstrable. It will be inferred by the court from the circumstances under which the acts complained of took place. "One is legally pre-

sumed to intend the natural consequences of his act."[502] It is therefore the acts themselves and not any verbal expression of intent to which the courts will look. In the case just quoted from the court formed its opinion, that the defendant intended to assist in an infringement, from the fact that the articles he sold could be used only in such a way as would constitute an infringement and that, as persons do not ordinarily buy articles except for normal use, he must have known they would be used in an infringing way and have intended it.[503]

But the intent necessary to constitute contributory infringement will not be deduced merely from the fact that the defendant has sold to an infringer articles which can be used for infringement, when such articles are not in themselves covered by the patent and have a recognized use quite unconnected with any infringement. Some further knowledge on the part of the defendant of the purpose to which they are to be put by the purchaser must be shown before a wrongful intent will in such case be inferred.[504]

[502] Thomson-Houston Co. v. Ohio Brass Co., 80 Fed. 712, 721.

[503] Acc. Canda v. Mich. Malleable Iron Co., 124 Fed. 486.

[504] Rumford Chemical Works v. Hygienic Chem. Co., 148 Fed. 862; quoting, Edison Elec. Lt. Co. v. Peninsular Lt. Co., 95 Fed. 673; App'd Leeds & Catlin Co. v. Victor Talking Mach. Co., 154 Fed. 58; Cortelyou v. Johnson, 207 U. S. 196; Edison Elec. Lt. Co., v. Peninsular Lt. Co., 101 Fed. 831; Sheridan-Clayton Paper Co. v. U. S. Envelope Co., 232 Fed. 153. The purchasing of the various elements that go to make up a patented combination was said as dictum not in itself to be an infringement in Seim v. Hurd, 232 U. S. 420.

"What contributory infringement is, and why it should be enjoined, was clearly shown in Wallace v. Holmes, 9 Blatch. 65, Fed. Cas. No. 17,100,—the earliest case in this country upon the subject, and upon which the subsequent cases of contributory infringement rest. The complainant's patent in that case was for an improved lamp, which consisted of an improved burner, or metallic portion, and a glass chimney. The defendant made and sold the improved burner, which must be used with a chimney, and, in order to make sales, exhibited the burners with chimneys to customers; and the circuit judge thought that a concert with others to use the patented article, as a whole, was a certain inference from the obvious facts in the case, and the efforts of the defendant to solicit sales by showing the operation of the whole patented article. The willingness of the defendant in this case to aid other persons in any attempts which

It does not appear to be necessary for the alleged contributor to have actual knowledge that the action or device to which he is contributing is covered by a patent. The fact that devices made under the patent are duly marked "patented" probably serves as constructive notice to a contributory infringer as completely as to a direct infringer..

MAKING, USING, ETC. NOT NECESSARY. Since the cause of action against a contributory infringer is his wrong in inducing another to infringe or to break a contract, it follows that the contributor need not himself have done anything at all by way of making, using or vending the device covered by the patent. One who should induce another to infringe by mere verbal incitement and moral encouragement would undoubtedly be as fully liable to suit as though he had actively assisted by mechanical means. There is no lack of cases in which the defendant has been held liable without having himself directly infringed in any way. An example—notable because of the amount of popular discussion it evoked—is the case of Henry v. Dick Co.[505] The complainant's patent covered a mimeographing device. One of the machines had been sold to Skou with the express limitation that it might be used only with ink made by the complainant. The ink itself was not patented. Defendant Henry sold ink to Skou with the undeniable intent that it should be used on the machine, in breach of the limitation. The defendant had perfect right to make, use and vend his ink, unrestricted by any patent monopoly on it. Its use by Skou, however, in contravention of his agreement with the

they may be disposed to make towards infringement is also apparent. Its trolley stands are designed to be used in the patented system, and to be the means of enabling the trailing pole to perform its distinctive and novel part in the combination. It sufficiently appears from the defendant's advertisements and affidavits that it was ready to sell to any and all purchasers, irrespective of their character as infringers. A proposed concert of action with infringers, if they presented themselves, is fairly to be inferred from the obvious facts of the case; and an injunction order is the proper remedy against wrongful acts which are proposed, or are justly to be anticipated." Thomson-Houston Elec. Co. v. Kelsey Elec. Ry. Spec. Co., 75 Fed. 1005, 1007.

[505] 224 U. S. 1.

Dick Co., was held by the court to be an infringement of that company's patent. and the defendant was held liable as a contributor to such infringement on the ground that he had inducted it.[506]

A somewhat different type of contributory infringement was the cause of action in Trent v. Risdon Iron & Locomotive Works.[507] An ore crushing mill had been erected which was held to be an infringement of complainant's patent. The defendant denied any liability for this infringement on the ground that he was neither owner nor instigator of it, that his sole connection with it was as architect and building contractor for hire. It developed on trial, however, that he had himself furnished the plans and specifications for the crusher. He was held liable as a contributing infringer. Many other cases may be found in which a defendant has been held guilty of contributory infringement although he did not himself actually make, use or vend the patented invention.

In summary of the whole matter of a patentee's rights under his patent, it may be said that the courts have protected him, not narrowly nor half-heartedly, but to the fullest extent possible under the statute.

§ 6. Practical Value of Void Patents

Even when an idea is of such character that the courts would in all probability refuse to hold it an invention, there is, never-

[506] The furnishing by defendant of unpatented fasteners for use on a patented button fastening machine, whose use had been permitted by patentee on condition that it be operated only with fasteners purchased from him, was held to be contributory infringement, in Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co., 77 Fed. 288, 35 L. R. A. 728. Thomson-Houston Elec. Co. v. Ohio Brass Co., 80 Fed. 712, furnishing one part of a combination held contributory infringement. "They have infringed the process of Johnson because they supplied the apparatus adopted to employ Johnson's process with the intent that the plant should be or would be operated as that put in for the Genessee Fibre Co. It was therefore guilty of contributing to the infringement of the first claim of the Johnson patent," *Johnson v. Foos Mfg. Co.*, 141 Fed. 73, 88; Leeds & Catlin Co. v. Victor Talking Machine Co., 154 Fed. 58.

[507] 102 Fed. 635.

theless, an undoubtedly very practical advantage in having it patented. As has been said, the Patent Office is not in position to examine the prior art except to the extent that it is covered by patents, and even to that extent the policy seems to have been to allow new patents wherever superficial difference appears. The Patent Office does not assume the difficult task of determining when apparent change is merely mechanical. A patent, therefore, of absolutely no legal value whatever, is not particularly difficult to secure, and gives the right to mark articles "patented." The ethics of doing this, unless the patentee really believes his idea of means to be an invention, the author does not discuss, but it is seldom that the most conscientious of would be inventors fails so to believe. The advantage of the "patented" mark is obvious when one contemplates the number of manufacturers who are paying small royalties "rather than stand the trouble and cost of even a successfully defended suit," and of others who refrain from manufacturing certain small articles, for the same reason.[508]

[508] The enormous total of royalties paid by the American League of Automobile Manufacturers to the owners of the "Seldon Patent," before it was declared ineffective in Col. Motor Car Co. v. Duerr, 184 Fed. 893, is an example. It is common rumor that the owners of the transmission patents on which the present association of automobile manufacturers is founded fear to sue the Ford Co. for infringement lest the patent be avoided. Yet the others are paying royalties rather than assume the expense of a fight.

Because our system of legal remedies does not provide for a "declaratory judgment" the owner of patent has not only protection if his patent be valid, but he has also an obnoxious means of annoying legitimate business even if his patent be probably void. The only way other persons, who desire to use his alleged invention, can find out whether his patent is valid or not, is to expend enough money in infringing to force him to bring suit. If his suit is sustained the infringer's loss in invested capital, to say nothing of damages awarded the patentee, may be tremendous. Thus the financial risk involved in ascertaining whether a dubious patent is really good, may make practically effective many an unjust monopoly. For a discussion of the desirability of some method of securing a declaratory judgment, see the article by E. R. Sunderland, in 16 Michigan Law Rev. 69.

CHAPTER X

Designs

The statute provides,[509] "Any person who has invented any new, original, and ornamental design for an article of manufacture, not known or used by others in this country before his invention thereof, and not patented or described in any printed publication in this or any foreign country before his invention thereof, or more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law and other due proceedings had, the same as in cases of invention or discoveries covered by section forty-eight hundred and eighty-six, obtain a patent therefor. The Commissioner may dispense with models of designs when the design can be sufficiently represented by drawings or photographs. Patents for designs may be granted for the term of three years and six months, or for seven years, or for fourteen years, as the applicant may, in his application, elect. All the regulations and provisions which apply to obtaining or protecting patents for inventions or discoveries not inconsistent with the provisions of this title shall apply to patents for designs." "Hereafter, during the term of letters patents for a design, it shall be unlawful for any person other than the owner of said letters patent, without the license of such owner, to apply the design secured by such letters patent, or any colorable imitation thereof, to any article of manufacture for the purpose of sale, or to sell or expose for sale any article of manufacture to which such design or colorable imitation shall, without the license of the owner, have been applied, knowing that the same has been so applied. Any person violating the provisions, or either of them, of this section, shall be liable in

[509] R. S. § 4829-31-33, and "Act of Feb. 4, 1887."

the amount of two hundred and fifty dollars; and in case the total profit made by him from the manufacture or sale, as aforesaid, of the article or articles to which the design, or colorable imitation thereof, has been applied, exceeds the sum of two hundred and fifty dollars, he shall be further liable for the excess of such profit over and above the sum of two hundred and fifty dollars; and the full amount of such liability may be recovered by the owner of the letters patent, to his own use, in any circuit court of the United States having jurisdiction of the parties, either by action at law or upon a bill in equity for an injunction to restrain such infringement."

As the section providing for a patent is in the same phraseology precisely as the section[510] providing for patents for the invention of an art, machine, etc., it is evident that the same inquiries and issues must arise in regard to design patents as come before the courts in other patent cases. It follows equally that the decisions should be arrived at upon the same principles and by the influence of the same factors.

DISTINCTION BETWEEN DESIGNS AND MANUFACTURES. The greatest difficulty in discussion involving designs, so far as the law and not mere fact is concerned, is to distinguish between a design and a manufacture or composition of matter. A design is broadly definable in its patent law use, as well as in common parlance, as the delineation or configuration of matter. It depends for its effect, for its distinction from anything else, upon arrangement of matter. Every design is necessarily constituted by the contour of substance or the relation of various substances, the relation of ink and paper for instance. A design, to be patentable, is undeniably artificial. In a certain sense, and wholly proper use of the terms, a design is therefore both a manufacture and a composition of matter. In common parlance, the name of design is probably restricted to the idea of outline as projected upon a plane surface; the silhouette contour or arrangement, of matter. Even the "design of a church" and similar phrases convey the meaning not of three dimentional substance, but of planes, of flat outlines, which

[510] R. S. § 4886.

may however be so arranged dihedrally that the whole forms a three dimentional body. It is difficult for the average mind to think of "design" in any other way. The patent law, however, extends the scope of the section allowing design patents to solid as well as to plane contour.[511]

One of the comparatively few elements by which one manufacture can be distinguished from another is its physical outline, its contour. One collar button, for instance, may be of the same material as another and its static purpose the common one of holding a collar to the collar band, but its essential idea of means for accomplishing that purpose may be so different from that of known collar buttons as to amount in itself to an invention. Yet its only perceptible difference from other collar buttons may be its physical contour. More fundamentally, its essential difference is in its idea of means and in the method of manufacturing which gave its peculiar shape. Both of these elements are considered in determining identity, but the only direct impression of difference comes from its sensible contour. As the effectuation of its peculiar purpose is also the result of its peculiar configuration, it might be said that the configuration of the collar button was the invention, the essential idea of means. Is this invention then, this configuration, which constitutes an idea of means and which, in its tangible embodiment, is a new manufacture, to be patented as a "design," or as a "manufacture" embodying a new idea of means. If it be assumed that the design is "ornamental,"

[511] Prior to 1902 the statute itself read, "Any person who has invented any new, original, and ornamental design for an article of manufacture, not known or used by others in this country before his invention thereof, and not patented or described in any printed publication in this or any foreign country before his invention thereof, or more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law and other due proceedings had, the same as in cases of invention or discoveries covered by section forty-eight hundred and eighty-six, obtain a patent therefor." The earlier statutes expressly included with designs, "any new and original shape or configuration of any article of manufacture." The present statute speaks of "models of designs."

as required by the statute, it might be patented under either section, in the choice of the patentee.[512]

This duplex character of the invention, as a design and a manufacture, at once gives rise to the possibility of such questions as the following; Automobile "all-year round" tops have been known and used for some years; if one should by mere mechanical skill evolve certain advantages of shape, the improved top would not be patentable as a manufacture because lacking in invention. This new shape would, however, be in ordinary sense a design. Could the mechanic secure a *design* patent, and thereby preclude others from making or using tops of that *design?* If he could, his monopoly would be as effective as though he had secured the patent for a manufacture from which lack of invention precluded him. Again, if one has a design patent for a peculiar shape and contour of a knob or stud for hanging pictures on walls, can he preclude others from making, using and selling collar-buttons which happen to be of that exact contour? An affirmative decision on either question would be wholly incongruous with the spirit of the patent law.

The answer to the first type of issue depends upon whether a design patent ought to be granted under such circumstances. If granted, it would seem to preclude the use suggested. In the second type of case the answer depends on the scope of protection that a design patent gives.

The first inquiry, then, is for what designs a design patent may be issued. It is impossible to make any exact distinction between those manufactures and compositions of matter which may be patented as designs only under § 4929 and those which may be patented as nominally manufactures or compositions of matter under § 4886. Broadly it may be said that those

[512] *Clark v. Bousefield*, 10 Wall. (77 U. S.) 133; Williams Calk Co. v. Neverslip Mfg. Co., 136 Fed. 210; Bradley v. Eccles, 126 Fed. 945; It should be noted, however, that "ornamental" is synonymous, with "visible" and nothing, practically speaking, has been refused patentability under § 4929, except when, as in the last case cited, where the design was for a packing for a joint, it is by the nature of its purpose invisible. Dominick & Haff v. Wallace & Sons Co., 209 Fed. 223.

whose sole purpose is to please the eye must be patented as design. This lack of purpose other than pleasure to the eye, is often loosely and confusingly spoken of as "lack of utility."[513]

As it is impossible to dissociate visual impression from the composition and configuration of matter out of which it arises, it is impossible to separate a design from the matter which gives it concrete existence. It is therefore the peculiar composition or configuration of matter that is really patented, whether the thing covered by the patent be looked upon as a concrete idea of means or the physical embodiment of a concrete idea.[514] So, even those creations which, because of their purpose may be patented as designs, are of the same character as those whose less esthetic purpose requires them to be patented under section 4886. It is impossible in the case of a manufacture or composition of matter to say that it must be patented under either section.

[513] The lack of distinction to be drawn from the use of "ornamental" is referred to above. The interrelation of patentability is also shown by the fact that a design patent will serve to anticipate a mechanical patent —Williams Calk Co. v. Neverslip Mfg. Co., 136 Fed. 210—and a mechanical patent will serve to anticipate a design patent—Roberts v. Bennett, 136 Fed. 193.

[514] N. Y. Belting Co. v. N. J. Rubber Co., 137 U. S. 445, "There is one feature of this patent which presents an interesting if not a novel aspect. We are in the habit of regarding a design as a thing of distinct and fixed individuality of appearance—a representation, a picture, a delineation, a device. A design of such a character, of course, addresses itself to the senses and the taste, and produces pleasure or admiration in its contemplation. But, in the patent before us, the alleged invention is claimed to be something more than such a design. It is claimed to have an active power of producing a physical effect upon the rays of light, so as to produce different shades and colors according to the direction in which the various corrugated lines are viewed—a sort of kaleidoscope effect. It is possible that such a peculiar effect, produced by such a particular design, impressed upon the substance of india-rubber, may constitute a quality of excellence which will give to the design a specific character and value and distinguish it from other similar designs that have not such an effect. As this is a question which it is not necessary now to decide, we express no opinion upon it." Pelouze Scale & Mfg. Co. v. Am. Cutlery Co., 102 Fed. 916; Hammond v. Stockton, etc. Works, 70 Fed. 716.

This identity of character is hardly demonstrable by reference to cases, but it is clearly the implication throughout them. Assuming it to be the fact, it follows that the same principles and influencing factions *ought* to be followed in decisions upon design patents as upon others. The cases state that the same ones *are* followed. "The law applicable to design patents does not materially differ from that in cases of mechanical patents, and all the regulations and provisions which apply to the obtaining or protection of patents for inventions or discoveries shall apply to patents for designs."[515]

INVENTIVE QUALITY REQUIRED. It follows, therefore, that, like all other patentable creations, a design to be patentable must be the product of inventive genius. Mere skillful adaptation, readjustment, or development of known designs is not of itself sufficient to warrant a patent, there must be present in the new production the same psychological factor of invention that is requisite for other patents.[516] It sequentially follows that the same factors are active in determining the psychological fact, that is to say, in inducing the opinion as to the presence or absence of invention.[517]

[515] Mr. Ch. Justice Fuller in Smith v. Whitman Saddle Co., 148 U. S. 674, 679, quoting from Northrup v. Adams, 12 O. G. 430, 2 Bann & Ard. 567.

[516] Smith v. Whitman Saddle Co., 148 U. S. 674; Foster v. Crossin, 44 Fed. 62; Ripley v. Elsom Glass Co., 49 Fed. 927; N. Y. Belting, etc. Co. v. N. J. Car Spring Co., 53 Fed. 810; Soehner v. Favorite Stove Co., 84 Fed. 182; Westinghouse Elec. & Mfg. Co. v. Triumph Electric Co., 97 Fed. 99, "utility" not necessary; Cary Mfg. Co. v. Neal, 98 Fed. 617; Am. Elec. Novelty Co., v. Newgold, 113 Fed. 877; Mygatt v. Schauffer-Flaum Co., 91 Fed. 836; Chas. Boldt Co. v. Turner Bros. Co., 199 Fed. 139; Bergner v. Kaufman, 52 Fed. 818, aggregation held not to be invention; Post v. Richards Hardware Co., 26 Fed. 618, mere substitution of materials held not invention; Dominick & Haff v. Wallace & Sons Co., 209 Fed. 223.

[517] In Smith v. Whitman Saddle Co., *supra*, it was expressly declared that "where a new or original shape or configuration of an article of manufacture is claimed, its utility may be also an element for consideration." The statute under which this case was determined provided for the patenting not only of "new and original designs" but also of "New, useful and original shapes." Lehnbeuter v. Holthaus, 105 U. S. 94, holding also that the design patent is, like other patents, "*prima facie* evidence of both

To revert to the possible questions suggested, it would appear that whether the design for an automobile top could be patented or not would depend on whether it was the product of inventive genius or merely the result of mechanical skill. The issue would be precisely the same as if the patent had been sought under § 4886 instead of the section allowing patents for designs. If it did not involve invention to produce the new shape it could not be patented. · If it had been patented, its use by another for purposes other than pleasure to the eye would be merely the usual question of infringement. Such would be the issue, also, in the suggested case of a collar-button made in the configuration of a picture-knob whose design had been patented. The patentee of the design would be entitled to all analogous uses for which matter revealing his design might be used, just as a patentee under § 4886 is entitled to all analogous uses to which the matter embodying his idea of means may be put. But in any case, one is not precluded, by another's patent for one idea of means, from using the precise substantial embodiment of that idea for an unanalogous purpose. It is the concept, as we have said before, that is patented, not the particular form of matter. So the fact that matter of a certain design is used for a purpose not ascriptable to the design itself might take the use out from the preclusion of the design patent. The actual decision in any particular case depends upon the opinion of the particular court, but the law itself is definite enough, if the distinction between the concept and the matter upon which it is impressed be kept in mind. The question of whether a design patent has been infringed is also the same as the question of infringement in other cases.

OBJECTIVE DESIGNS. As a design patent covers, theoretically, an idea of means for pleasing the eye, and those out of

novelty and utility." In accord on point that patent is *prima facie* evidence of novelty is Ripley v. Elson Glass Co., 49 Fed. 927. Scofield v. Browne, 158 Fed. 305, reception of the improvement by the public may aid in determining its inventive quality; Chas. Boldt Co. v. Turner Bros. Co., 199 Fed. 139, public reception may be considered in determining presence of invention.

which litigation most frequently arises are actually of this sort, all factors determinative of the presence of invention or the fact of infringement are usually omitted from consideration except that of the effect on the eye. Other factors may be considered, but the cases in which they do not appear and could not have a part are so frequent that they are usually ignored in judicial expression. In very many cases, therefore, the inventive quality of a design seems to have depended, and probably did depend, solely upon its visible similarity to those already known, or its difference from them. So also the infringement of a later design seems to have been decided wholly by the distinction between them which could be perceived through the eyes.

In regard to this identity of visible characteristics the rule is probably that laid down in Gorham Co. v. White;[518] "the thing invented or produced, for which a (design) patent is given, is that which gives a peculiar or distinctive appearance to the manufacture, or article to which it may be applied, or to which it gives form. . . . It is the appearance itself, therefore, no matter by what agency caused, that constitutes mainly, if not entirely, the contribution to the public which the law deems worthy of recompense."[519] It must be remembered that the court is here expressing itself in regard to a design whose sole purpose was its effect upon the eye. It was definitely stated by the later case of Smith v. Whitman Saddle Co.,[520] in direct reference to the statement of rule just quoted, that appearance is not the only criterion, but that such elements as the more material usefulness of a design, or its effect upon other senses, than sight, may be considered if they enter into its character. But to the extent that visible character is the test of invention or infringement, the court held that it is the appearance to the eye of "an ordinary observer." It said, "The court below was of the opinion that the test of a patent for a design is not the eye of an ordinary observer. The

[518] 14 Wall. 511.

[519] Accd. Dobson v. Dorman, 118 U. S. 10; Braddock Glass Co. v. Macbeth, 64 Fed. 118.

[520] 148 U. S. 674.

learned judge thought there could be no infringement unless there was substantial identity 'in view of the observation of a person versed in designs in the particular trade in question—of a person engaged in the manufacture or sale of articles containing such designs—of a person accustomed to compare such designs one with another, and who sees and examines the articles containing them side by side.' There must, he thought, be a comparison of the features which make up the two designs. With this we cannot concur. Such a test would destroy all the protection which the act of Congress intended to give. There never could be piracy of a patented design, for human ingenuity has never yet produced a design, in all its details, exactly like another, so like, that an expert could not distinguish them. No counterfeit bank note is so identical in appearance with the true that an experienced artist cannot discern a difference. It is said an engraver distinguishes impressions made by the same plate. Experts, therefore, are not the persons to be deceived. Much less than that which would be substantial identity in their eyes would be undistinguishable in the eyes of men generally, of observers of ordinary acuteness, bringing to the examination of the article upon which the design has been placed that degree of observation which men of ordinary intelligence give. It is persons of the latter class who are the principal purchasers of the articles to which designs have given novel appearances, and if they are misled, and induced to purchase what is not the article they supposed it to be, if, for example, they are led to purchase forks or spoons, deceived by an apparent resemblance into the belief that they bear the 'cottage' design, and, therefore, are the production of the holders of the Gorham, Thurber, and Dexter patent, when in fact they are not, the patentees are injured, and that advantage of a market which the patent was granted to secure is destroyed. The purpose of the law must be effected if possible; but, plainly, it cannot be if, while the general appearance of the design is preserved, minor differences of detail in the manner in which the appearance is produced, observable by experts, but not noticed by ordinary ob-

servers, by those who buy and use, are sufficient to relieve an imitating design from condemnation as an infringement. We hold, therefore, that if, in the eye of an ordinary observer, giving such attention as a purchaser usually gives, two designs are substantially the same, if the resemblance is such as to deceive such an observer, inducing him to purchase one supposing it to be the other, the first one patented is infringed by the other."[521]

As the principles which apply to design patents are identical with those which have already been discussed throughout the book nothing further need be said of them in this connection.

[521] Accord. Jennings v. Kibbie, 10 Fed. 669, holding that testimony of witnesses as to apparent identity is not necessary, and that the trial judge may properly reach a decision as a result of the impression on his own visual senses only.

The very slight difference of appearance necessary to constitute novelty in some cases where the appearance is the real purpose of the invention is illustrated by the case of Pelouze Scale & Mfg. Co. v. Am. Cutlery Co., 102 Fed. 916.

Ripley v. Elson Glass Co., 49 Fed. 927 Byram v. Friedberger, 100 Fed. 963; Macbeth-Evans Glass Co. v. Rosenbaum Co., 199 Fed. 154, the eye of the ordinary observer decides the question.

CHAPTER XI

Epilogue

Aaron Burr is reputed to have defined "law" as "whatever is boldly asserted and plausibly maintained." However incorrect this definition may be, it is more nearly true of the law respecting patents than of any other branch. In all litigation it is seldom the law itself that is in dispute. It does occasionally happen that the substance of a rule is in doubt and must be ascertained by the court. But in the overwhelming majority of cases, it is the proper application of undisputed rules to the particular facts, or, in other form of expression, it is the choice of the rule proper to the particular facts, on which attorneys and, often, the judges can not agree.

In patent law, however, the essential dissimilarity of sensible circumstance precludes the possibility of rules and the influence of other precedent cases. All of the characteristic issues are those of judicial opinion only. By the statute the defendant may attempt to show in answer to the suit both that the plaintiff's patent is invalid and that his own device does not in fact infringe it.

The complainant in a case is, therefore, ever attempting to convince the court that his idea of means is unlike anything that has preceded it, but that it is so like the defendant's device as to make the latter an infringement. Conversely, the defendant bends all his energies to demonstrating the essential similarity of the plaintiff's invention to prior knowledge and the real dissimilarity of his own device to that of the plantiff. For this, a "knowledge of the law" is not enough. He who would succeed in patent practice must, more than in any other branch of law, be able to analyze his case. He must see not only the presence of facts on which rules of law have already been predicated, but also the actual issues on which personal opinion may be divided, and the most forceful relationship of

his facts thereto. If he has the ability of a detective in ferreting out facts and in construing their true bearing upon the proposition he would like to demonstrate, so much the better. As even judicial opinion can not be wholly removed from the influence of personality, it is peculiarly well for the patent practitioner if to his knowledge of law and of fact he adjoins a power in persuasive argument and a magnetic personality.

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