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TEXT-BOOK

OF

THE PATENT LAWS

C#

OF

THE UNITED STATES OF AMERICA.

BY

ALBERT H. WALKER,

OF THE HARTFORD BAR.

SECOND EDITION.

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PREFACE TO THE SECOND EDITION.

THE patent laws of the United States, as those laws exist at this beginning of the second century of the national government, are stated and explained in this edition of this book. The differences between it and the first edition, consist in omitting eleven whole sections which have become obsolete since 1883, together with parts of many other sections for the same reason; and in inserting three new sections, and many new points in many other sections, which have been enacted in the statutes or developed in the decisions since that year; and in so changing or qualifying the statements of law in many other places as to make them conform to those relevant and often radical decisions of the courts which have been rendered since the first edition of the book was published. The work of making these changes began as soon after the publication of the first edition as new decisions were published, and has continued from that time to this, and has involved my careful study and analysis of the more than six hundred new decisions which are incorporated with the more than twelve hundred old ones in the table of cited cases. The generous judgment which has been passed upon the first edition of the work, has been made known through numerous citations of the book in the decisions of the courts, and through numerous letters received by me from my professional

brethren. Sincere thanks for the exceeding generosity of that judgment are now returned; and I am thereby encouraged to propose a third edition of the book in 1895, and a fourth edition at the beginning of the twentieth century.

A. H. W.

HARTFORD, CONNECTICUT,

April 30, 1889.

PREFACE TO THE FIRST EDITION.

THE Constitution and the statutes of the United States, together with twelve hundred and forty-six Federal and State judicial decisions, are the principal sources from which the materials for this text-book were drawn. The most extensive treatise heretofore published on the same subject, was published in 1873; but it cited only two hundred and eighty American cases, together with one hundred and sixty-one English adjudications. The inadequacy, to the needs of the profession, of a treatise so limited in scope, was clearly impressed upon me when I entered, in 1877, upon a somewhat extended practice in patent litigation. During the next four years, I was called upon to argue several patent cases in the Supreme Court, and many others in many of the Circuit Courts of the United States; and in preparing those arguments, I was forced to make many laborious researches, from which a complete text-book would have largely relieved me. Under these circumstances, I resolved, early in 1881, to undertake the production of a treatise so much needed by the profession. I began writing on the first day of May of that year, and soon became so much interested in the work, that I largely suspended my active practice of the law, in order to give the book the freshest of my efforts, and thus the greatest degree of merit consistent with my abilities. The resulting

treatise covers the entire field of the patent laws of the United States, as those laws were enacted in the statutes and developed in the decisions, from the foundation of the national government in 1789, down to the first day of September, 1883. How accurately and well it covers that field, is a question which belongs to the bar and to the bench; and to the generous judgment of the bench and of the bar, I commit the result of my long and interesting labor.

A. H. W.

HARTFORD, CONNECTICUT,
September 26, 1883.

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THE PATENT LAWS.

CHAPTER I.

THE SUBJECTS OF PATENTS.

1. Constitutional and statutory foundation of the patent laws.
2. Constitutional and statutory meaning of the word "discovery."
3. Patent law meaning of the word "art."
4. Patent law meaning of the word "process," as illustrated in the case of *Corning v. Burden*.
5. Patent law meaning of the word "process," as illustrated by the case of *Mackay v. Jackman*, and by other Circuit Court cases.
6. Patent law meaning of the word "process," precisely defined.
7. Difference between a patent for a "process," and a patent for a "principle," inquired into.
8. Illustrated by the case of *McClurg v. Kingsland*.
9. Illustrated by the case of *O'Reilly v. Morse*.
10. Illustrated by the case of *Mowry v. Whitney*.
11. Illustrated by the case of *Tilghman v. Proctor*.
- 11a. Illustrated by the Telephone Cases.
12. Illustrated by the five cases when compared.
13. Illustrated by the five cases when contrasted.
14. Deduced from the five cases as compared and contrasted.
15. Illustrated by the eighth claim of *Morse*.
16. Machines, and improvements of machines.
17. Manufactures.
18. Compositions of matter.
19. Distinction between machines, manufactures, and compositions of matter.
20. Designs.
21. On whose invention designs are patentable.
22. Utility and beauty of designs.

§ 1. CONGRESS has power to promote the progress of science and useful arts, by securing for limited times to inventors, the exclusive right to their respective discoveries.' This constitutional law is the foundation of all the patent laws:

¹ Constitution of the United States of America, Article I., Section 8.

of the United States. In accordance with the power it confers, and in pursuance of the object it mentions, Congress has, from time to time, enacted certain statutes. The principal enactment, in force at this writing, is Section 4886 of the Revised Statutes of the United States. Subject to certain conditions and limitations, hereafter to be explained in this book, that section provides that any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor. Statute law, identical with this, has been in force in the United States ever since April 10, 1790; except that the conditions and limitations attending it have varied somewhat from time to time; and except that compositions of matter were not mentioned in the statute prior to that of February 21, 1793, though they were doubtless covered by the word "manufacture," which the earlier statute contained.

§ 2. The word "discovery" does not have, either in the Constitution or the statute, its broadest signification. It means invention, in those documents, and in them it means nothing else.¹ The "discoveries" of inventors are inventions. The same man may invent a machine, and may discover an island or a law of nature. For doing the first of these things, the patent laws may reward him, because he is an inventor in doing it; but those laws cannot reward him for doing either of the others, because he is not an inventor in doing either. The statute provides that patents may be granted for four classes of things. These are arts, machines, manufactures, and compositions of matter. None of these things can be originally made known by discovery, as our continent was. They are not found, but are created. They are results of original thought. They are inventions. Laws of nature, on the other hand, can never be invented by man, though they may be discovered by him. When discovered, they may be utilized by means of an art, a

¹ *In re Kemper*, 1 McArthur's Patent Cases, 4, 1841.

machine, a manufacture, or a composition of matter. It is the invention of one or more of these, for the purpose of utilizing a law of nature, and not the discovery of that law, that may be rewarded with a patent.¹ In a few published precedents, there are phrases which seem to imply discord with these propositions; but there is no American case which invalidates them, and they are all implied and illustrated in the scientific and legal histories of the discoveries and inventions which pertain to the telegraph.

Stephen Gray, in 1729, discovered the electric current, and discovered that some substances are conductors, while other substances are non-conductors of that current; but he did not live to see those laws of nature utilized in any way. Other discoveries, relevant to electricity, were made later in the eighteenth century, by Franklin, by Galvani, and by Volta. The researches of Ørsted, Ampère, and Arago, about the year 1820, disclosed the fact that a current of electricity, passing through an insulated wire, will magnetize a piece of soft iron around which any part of that wire is coiled; and the further fact, that when that current is broken, the magnetism of that iron instantly expires. This was the crowning discovery that made the electro-magnetic telegraph a possibility. Professor Morse, the inventor of that telegraph, had no share in making that discovery, nor in making either of those which preceded it. He was not a scientist. His profession pertained to the fine arts, and not to those commonly called useful. Being, however, a gentleman of reading, he was somewhat conversant with the principal known laws of electricity and electro-magnetism, and when he found his knowledge deficient he resorted to those still better informed than himself. During an ocean voyage in 1832 he conceived the invention, which he completed in 1837, patented in 1840, and embodied in 1844 in a working telegraph from Washington to Baltimore. Morse was as justly entitled to a patent for that invention as he would have been had he

¹ O'Reilly v. Morse, 15 Howard, 112, 1853; Morton v. Infirmity, 5 Blatch. 116, 1862.

been the discoverer of all the laws of nature which it utilized. On the other hand, Stephen Gray, had he lived in the time and in the country of Morse, would not have been entitled to a patent for his discovery, splendid as it was, because what he made known was neither an art, a machine, a manufacture, nor a composition of matter; and because, to have given him an exclusive right to the electric current would have been to discourage and not to promote the progress of science and useful arts. It would have been to prohibit all others, during the life of that patent, from using any electric telegraph or telephone, should any be invented. It would have been to prohibit man from utilizing one of the laws of God.

§ 3. The word "art" also has a narrower meaning in the patent laws than it has in the dictionaries. In the latter its signification is, "the use of means to produce a result." In the patent laws it covers only a certain limited meaning of the word process.¹ The common meaning of this latter word is "an operation performed by rule to produce a result." One instance of such a process is the mixing of crude India rubber with sulphur, and then subjecting the mixture to a high degree of heat, thereby producing a new and useful composition of matter: a composition which will be soft India rubber if the proportion of the sulphur to the crude rubber is one part to five, and will be hard India rubber if the two ingredients are equal in weight. Another process is the planing of boards in a planing-machine. Both of these processes are arts in the dictionary sense of that word. The first produces its result by chemical action and the action of heat. The second produces its result solely by the action of a machine. Because of this difference, the first is a patentable process, while the second is not. This distinction was announced and applied by the Supreme Court thirty years ago, and has since been enforced by Judge WHEELER, and recognized by Judges WALLACE, BLODGETT, and LOWELL.

¹ Telephone Cases, 126 U. S. 532, 1888.

§ 4. In *Corning v. Burden*¹ it appears that Henry Burden obtained a patent, in the specification of which he stated that he had invented an "improvement in the process of manufacturing iron," and described two machines, both of them contrived by him, and either of them capable of producing upon puddler's balls the effect contemplated, whenever such balls were caused to pass through such machine. That effect was the compacting of the balls by pressure into the form of blooms. Burden was the first to do that by machinery, though it had long been done by hand. The court below instructed the jury, in substance, that the patent was for the process of converting puddler's balls into blooms, by continuous pressure and rotation of the balls between converging surfaces, and that any machine which would perform that work by that process would infringe that patent. The case turned in the Supreme Court on the question of the soundness of that instruction. That court decided that instruction to have been erroneous, and therefore reversed the judgment of the court below. As the reason for its decision, the Supreme Court announced that processes which consist only in the use of machinery are not patentable, and that all other methods of producing useful results are patentable as processes, they being such processes as are covered by the word "art" in the statute. The court supported the first of these doctrines by showing that a patent for a process performed by a machine would really be a patent for its function or effect, and would therefore prohibit the use of subsequent, different, and better machines for performing the same function or producing the same effect. Such a patent, if granted and sustained, would bar all subsequent inventions in the same department of machinery, until such time as it might expire. It would therefore obstruct the progress of a useful art and, in so doing, would contravene the spirit and the purpose of the Constitution and the statute. Accordingly the court said, that "it is well settled that a man cannot have a patent for the function of a machine."

¹ *Corning v. Burden*, 15 Howard, 267, 1853.

§ 5. In *MacKay v. Jackman*¹ it appears that the patentee invented a machine for sewing together the soles and uppers of all kinds of boots and shoes, and obtained a patent for that machine in July, 1858, and obtained a patent for the process of using that machine in August, 1860. Suits were brought against Jackman and others for using specimens of that machine after the expiration of the machine patent, but before the expiration of the patent for the process. Judge WHEELER, however, dismissed the bills, and cited *Corning v. Burden* to support his opinion, that a patent for a process of using a machine is void. To have held the contrary would have enabled the patentee to possess a monopoly of his invention for more than twenty-three years instead of for twenty-one.

In *New v. Warren*² the bill was based on a patent for a tank to hold asphaltic cement, and on a patent for the process of using that tank. Judge WHEELER held the latter patent to be invalid, saying, "For this mere operation of the machine, it does not seem that there can be a patent, in addition to a patent on the machine."

In *Brainard v. Cramme*³ the patent had two claims covering a machine for washing shavings, and two other claims for the washing of shavings by that machine. Judge WALLACE held the latter to be entirely inoperative, and indeed the complainant himself seems to have arrived at a knowledge of the law on that point, for he voluntarily proposed to file a disclaimer as to the alleged process.

In *Goss v. Cameron*⁴ the patent purported to cover a method of using a printing-press, but Judge BLODGETT held that such a claim, if literally construed, would be void, and that, in order to stand, it must be construed to cover the particular machinery described, and not to cover the process of using such machinery.

In *Hatch v. Moffitt*⁵ the complainant sued on a patent

¹ *MacKay v. Jackman*, 12 Fed. Rep. 621, 1882.
Rep. 615, 1882.

² *New v. Warren*, 22 Off. Gaz. 576, 1882.
587, 1882.

³ *Brainard v. Cramme*, 12 Fed. 253, 1883.

⁴ *Goss v. Cameron*, 14 Fed. Rep.

⁵ *Hatch v. Moffitt*, 15 Fed. Rep.

which covered a machine for crimping heel stiffenings of boots and shoes. Among the claims of that patent was one for the process of using that machine. Judge LOWELL held that claim to be void, because it purported to cover the mode of operating the machine, and not to cover any particular mechanism.

In *Reay v. Raynor*¹ the patent had numerous claims, all but one of which covered a corresponding number of parts of a machine for manufacturing envelopes. Some of those parts operated to feed the blanks under the table which supported the gum box, instead of over it. The fifth claim covered that operation, on the theory that feeding under the gum box was new. But Judge WHEELER held the operation to be unpatentable.

§ 6. In pursuance of the rule established in *Corning v. Burden*, and followed in the several later cases explained in the last section, the word "process" will not hereafter in this book be used in its generic sense of "an operation performed by rule to produce a result," but it will be used only in its narrower patent law meaning of an operation performed by rule, to produce a result, and which is or may be performed otherwise than by any particular machinery, or is performed by means not solely mechanical.² All processes which come within this definition are patentable, provided they are products of invention, and are new and useful.³ That all processes, and all machines, manufactures, and compositions of matter, must possess those three requisites in order to be proper subjects of patents, will be explained at large in the next three chapters of this book.

§ 7. It was shown in Section 2 that the discovery of a law of nature is not patentable. That which was so denominated in that section is often spoken of as a "prin-

¹ *Reay v. Raynor*, 19 Fed. Rep. 310, 1884.

² *Ex parte Herr*, 41 Off. Gaz. 465, 1887; *Ex parte Young*, 46 Off. Gaz. 1636, 1888.

³ *Fermentation Co. v. Maus*, 122 U. S. 427, 1886; *Telephone Cases*, 126 U. S. 533, 1888; *Celluloid Mfg. Co. v. American Zylonite Co.* 31 Fed. Rep. 904, 1887.

principle," and at other times as a "scientific principle," and again as a "scientific fact," and still again as a "fact in nature." By whatever name it is called, it is certain that the thing referred to is not a material substance. It is not to be apprehended by the sense of touch, but when discovered finds a lodgment in the mind as a mental conception only. So also, a process is not a substance which can be handled. It is seen only by noting its constituent acts as they are being performed. Principles and processes are therefore alike in that they are intangible, and being so, they have sometimes been mistaken for each other.

Whether a given patent is one for a process or one for a principle, is a question upon which its validity may wholly depend. It is therefore important to ascertain what rule governs the decision of such questions: to ascertain precisely wherein consists the difference between a patent for a principle and a patent for a process. Any search for that distinction made during the first half of this century was necessarily a speculative one, for lack of authoritative adjudged cases from which to reason. Now, however, when engaged in an investigation of the point, we have recourse to five very instructive Supreme Court decisions. The proper method of conducting the inquiry seems to be, to first set down the important relevant points of each of those cases, and then to ascertain what doctrine is consistent with them all. Such hypothetical rules as are found to be inconsistent with either of the cases may safely be rejected as not true rules; but if some one proposition is found to logically underlie all five decisions, it is safe to believe that the Supreme Court will never depart from it.

§ 8. In *McClurg v. Kingsland*¹ it appears that some method was long sought, by means of which rollers or cylinders could be so cast that the metal, when introduced into the moulds, would be given a rotary motion, to the end of throwing the flog or dross into the centre instead of the circumference of the casting. The fact that rotary motion

¹ *McClurg v. Kingsland*, 1 Howard, 202, 1843.

would so result was an understood law of nature, an understood operation of centrifugal force. The problem was to produce such a motion more conveniently and more uniformly than by stirring the liquid metal with a circular movement of an implement inserted therein. That problem was solved in 1834 by James Harley, a workman in a foundry in Pittsburg, Pennsylvania. He discovered that the rotary motion desired could be imparted to melted metal by injecting that metal into a mould diagonally instead of perpendicularly or horizontally. A patent was granted to him in 1835, for "an improvement in the mode of casting chilled rollers and other metallic cylinders and cones." Litigation arose on the patent, and coming before the Supreme Court it was held to be a patent for a process.

§ 9. In *O'Reilly v. Morse*¹ it appears, as also it appears in Section 2 of this book, that Professor Morse was not the discoverer of either of the laws of nature which he utilized in his telegraph. He did, however, invent a machine by means of which those laws could be made to carry information to a distant place. That machine was dependent for success on several laws of nature, and lacking any one of them it would have failed of its result. The chief of these was the electric current discovered by Gray. The one next in importance was that discovered by Ørsted and his contemporaries, and known in natural philosophy as electromagnetism. The eighth claim of Morse's patent was construed, by the Supreme Court, to be one for the use of the electric current, for marking intelligible signs at any distance. The Supreme Court held that claim to be void.

§ 10. In *Mowry v. Whitney*,² the following matters are set forth. It had long been known that sudden cooling of very hot cast-iron makes it hard, but brittle. On the other hand, the slow cooling of very hot cast-iron was known to make it soft, but tough. This is annealing. Cast-iron car-wheels require hardened peripheries and annealed hubs

¹ *O'Reilly v. Morse*, 15 Howard, 112, 1853.

² *Mowry v. Whitney*, 14 Wallace, 620, 1871.

and plates, because the first have to endure friction and the last two have to endure strain. The early attempts to subject car-wheels to both hardening and annealing produced a weak and worthless article, resulting from the law of the expansion and contraction of metals. The peripheries of the wheels were hardened by chilling them, this chilling consisting in surrounding the moulds in which the wheels were cast with a circle of iron, and with only a thin film of sand between it and the peripheries of the wheels. This iron band being a rapid conductor of heat caused the peripheries of the wheels to suddenly cool, and thus be hardened, while the plates and hubs, being inclosed in a thick mass of sand, cooled very slowly, and were thus annealed. The sudden cooling of the rims of the wheels, however, materially contracted their circumference, and that contraction forced the still hot plates to contract their diameter. Then, when the plates came to cool down, they themselves contracted still more, and thus tended to break away from the rims, which, having entirely cooled some time before, had no more contracting to do. Wheels so made were therefore weak.

In this condition of affairs, Asa Whitney, of Philadelphia, discovered in 1848 that hardness once given to iron will not be destroyed or seriously impaired by the immediate reheating of the iron and its subsequent very slow cooling, and he also conceived a process by means of which that law of nature could be utilized to obviate the evil explained in the last paragraph. That process consisted in taking the wheels from the moulds very soon after their rims were chilled, and in putting them immediately into a chamber or furnace which had previously been heated about as hot as the then heat of the wheels, and thereupon in gradually raising the temperature of all parts of the interior of the chamber or furnace and its contents to an equally high point, and finally in causing all parts of the wheels to cool with equal slowness. In accordance with the law of nature discovered by Whitney, it turned out that the third stage of this process did not destroy or seriously impair the hard-

ness of the peripheries of the wheels which were subjected to it. It did, however, cause the peripheries of the wheels to re-expand in circumference, and in so doing to stretch the still hot and ductile plates back to nearly the same diameter as that they had before the rims were contracted by the chill. The fourth stage of the process then served to contract all parts of the wheels harmoniously, and the result of the whole process was to remedy the evil at which it was aimed. Mr. Whitney obtained a patent for his invention, and the Supreme Court held it to be a patent for a process, and held it to be valid.

§ 11. The case of 'Tilghman v. Proctor' discloses the following facts: The celebrated French chemist, Chevreul, discovered in 1813 that fat is a regular chemical compound, consisting of glycerine and three kinds of fat acids. He also discovered that fat can be separated into those, its constituent elements, by causing them to severally unite with an atomic equivalent of water. In 1853, Richard A. Tilghman, a Philadelphia chemist, discovered that those elements of fat can be caused so to unite with an atomic equivalent of water by mixing the fat with water, and by thereupon subjecting the mixture to a high degree of heat, and to such a degree of pressure as will prevent the conversion of the water into steam. In 1854 Mr. Tilghman obtained a patent, in the specification of which he announced his discovery, and described a suitable apparatus in which to utilize that discovery in connection with the discoveries of Chevreul, and claimed "the manufacturing of fat acids and glycerine from fatty bodies, by the action of water at a high temperature and pressure." The Supreme Court held that patent to be one for a process, and to be valid.

§ 11a. The Telephone Cases² set forth the following fundamental facts: It has been known for centuries that articulate sounds can be reproduced at a distance from the place where they are originally uttered, by means of two thin

¹ *Tilghman v. Proctor*, 102 U. S. 707, 1880.

² *Telephone Cases*, 126 U. S. 531, 1888.

diaphragms, made of metal or membrane, and attached at their centres to the respective ends of a tightly drawn cord or wire; and that when a person speaks near and toward one of those diaphragms, the sound vibrations which are produced by his voice cause that diaphragm to vibrate correspondingly; and that those corresponding vibrations are transmitted, along the cord or wire, to the other diaphragm, and cause it also to vibrate correspondingly; and that the second diaphragm thus vibrating causes corresponding vibrations in the air adjacent thereto; and that when those vibrations strike upon the drum of the ear of a listener, they cause him to hear what was spoken toward the first diaphragm. Instruments like this are called string telephones; and they utilize that law of nature which causes such diaphragms as those employed therein, to copy and to transmit the vibrations of air which occur adjacent thereto. It has been known ever since 1831, when it was discovered by Michael Faraday, that when an armature is moved in front of an electro-magnet which is being magnetized by an electric current passing through its coil, the motion modifies the current, and that those modifications correspond to the movements of the armature in duration, in direction, and in strength; and it has long been known that the electric current thus modified will cause correspondingly modified movements in the armature of another electro-magnet through the coil of which the electric current thus modified is also passing. At this stage of knowledge of the relevant laws of nature, Alexander Graham Bell invented his telephone. That invention consisted in mounting two such diaphragms as those of the string telephone, upon two such armatures as those described in the last sentence, and thus enabling one of those armatures to transmit, and the other one to receive, such minute and exceedingly variant vibrations as those caused in the air by the human voice; and it also consisted in the process of transmitting sounds telegraphically, by causing electrical undulations, similar in form to the vibrations of the air caused by the sounds, to occur upon the conducting wire.

Mr. Bell obtained a patent for that invention, in 1876, and the Supreme Court held it to be a patent for a process, as well as for an apparatus, and held the process claim to be valid.

§ 12. The last five sections present five cases, covering five subject-matters of claim, four of which the Supreme Court held to be patentable processes, and one of which that tribunal held to be an unpatentable principle, or law of nature. To learn the controlling distinction between a claim for a process and a claim for a principle, it is therefore sufficient to ascertain precisely wherein consists the controlling difference between the eighth claim of Morse, on the one hand, and the claims of Harley, Whitney, Tilghman, and Bell on the other.

That difference does not consist in the fact that Harley, Whitney, and Tilghman each discovered one of the laws of nature which he utilized, while the laws which Morse utilized were discovered by others; because the Supreme Court did not rest its decision in the Morse case on the ground that he was not the discoverer of the electric current, but on the ground that, being a power in nature, it was not patentable to any person. Neither does that difference consist in anything outside of the use of laws of nature, because all five claims extended to accomplishing results by means of such law or laws, regardless of the particular apparatus used in the respective processes. The fact that diagonal injection of melted metal into a cylindrical mould will give that metal a rotary motion; the fact that moderate reheating of a car-wheel will not destroy its chill; the fact that very hot water will separate the elements of fat; the fact that mechanical motion may cause electrical undulations;— every one of these is just as truly a law of nature, just as truly a “principle,” as is the fact of the electric current. Nor was the apparatus described by Harley, Whitney, Tilghman, and Bell, respectively, for the purpose of utilizing the first four of these laws, respectively, claimed as their sole respective inventions, any more than the particu-

lar telegraph described by Morse was made essential to his eighth claim.

§ 13. There is apparently but one radical distinction between the claims of the four patents of Harley, Whitney, Tilghman, and Bell, on the one hand, and the eighth claim of Morse on the other. That distinction is as follows. Harley, Whitney, Tilghman, and Bell each produced a process which utilized several laws of nature, and each of them claimed the entire process he produced, including the use of all those laws in the order and method described. Morse also made an invention which utilized several laws of nature, but instead of claiming his combined and methodical use of all those laws, his eighth claim was construed as confined to one of them alone. This difference, taken in connection with the fact that the Supreme Court sustained the patents of Harley, Whitney, and Tilghman, and overthrew the eighth claim of Morse, and taken in connection with the fact that no other relevant and important difference can be detected, points to the soundness of the doctrines stated in the next section, and illustrated in the section following that.

§ 14. A patent for a process is a patent for the described combined use of all the laws of nature utilized by that process. A patent for a principle is a patent for one only of the laws of nature used in a process. If a patent for a principle were granted and sustained, it would be much broader than a patent for a process, because it would cover all processes which aim at the same result, and which use the particular law of nature covered by the patent for a principle, no matter in what combination with other laws. A patent for a process, on the other hand, covers only its own method of using all of the laws of nature which it utilizes. To grant and sustain a patent for a principle, would induce an inventor to guess which of the laws of nature used in his process will always be found indispensable, and guessing rightly, would enable him, by claiming that particular law, to suppress all subsequent processes using it: to suppress all subsequent invention in the same field until

such time as his patent might expire. A patent for a process, on the contrary, leaves the field open to ingenious men to invent and to use other processes using part of the laws used by the patented process, or using all of them in other combinations and methods.

§ 15. An illustration of the doctrines of the last section exists in the matter of the eighth claim of Morse, when considered in connection with other telegraphs than his. The subject of that claim was construed to be the use of the electric current for marking signs at any distance. The electric current is one thing, and electro-magnetism is another. The first was discovered by Gray, in 1729, but the existence of the latter was not known till ninety-one years later. Morse used both in his telegraph, but his eighth claim was construed to cover the electric current with or without the other. But without electro-magnetism Morse's telegraph would not work. After Morse came Bain, who invented a telegraph which used the electric current, but did not use electro-magnetism. Its recording apparatus operated electro-chemically, and not electro-magnetically like that of Morse. Bain's telegraph could work with a much feebler current than could that of Morse, and therefore the relay batteries of the latter were not wanted. The two telegraphs had nothing in common except that both used the electric current. If the eighth claim of Morse had been sustained as construed, it would have covered Bain's and every other electric telegraph capable of marking signs at a distance. On the other hand, had that claim been so drawn as to cover the combined use of all the laws of nature utilized by the telegraph of Morse, when used as he used them, then it would have been a claim for a process, and not being obnoxious to either of the weighty objections which are set forth in the opinion of the Supreme Court, it would doubtless have been sustained by that tribunal. In that case, however, it would not have been infringed by the telegraph of Bain, nor by any other which, like his, dispensed with one or more of the laws of nature necessary to the process of Morse.

§ 16. Machines and improvements of machines constitute the subjects of a majority of the American patents heretofore granted. A machine is a combination of moving mechanical parts, adapted to receive motion, and to apply it to the production of some mechanical result or results. All the parts of a machine may be old while the machine as a whole, and also the sub-combinations which are contained therein, are proper subjects of patents.¹ An improvement of a machine may consist of an addition thereto, or in a subtraction therefrom, or in substituting for one or more of its parts something different, or in so rearranging its parts as to make it work better than before. Whether or not a given improvement is a patentable one will always depend upon several considerations. In order to be so it must, first of all, be an invented improvement,² as distinguished from one which is the product of mere mechanical skill in construction. This point of law is explained at large in the next chapter. So also it is explained in the chapter on infringement what improvements can be used, and what improvements cannot be used, without infringing the patents for the machines improved upon, if the latter happen to be patented. It is enough to say in this chapter, that patents are not void merely because they cover processes or things which include old inventions,³ and that an improvement may or may not be an invention, and in either case may or may not be an infringement of a patent covering the machine improved.

§ 17. The word "manufacture" has a much narrower signification in the American patent laws than it has in those of England. In the latter it includes everything made by the hand of man, and also includes processes of manufacture. According to the former, processes are patentable because they are arts, while some of the things made by the hand of man are patentable as machines, and some others are patentable as compositions of matter, and

¹ *Cantrell v. Wallick*, 117 U. S. Arthur's Patent Cases, 53, 1844.
694, 1885.

² *Cantrell v. Wallick*, 117 U. S.

³ *Cochrane v. Waterman*, 1 Mc- 694, 1885.

some others are patentable as designs. Whatever is made by the hand of man, and is neither of these, is a manufacture, in the sense in which that word is used in the American patent laws. The term should be held to justify a patent for the invention of a new and useful human habitation, or a new and useful improvement of such a structure. This statement is ventured, notwithstanding the facetious *obiter dictum* of Justice GRIER in the jail case.¹

§ 18. The phrase "composition of matter," as used in the statutes, covers all compositions of two or more substances. It includes, therefore, all composite articles, whether they be the result of chemical union, or of mechanical mixture, and whether they be fluids, powders, or solids. To be a proper subject of a patent, a composition of matter must, like a process, a machine, or a manufacture, be able to endure the relevant tests of invention, novelty, and utility, which are stated in the next three chapters of this book.

§ 19. The distinction between a machine and a manufacture cannot be so stated that its application to every case would be clear and satisfactory to every mind. The same remark is true of the distinction between manufactures and compositions of matter. In most instances, however, when something is invented by the mind and constructed by the hand of man, its classification under some one of these heads is sufficiently obvious. If an inventor is certain that his invention belongs to one or another of the three classes of things, but is uncertain as to which, no evil need result from the doubt. No inventor needs to state or to know whether the thing he has produced is a machine, a manufacture, or a composition of matter, provided he knows that it is one or the other of these. Seventeen-year patents may be lawfully granted for a thing which falls under either designation, but it never becomes vitally important to determine to which one of the three classes a particular thing really belongs.

¹ *Jacobs v. Baker*, 7 Wallace, 297, 1868.

§ 20. Designs are patentable under Section 4929 of the Revised Statutes. That section provides that any person who, by his own industry, genius, efforts, and expense, has invented and produced any new and original design for a manufacture, bust, statue, alto-relievo, or bas-relief, any new and original design for the printing of woollen, silk, cotton, or other fabrics, any new and original impression, ornament, patent, print, or picture to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture, or any new, useful, and original shape or configuration of any article of manufacture, may, subject to certain conditions and limitations stated in the statute, obtain a patent therefor. That section is almost a literal transcript of Section 71 of the consolidated Patent Act of 1870,¹ except that in the latter the word "pattern" is found in the connection in which the word "patent" is printed in Section 4929. The change from "pattern" to "patent" was doubtless an error of the printers of the Revised Statutes. Those statutes were enacted as printed, and not as is the custom with shorter edicts, as engrossed in writing. The word "patent" is meaningless in that connection, and patterns, though not mentioned in the section, are doubtless covered by its other provisions.

§ 21. In like manner as Section 4929 of the Revised Statutes was enacted to take the place of Section 71 of the Patent Act of 1870, the latter was passed to take the place of Section 11 of the Patent Act of 1861.² The Act of 1870 differed from its predecessor mainly in conferring upon any person the rights to design patents which the Act of 1861 gave only to citizens and to aliens who, having resided one year in the United States, had taken an oath of intention to become citizens. Section 11 of the Act of 1861 was a modification of Section 3 of the Patent Act of 1842,³ which latter was the first American statute authorizing patents for designs.

¹ 16 Statutes at Large, Ch. 230, p. 248.
209.

³ 5 Statutes at Large, Ch. 263, p.

² 12 Statutes at Large, Ch. 88, p. 543.

§ 22. Section 4929, like all three of its predecessors, provided for patents for a certain class of new, useful, and original designs, and for certain other classes of new and original designs, thus recognizing the fact that some designs are useful as well as ornamental, while others have no utility except to please the eye of the beholder. It is questionable whether the framers of the constitutional provision, relevant to encouragement of science and useful arts, intended to provide for patents for designs which are useful only because they are ornamental. In our age, however, beauty is generally believed to have a utility of its own, and patents are therefore granted and sustained for designs which are useful only because they are beautiful.'

¹ *Theberath v. Trimming Co.* 15 Fed. Rep. 250, 1883.

CHAPTER II.

INVENTION.

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| <p>23. Invention necessary to patentability.</p> <p>24. Many negative rules, but no affirmative rule, for determining the presence or absence of invention.</p> <p>25. Mere mechanical skill is not invention.</p> <p>26. Circumstances indicating difference between invention and mechanical skill.</p> <p>27. Excellence of workmanship is not invention.</p> <p>28. Substitution of materials is not invention.</p> <p>29. Exception to the last rule.</p> <p>30. Enlargement is not invention.</p> <p>31. Change of degree is not invention.</p> <p>32. Aggregation is not invention.</p> <p>33. Simultaneousness of action is not necessary to invention.</p> <p>34. Duplication is not invention.</p> <p>35. Omission is not generally invention.</p> <p>36. Substitution of equivalents is not invention.</p> <p>37. New combination, without new</p> | <p>mode of operation, is not invention.</p> <p>38. Using old thing for new purpose is not invention.</p> <p>39. Cases to which the last rule does not apply.</p> <p>40. Doubts relevant to invention, when otherwise insoluble, are solved by ascertaining comparative utility.</p> <p>41. Form.</p> <p>42. Questions of invention are questions of fact.</p> <p>43. Questions of invention sometimes investigated in the light of the state of the art.</p> <p>44. Joint and sole inventions.</p> <p>45. How made.</p> <p>46. How distinguished.</p> <p>47. Suggestions to an inventor.</p> <p>48. Information sought by an inventor.</p> <p>49. Mechanical skill not necessary to invention.</p> <p>50. Sole patent to one joint inventor is void.</p> <p>51. Joint patent to sole inventor and another is void.</p> |
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§ 23. It has been shown that the word "discovered," in Section 4886 of the Revised Statutes, has the meaning of the word "invented."¹ It follows that patents are grantable for things invented, and not for things otherwise

¹ Section 2 of this book.

produced. Novelty and utility must indeed characterize the subject of a patent, but they alone are not enough to make anything patentable; for the statute provides that things to be patented must be invented things, as well as new and useful things.¹ The courts have therefore declared that not all improvement is invention, and entitled to protection as such, but that, to be thus entitled, a thing must be the product of some exercise of the inventive faculties.² And the law stated in this section applies not only to processes, machines, manufactures, and compositions of matter, but also to designs.³ But a patent may be sustained for an invention which resided in a theory, without a reduction to actual practice, at the time the patent was granted, if that theory afterward proves to be correct,⁴ and also where the correctness of the theory is self-evident.⁵

§ 24. The abstract rule stated in the last section is as certainly true as it is universally just, but its application to particular cases cannot be made without the guidance of more concrete propositions. In delivering an opinion of the Supreme Court, in January, 1885, Justice MATTHEWS used some language which may be thought to establish an affirmative rule by which to determine the presence or absence of invention in every case. Speaking of a simple device which the court held not to be an invention, he said that it "seems to us not to spring from that intuitive faculty

¹ *Thompson v. Boisselier*, 114 U. S. 11, 1884; *Gardner v. Herz*, 118 U. S. 191, 1885.

² *Pearce v. Mulford*, 102 U. S. 112, 1880; *Atlantic Works v. Brady*, 107 U. S. 199, 1882; *Slawson v. Railroad Co.* 107 U. S. 649, 1882; *Morris v. McMillin*, 112 U. S. 247, 1884; *Hollister v. Benedict Mfg. Co.* 113 U. S. 59, 1885; *Stephenson v. Railroad Co.* 114 U. S. 149, 1885; *Munson v. New York City*, 124 U. S. 601, 1888; *Pattee Plow Co. v. Kingman & Co.* 129 U. S. 294, 1888.

³ *Western Electric Mfg. Co. v.*

Odell, 18 Fed. Rep. 322, 1883; *Osborn v. Judd*, 29 Fed. Rep. 96, 1886; *Meers v. Kelly*, 31 Fed. Rep. 153, 1887; *Untermeyer v. Freund*, 37 Fed. Rep. 343, 1889.

⁴ *Telephone Cases*, 126 U. S. 535, 1888.

⁵ *Heath v. Hildreth*, 1 McArthur's Patent Cases, 19, 1841; *Screw Co. v. Sloan*, 1 McArthur's Patent Cases, 210, 1853; *In re Seeley*, 1 McArthur's Patent Cases, 249, 1853; *Chandler v. Ladd*, 1 McArthur's Patent Cases, 493, 1857.

of the mind put forth in search for new results or new methods, creating what had not before existed, or bringing to light what lay hidden from vision; but, on the other hand, to be the suggestion of that common experience which arose spontaneously, and by a necessity of human reasoning, in the minds of those who became acquainted with the circumstances with which they had to deal.”¹ This language may be thought to mean that whatever new and useful process, machine, manufacture, composition of matter, or design is produced by intuition, is an invention, and that whatever such thing is produced by reason, is not an invention. But such an interpretation of the language would make it a *reductio ad absurdum*. Intuition may sometimes reach to a single brilliant result; but intuition can never conceive or correlate the mazes of movements and mechanisms which constitute a modern automatic machine. To enforce such a rule as that hypothetically implied in the language of Justice MATTHEWS would be to deny invention to those marvellous combinations of numerous metallic devices which compose American automatic machinery, and which work with such complexity and yet with such precision that they seem themselves to be endowed with reason. But fortunately the supposed interpretation of that language, is evidently not the meaning of the court. The court does not deny invention to all the products of pure reason in the useful arts. It merely finds want of invention in those things which are conceived “spontaneously and by a necessity of human reasoning” in the minds of those who have their attention directed to the subject. Thus it is seen to remain true that the ideal line which separates things invented from things otherwise produced has never been completely defined nor described. There is no affirmative rule by which to determine the presence or absence of invention in every case.² But there are several negative rules, each of which applies to a large class of cases, and

¹ *Hollister v. Benedict Mfg. Co.*
113 U. S. 72, 1885.

² *Dunbar v. Albert Field Tack
Co.* 4 Bann. & Ard. 519, 1879.

all of which are entirely authoritative and sufficiently clear. To formulate those rules, and to state their qualifications and exceptions, and to review and explain the adjudged cases from which those rules, qualifications, and exceptions are deducible, is the scope of several sections which immediately follow.

§ 25. It is not invention to produce a device or process which any skilful mechanic or chemist would produce whenever required.

The Corn Planter Patent¹ is the accepted name of a case which was based on ten reissued patents for as many different features of Brown's corn planter. Number 1094 was a patent for a peg to prevent the rear part of the machine from tipping so much as to dump the driver upon the ground. The Supreme Court held that patent to be void, for the reason stated in the rule which stands at the head of this section.

Vinton *v.* Hamilton² was a case which arose out of a patent for a hole in a cupola furnace, the function of that hole being to draw off the molten cinder which floated on the top of the molten iron in the furnace. The Supreme Court held that patent also to be invalid for want of invention; held, in effect, that a patent for a new and useful hole is as lacking in invention as a patent for a new and useful peg.

The Atlantic Works *v.* Brady³ was based on a patent for a dredging-boat with a screw in its stem, boats with screws in their sterns having previously been used for dredging by running them stern foremost. In holding that patent to be void, the Supreme Court, speaking by Justice BRADLEY, delivered a paragraph of very instructive argument in support of the rule of this section: a paragraph so valuable as to call for its verbatim quotation in this text.

“The process of development in manufactures creates a

¹ The Corn-Planter Patent, 23 491, 1881.
Wallace, 232, 1874.

² Vinton *v.* Hamilton, 104 U. S. U. S. 199, 1882.

³ Atlantic Works *v.* Brady, 107

constant demand for new appliances, which the skill of ordinary head workmen and engineers is generally adequate to devise, and which, indeed, are the natural and proper outgrowth of such development. Each step forward prepares the way for the next, and each is usually taken by spontaneous trials and attempts in a hundred different places. To grant to a single party a monopoly of every slight advance made, except where the exercise of invention somewhat above ordinary mechanical or engineering skill is distinctly shown, is unjust in principle, and injurious in its consequences. The design of the patent laws is to reward those who make some substantial discovery or invention which adds to our knowledge and makes a step in advance in the useful arts. Such inventors are worthy of all favor. It is never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country without contributing anything to the real advancement of the arts. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to lawsuits and vexatious accountings for profits made in good faith."

Many other cases¹ may also be consulted for illustrations of the rule of this section.

¹ *Tack Co. v. Mfg. Co.* 109 U. S. 119, 1883; *Morris v. McMillin*, 112 U. S. 244, 1884; *Hollister v. Benedict Mfg. Co.* 113 U. S. 72, 1885; *Yale Lock Co. v. Greenleaf*, 117 U. S. 554, 1886; *Pomace Holder Co. v. Ferguson*, 119 U. S. 335, 1886; *Weir v. Morden*, 125 U. S. 98, 1888;

Brown v. District of Columbia, 130 U. S. 1888; *Snow v. Taylor*, 4 Bann. & Ard. 5, 1878; *Walker v. Rawson*, 4 Bann. & Ard. 130, 1879; *King v. Frostel*, 4 Bann. & Ard. 238, 1879; *Lorillard v. Ridgway*, 4 Bann. & Ard. 565, 1879; *National Mfg. Co. v. Meyers*, 15 Fed.

§ 26. But if a particular result was long desired and sometimes sought, but never attained, want of invention cannot be predicated of a device or process which first reached that result, on the ground that the simplicity of the means is so marked that many believe they could readily have produced it if required.' That is the opinion of many relevant to some real inventions, because solved problems often seem easy to persons who could never have solved them, and true inventions sometimes seem obvious to persons who could never have produced them. This doctrine does not contradict that of the last section. It only teaches us that the fact upon which the doctrine of the last section is founded cannot be proved by a *posteriori* opinion, when that opinion is inconsistent with *a priori* attempts and failures.

In *The Loom Co. v. Higgins*,² Justice BRADLEY remarked that: "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." The exception to his rule, which Justice BRADLEY contemplated, doubtless refers to cases the result wherein

Rep. 241, 1883; *McMurray v. Miller*, 16 Fed. Rep. 478, 1883; *Day v. Railroad Co.* 23 Fed. Rep. 189, 1885; *French v. Carter*, 25 Fed. Rep. 41, 1885; *Calkins v. Oshkosh Carriage Co.* 27 Fed. Rep. 296, 1886; *Muller v. Ellison*, 27 Fed. Rep. 458, 1886; *Consolidated Fruit Jar Co. v. Bellaire Stamping Co.* 28 Fed. Rep. 91, 1886; *Adams v. Bellaire Stamping Co.* 28 Fed. Rep. 362, 1886; *Willard v. Cooper*, 28 Fed. Rep. 750, 1886; *Hasselman v. Gaar*, 29 Fed. Rep. 818, 1886; *Celluloid Mfg. Co. v. Zylonite Novelty Co.* 30 Fed. Rep. 617, 1887; *Roth v. Keebler*, 30 Fed. Rep. 618, 1887; *Cluett v. Claffin*, 30 Fed. Rep. 922, 1887; *McNab v. Mfg. Co.* 32 Fed. Rep. 155, 1887; *Landesmann v. Jonasson*, 32 Fed.

Rep. 590, 1887; *Kidd v. Horry*, 33 Fed. Rep. 712, 1888.

¹ *Celluloid Mfg. Co. v. Chrolithion Collar & Cuff Co.* 23 Fed. Rep. 397, 1885; *Celluloid Mfg. Co. v. American Zylonite Co.* 28 Fed. Rep. 195, 1886; *Dudgeon v. Watson*, 29 Fed. Rep. 248, 1886; *International Crown Co. v. Richmond*, 30 Fed. Rep. 778, 1887; *Wilcox v. Bookwalter*, 31 Fed. Rep. 229, 1887; *Osborne v. Glazier*, 31 Fed. Rep. 402, 1887; *Palmer v. Johnston*, 34 Fed. Rep. 336, 1888; *Stegner v. Blake*, 36 Fed. Rep. 185, 1888; *Marvin v. Gotshall*, 36 Fed. Rep. 908, 1888; *Timken v. Olin*, 37 Fed. Rep. 205, 1888; *Tondeur v. Chambers*, 37 Fed. Rep. 338, 1889.

² *Loom Co. v. Higgins*, 105 U. S. 591, 1881.

was never before attained only because it was never before desired. In the Circuit Court cases which support the doctrine of this section, the proviso that the thing or process which the patentee was the first to produce had been previously sought for by others in vain, is never overlooked, but, on the contrary, is always treated as a material element in the proposition.¹

A qualification of the rule of this section consists in the subordinate point, that where several improvements have mutually contributed to introduce an unused invention into public favor, and where it does not appear that either of those improvements alone would have produced that result; no presumption in favor of either of those improvements being an invention, arises out of the commercial success of the invention thus improved.² And another qualification should be made, by holding that the rule of the section does not apply where the prior attempts were unsuccessful because they were stupid.³

§ 27. It is not invention to produce an article which differs from some older thing only in excellence of workmanship.

In *Pickering v. McCullough*⁴ it appeared that certain prior combinations were not capable of successful working because their mechanical construction was faulty. The Supreme Court held that those faults could have been removed by mere mechanical skill, without the exercise of the faculty of invention, and that therefore those combinations constituted good defences to the patent in suit.

In *Buzzell v. Fifield*⁵ Judge LOWELL held a patent for a

¹ *Terry Clock Co. v. New Haven Clock Co.* 4 Bann. & Ard. 121, 1879; *Wallace v. Noyes*, 13 Fed. Rep. 180, 1882; *Ward v. Plow Co.* 14 Fed. Rep. 696, 1883; *Davis v. Fredericks*, 19 Fed. Rep. 99, 1884; *Patterson v. Duff*, 20 Fed. Rep. 641, 1884; *Brown Mfg. Co. v. Deere*, 21 Fed. Rep. 713, 1884; *McFarland v. Spencer*, 23 Fed. Rep. 151, 1885; *Celluloid Mfg. Co. v. Chrolithion Collar & Cuff Co.* 23 Fed. Rep. 397, 1885; *Sewing Ma-*

chine Co. v. Frame, 24 Fed. Rep. 596, 1884; *Asmus v. Alden*, 27 Fed. Rep. 687, 1886.

² *Corbin Cabinet Lock Co. v. Eagle Lock Co.* 37 Fed. Rep. 338, 1889.

³ *Butler v. Steckel*, 27 Fed. Rep. 219, 1886.

⁴ *Pickering v. McCullough*, 104 U. S. 810, 1881.

⁵ *Buzzell v. Fifield*, 7 Fed. Rep. 467, 1881.

certain manufacture which was salable as an article of commerce, to be void, because of a prior article similar to it, but so rough and unfinished that it never could have found a sale in the market. Similar circumstances and opinions also controlled the decision by the same Judge in the case of *Hatch v. Moffitt*.¹

§ 28. It is not invention to substitute superior for inferior materials, in making one or more or all of the parts of a thing.²

In each of the leading cases which established this rule, the decision was made in spite of the undeniable superiority of the new manufacture over those which preceded it. The clay door-knobs covered by the first patent have everywhere driven from use those wooden and metallic ones which were previously known. The improvement in the second of the cited cases had much merit; and that involved in the third case was widely adopted. The three patents were, however, all held to be void by the Supreme Court, because, though specifically new and highly useful, the things covered by them were found not to be invented things: were held to be only the result of judgment and skill in the selection and adaptation of materials, and not the product of the inventive faculties of those who produced them.

There being no invention in substituting superior for inferior materials, there is certainly none in selecting from a number of materials recommended by a prior patentee, that one which is best adapted to the purpose in view.³

§ 29. Important exceptions have, however, been estab-

¹ *Hatch v. Moffitt*, 15 Fed. Rep. 252, 1883.

² *Hotchkiss v. Greenwood*, 11 Howard, 248, 1850; *Hicks v. Kelsey*, 18 Wallace, 670, 1873; *Terhune v. Phillips*, 99 U. S. 593, 1878; *Gardner v. Herz*, 118 U. S. 192, 1885; *Brown v. District of Columbia*, 130 U. S. , 1888; *In re Maynard*, 2

McArthur's Patent Cases, 536, 1857; *Post v. Hardware Co.* 26 Fed. Rep. 618, 1886; *Forschner v. Baumgarten*, 26 Fed. Rep. 858, 1886; *J. L. Mott Iron Works v. Cassidy*, 31 Fed. Rep. 47, 1887; *National Roofing Co. v. Garwood*, 35 Fed. Rep. 658, 1888.

³ *Welling v. Crane*, 14 Fed. Rep. 571, 1882.

lished to the general rule of the last section. If the substitution involved a new mode of construction, or if it developed new uses and properties of the article made, it may amount to invention.¹ So also, where the excellence of the material substituted could not be known beforehand, and where practice showed its superiority to consist not only in greater cheapness and greater durability, but also in more efficient action, the substitution of a superior for an inferior material was held by Judge NATHANIEL SHIPMAN to amount to invention.² And substantially the same doctrine has been held by Justice BRADLEY,³ and by Judge WALLACE.⁴

§ 30. It is not invention to so enlarge and strengthen a machine that it will operate on larger materials than before.

In *Phillips v. Page*⁵ the patent covered the first circular saw-mill which was adapted to sawing logs. Its utility was great, and was unquestioned. Machines like it, except that they were much smaller in every part, had been used before to saw lath and other slender articles out of small blocks of wood. The Supreme Court therefore held that Mr. Page did not invent a circular saw-mill, but merely constructed one, by copying on a larger scale the prior machine for sawing lath.

In the case of the *Planing Machine Co. v. Keith*⁶ the patent covered the Woodbury Planing Machine, a machine which differed from the older Woodworth Planing Machine in one respect only. Woodworth used rollers to press the boards against the bed of the machine, whereas Woodbury used pressure bars for that purpose. The Supreme Court held the Woodbury patent to be void because Alfred Anson, of Norwich, Connecticut, had previously invented and con-

¹ *Smith v. Dental Vulcanite Co.* 93 U. S. 496, 1876.

² *Dalton v. Nelson*, 18 Blatch. 857, 1876.

³ *Celluloid Mfg. Co. v. Crane Chemical Co.* 86 Fed. Rep. 110 1888.

⁴ *Celluloid Mfg. Co. v. American Zylonite Co.* 35 Fed. Rep. 301, 1888.

⁵ *Phillips v. Page*, 24 Howard, 164, 1860.

⁶ *Planing Machine Co. v. Keith*, 101 U. S. 490, 1879.

structed a machine for dressing window-sash, which had pressure bars like Woodbury, instead of pressure rollers like Woodworth. This decision was made notwithstanding the fact that the Anson machine was too small and too weak for general planing work upon boards and planks. In *Peters v. Active Mfg. Co.* this rule was again applied and illustrated by the Supreme Court.¹

§ 31. It is not invention to change the degree of a thing, or of one feature of a thing.

In *Glue Co. v. Upton*² the patent covered pulverized glue made from flake glue by grinding it in any suitable manner. It had several points of superiority over all former kinds of glue, but the Supreme Court held that, not being a product of invention, the patent covering it was void.

In *Guidet v. Brooklyn*³ the patent covered paving-stones of a certain shape and with rough sides. Paving-stones of the same shape, but with sides less rough, had been known before. To make the sides of the prior stones rougher was held by the Supreme Court to be a change in degree only, and therefore not patentable.

In *Estey v. Burdett*⁴ one of the claims of the patent involved depended upon concentrating certain valve openings into a smaller space than had theretofore been occupied by them. The Supreme Court held that there was no invention in that change.

In *Preston v. Manard*⁵ the alleged invention consisted in making the reel of a fountain hose-carriage of larger diameter than were the reels of former hose-carriages, in order to allow the water to pass through the hose when partly wound upon the reel. The Supreme Court held that there resided no invention in that improvement.

Circuit Court cases⁶ which have been decided by skilful

¹ *Peters v. Mfg. Co.* 129 U. S. 530, 1888.

² *Glue Co. v. Upton*, 97 U.S. 6, 1877.

³ *Guidet v. Brooklyn*, 105 U. S. 552, 1881.

⁴ *Estey v. Burdett*, 109 U. S. 640, 1883.

⁵ *Preston v. Manard*, 116 U. S. 663, 1885.

⁶ *Stow v. City of Chicago*, 8 Bann. & Ard. 91, 1877; *White v.*

judges furnish still other illustrations, of the rule of this section.

§ 32. Aggregation is not invention.

In *Hailes v. Van Wormer*¹ the patents passed upon covered certain self-feeding coal stoves. These stoves were better than any which preceded them, because they contained more good things than were ever before assembled in that kind of heater. All of the things so assembled were old. The superiority of the patented stoves arose from the fact that sundry good features, theretofore scattered through several, were in them gathered into one such article of manufacture. The things so united did not, however, perform any joint function, but each did only what it had formerly done in former stoves. The Supreme Court held the whole to be a mere aggregation of devices, and not to be invention.

The case of *Reckendorfer v. Faber*² was based upon patents for a new and useful article, of which many millions of specimens had been made and sold since those patents were granted. That article was a piece of soft rubber united to one end of a lead pencil. The Supreme Court called attention to the fact that there was no joint operation performed by the pencil and the rubber, and therefore held the patents to be void for want of invention.

In *Pickering v. McCullough*³ the doctrine of this section was explained by Justice MATTHEWS with uncommon clearness. Speaking through him, the Supreme Court said: "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 invention, seized each of every part, *per my et per tout*, and not mere

Lee, 14 Fed. Rep. 790, 1882; Woonsocket Rubber Co. v. Candee, 28 Fed. Rep. 797, 1885; Smith v. Murray, 27 Fed. Rep. 69, 1886; Hurd v. Snow, 85 Fed. Rep. 423, 1888.

¹ *Hailes v. Van Wormer*, 20 Wallace, 353, 1873.

² *Reckendorfer v. Faber*, 92 U. S. 357, 1875.

³ *Pickering v. McCullough*, 104 U. S. 318, 1881.

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."

In addition to these three leading Supreme Court cases, several other precedents in the same tribunal, and many Circuit Court decisions illustrate the application of the rule of this section to a variety of contrivances and aggregations.¹

§ 33. The rule of the last section does not state nor imply that all the parts of a patentable combination must act at the same time. The fact on that point is no criterion by means of which to distinguish invention from aggregation. Justice CURTIS, in a Circuit Court case,² stated the true doctrine on this subject, and stated it with marked lucidity, saying: "To make a valid claim for a combination, it is not necessary that the several elementary parts of the combination should act simultaneously. If those elementary parts are so arranged that the successive action of each contributes to produce some one practical result, which result, when attained, is the product of the simultaneous or successive action of all the elementary parts, viewed as

¹ Tack Co. v. Mfg. Co. 109 U. S. 120, 1883; Bussey v. Mfg. Co. 110 U. S. 145, 1883; Phillips v. Detroit, 111 U. S. 607, 1883; Stephenson v. Railroad Co. 114 U. S. 158, 1884; Beecher Mfg. Co. v. Atwater Mfg. Co. 114 U. S. 523, 1884; Thatcher Heating Co. v. Burtis, 121 U. S. 293, 1886; Hendy v. Iron Works, 127 U. S. 375, 1887; Combined Can Co. v. Lloyd, 11 Fed. Rep. 154, 1882; Perry v. Foundry Co. 12 Fed. Rep. 149, 436, 1882; Doubleday v. Roess, 11 Fed. Rep. 737, 1880; Nicodemus v. Frazier, 19 Fed. Rep. 260, 1884; Stutz v. Armstrong, 20 Fed. Rep. 843, 1884; Hayes v. Bickelhaupt,

21 Fed. Rep. 566, 1884; Mosler Safe & Lock Co. v. Mosler, 22 Fed. Rep. 901, 1885; Watson v. Railway Co. 23 Fed. Rep. 445, 1885; Peard v. Johnson, 23 Fed. Rep. 509, 1885; Ames v. Spring Bed Co. 24 Fed. Rep. 785, 1885; Phipps v. Yost, 26 Fed. Rep. 448, 1886; Troy Machinery Co. v. Bunnell, 27 Fed. Rep. 810, 1886; Duesh v. Medlar Co. 30 Fed. Rep. 619, 1887; J. L. Mott Iron Works v. Skirm, 30 Fed. Rep. 621, 1887; Schmid v. Mfg. Co. 37 Fed. Rep. 347, 1889.

² Forbush v. Cook, 2 Fisher, 669, 1857.

one entire whole, a valid claim for thus combining those elementary parts may be made."

§ 34. It is not invention to duplicate one or more of the parts of a machine.

In *Dunbar v. Myers*¹ the patent was based on a circular-saw mill adapted to sawing lumber into thin sheets to be used for the backs of picture-frames and mirrors. It differed from former machines used for the same purpose, mainly in the fact that it had a plate on each side of the saw for the purpose of expanding the saw kerf and thus keeping the sawed parts away from the sides of the saw, whereas earlier machines had such a plate on only one side of the saw. The two plates of the patented machine differed from each other in diameter and in one or two other respects, but the function performed by each of them was substantially identical with that performed by the other. The Supreme Court therefore held the claim which covered the additional plate to be void for want of invention.

*Millner v. Voss*² was decided by Judge BOND in Virginia. The patent involved purported to cover an arrangement of furnaces and flues in a tobacco-curing house. It appeared to differ from prior arrangements only in the fact that each of the furnaces had two or more fire-places of different sizes on each side of a chimney, whereas former arrangements had but one. Judge BOND wittily said that, "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." Mr. Millner's patent was therefore held to be void.

§ 35. It is not invention to omit one or more of the parts of an existing thing, unless that omission causes a new mode of operation of the parts retained.

Stow v. Chicago,³ decided by Judge BLODGETT, is the case which perhaps most exactly corresponds with this rule.

¹ *Dunbar v. Myers*, 94 U. S. 197, 1882.
1876.

² *Millner v. Voss*, 4 Hughes, 262, & Ard. 92, 1877.

³ *Stow v. City of Chicago*, 3 Bann.

The patent in that case covered a wood pavement like that of Nicholson, except that it omitted the board foundation and also the board strips of that earlier pavement. Judge BLODGETT held that those omissions constituted no invention, saying: "A reconstruction of a machine, so that a less number of parts will perform all the functions of the greater, may be invention of a high order, but the omission of a part, with a corresponding omission of function, so that the retained parts do just what they did before in the combination, cannot be other than a mere matter of judgment, depending upon whether it is desirable to have the machine do all, or less, than it did before." These views were also reiterated and reinforced by the same judge many years after they were stated and applied by him in the leading case.¹

The exception which is stated in the general rule of this section was judicially applied, and is well illustrated, in a case decided by Judge NATHANIEL SHIPMAN, where invention was found to reside in so reorganizing a meat-mincing machine as to dispense with many of its parts, and as to cause the parts retained to do the work of the original machine.² And in a case which involved a process patent, the Supreme Court has decided that invention resided in omitting one of the steps in an old process, where the resulting new process was the result of careful and long-continued experiment, and where its utility was decidedly greater than that of the old process.³

§ 36. It is not invention to improve a known structure by substituting an equivalent for either of its parts.⁴

What is signified in the patent law by the word "equivalent" is explained in detail in the chapter on infringement.

¹ McClain v. Ortmyer, 33 Fed. Rep. 287, 1888.

² Enterprise Mfg. Co. v. Sargent, 28 Fed. Rep. 187, 1886.

³ Lawther v. Hamilton, 124 U. S. 1, 1887.

⁴ Smith v. Nichols, 21 Wallace,

119, 1874; Crouch v. Roemer, 103 U. S. 797, 1880; Cochrane v. Waterman, 1 McArthur's Patent Cases, 54, 1844; Perry v. Foundry Co. 12 Fed. Rep. 436, 1882; Celluloid Mfg. Co. v. Tower, 26 Fed. Rep. 451, 1885.

The subject is of double importance, because it relates sometimes to the validity and sometimes to the infringement of patents. A. B. may construct and may patent a machine which differs from the prior patented machine of C. D. in one part only. If the courts decide that the new part inserted, is an equivalent of the old part omitted, then the machine of A. B. will be an infringement; and it will not be an invention, unless the new part, not only performs the function of the part for which it was substituted, but also performs another function by another mode of operation.¹ If, on the other hand, the courts hold that the part inserted is not an equivalent of the old part omitted, then the machine of A. B. may be an invention, and it will not be an infringement of any claim covering the entire machine of C. D.

§ 37. It is not invention to combine old devices into a new article without producing any new mode of operation.

*Stimpson v. Woodman*² involved a patent for a machine for pebbling leather. It gave the leather the pebbled surface by means of a roller, which had the counterpart of that surface engraved or sunk on its periphery. The same kind of roller had previously been used for the same purpose by hand, and the same kind of machine had been used for compressing leather, except that the roller in it was smooth. The Supreme Court held that the change involved in putting the old figured hand roller in the place of the plain roller of the machine, involved no invention, and that the patent was void, if the facts were as stated.

*Heald v. Rice*³ was based on a patent which covered a certain previously known straw-feeding attachment in combination with a certain previously known return-flue boiler, that straw-feeding attachment having been previously combined with a fire-box boiler. The utility of the return-flue boiler in that combination was much greater than that of

¹ *In re Hebbard*, 1 McArthur's Patent Cases, 550, 1857.

lace, 117, 1869.

² *Stimpson v. Woodman*, 10 Wal-

³ *Heald v. Rice*, 104 U. S. 754, 1881.

the fire-box boiler, but the Supreme Court nevertheless held that there was no invention in the union of the former with the straw-feeding attachment.

Hall *v.* Macneale¹ shows the following state of facts. The patentee first made safe doors the plates of which were held together by cored conical arbors, having screw threads cut on their exterior surfaces, and later he made other safe doors the plates of which were held together by solid conical arbors which had no such screw threads as the cored conical arbors had, and he afterward obtained a patent for the combination of the plates of safe doors with solid conical arbors having such screw threads. The Supreme Court, speaking by Justice BLATCHFORD, said that "There was no invention in adding to the solid conical bolt the screw thread of the cored conical bolt."

Many Circuit Court cases also involve the doctrine of this section. In one such case² Justice BLATCHFORD held a patent to be void for want of invention which covered a combination of a whip socket having an annular recess in it, with a flexible elastic ring held in that recess by its own elasticity, and provided on its inner edge with non-contiguous projections, separated so that they could not be pressed into contact with each other by the insertion of the whip handle into the ring. That decision was based on the fact that a prior whip socket having an annular recess had been combined with a plain rubber ring in that recess, and on the further fact that flexible elastic rings constructed like those of the patent had been combined with a whip socket which had no annular recess, but which clamped that ring between the upper end of that socket and a cap above it. Judge LOWELL has also decided three similar cases. In one of them³ he held it to be no invention to give paper collars the same kind of surface that had theretofore been impressed upon other articles of paper. In

¹ Hall *v.* Macneale, 107 U. S. 90, 1040, 1882.
1882.

² Union Paper Collar Co. *v.* Leland, 1 Bann. & Ard. 491, 1874.

³ Searls *v.* Merriam, 22 Off. Gaz.

another¹ he decided that, embossed lines on writing-paper being old, and ogee lines embossed on other paper being old, there was no invention in embossing ogee lines on writing-paper, to serve as guides to the eye of the writer. In a third case,² he held that, soft base-balls having been covered with a double cover, and hard base-balls having been covered with a single cover, there was no invention in covering a hard base-ball with a double cover. And other still later cases illustrate the same doctrine.³

§ 38. It is not invention to use an old thing or process for a new purpose.

In *Tucker v. Spalding*⁴ the patent covered a combination of a circular disk with removable saw teeth. There was a prior combination of a circular disk with removable cutters for the purpose of cutting tongues and grooves. The Supreme Court held that if what the latter combination did was in its nature the same as sawing, and if its structure and its action suggested to the mind of the ordinarily skilful mechanic this double use to which it could be adapted without material change, then the combination of the patent was but a double use of the older combination, and was therefore not an invention, and not patentable.

*Brown v. Piper*⁵ is a case in which the Supreme Court held, that a patent for an apparatus for preserving fish and other articles in a close chamber by means of a freezing-mixture having no contact with the atmosphere of the preserving chamber, covered nothing but a double use of the well-known ice-cream freezer.

In *Roberts v. Ryer*⁶ the same tribunal decided that to

¹ *Cone v. Morgan Envelope Co.* 4 Bann. & Ard. 109, 1879.

² *Mahn v. Harwood*, 3 Bann. & Ard. 517, 1878.

³ *Yale Lock Mfg. Co. v. National Bank*, 17 Fed. Rep. 533, 1883; *Kaaps v. Hartung*, 23 Fed. Rep. 187, 1885; *Troy Machinery Co. v. Bunnell*, 27 Fed. Rep. 810, 1886; *Union Edge Setter Co. v. Keith*, 31 Fed. Rep. 46,

1887; *Washburn & Moen Mfg. Co. v. Barbed Wire Co.* 33 Fed. Rep. 273, 1888; *Low v. Stove Co.* 36 Fed. Rep. 903, 1888.

⁴ *Tucker v. Spalding*, 13 Wallace, 453, 1871.

⁵ *Brown v. Piper*, 91 U. S. 37, 1875.

⁶ *Roberts v. Ryer*, 91 U. S. 157, 1875.

change the form and proportions of the compartments of a refrigerator, so as to utilize the descending instead of the ascending current of endlessly circulating air, was but a double use of that refrigerator.

Many other cases also embody the rule of this section, and apply it to particular double uses of old inventions.¹

An exception to the general rule of this section consists in the lately established proposition that where a new use of an old thing consists in combining it with other things in new organization, invention may be present;² and another exception to the general rule appears to reside in the proposition that invention may be present in a new use of an old process where the applicability of that process to that use was outside of the knowledge and belief of persons skilled in the art to which the new use pertained.³

§ 39. The rule of the last section is an easy one to apply to a case to which it is relevant, if the thing or process

¹ *King v. Gallun*, 109 U. S. 99, 1883; *Pennsylvania Railroad Co. v. Truck Co.* 110 U. S. 494, 1883; *Blake v. San Francisco*, 113 U. S. 679, 1884; *Miller v. Foree*, 116 U. S. 27, 1885; *Dreyfus v. Searle*, 124 U. S. 63, 1887; *Hendy v. Iron Works*, 127 U. S. 375, 1887; *Crescent Brewing Co. v. Gottfried*, 128 U. S. 169, 1888; *Peters v. Active Mfg. Co.* 129 U. S. 530, 1888; *Peters v. Hanson*, 129 U. S. 541, 1888; *Bean v. Smallwood*, 2 Story, 408, 1843; *Meyer v. Pritchard*, 1 Bann. & Ard. 261, 1874; *Adams v. Loft*, 4 Bann. & Ard. 496, 1879; *Royer v. Mfg. Co.* 20 Fed. Rep. 853, 1884; *Howe Machine Co. v. Needle Co.* 21 Fed. Rep. 630, 1884; *Spill v. Celluloid Mfg. Co.* 21 Fed. Rep. 639, 1884; *Celluloid Mfg. Co. v. Noyes*, 25 Fed. Rep. 319, 1885; *Aron v. Manhattan Ry. Co.* 26 Fed. Rep. 317, 1886; *Marchand v. Emken*, 26 Fed. Rep. 629, 1886; *Shenfield v. Mfg. Co.* 27 Fed. Rep. 808, 1886;

Busell Trimmer Co. v. Stevens, 28 Fed. Rep. 575, 1886; *Gloucester Isinglass & Glue Co. v. Le Page*, 30 Fed. Rep. 370, 1887; *Ansonia Brass & Copper Co. v. Electrical Supply Co.* 32 Fed. Rep. 81, 1887; *Acme Hay Harvesting Co. v. Martin*, 33 Fed. Rep. 249, 1888; *Mann's Car Co. v. Monarch Car Co.* 34 Fed. Rep. 130, 1888; *Babcock & Wilcox Co. v. Pioneer Iron Works*, 34 Fed. Rep. 338, 1888; *Ansonia Brass & Copper Co. v. Electrical Supply Co.* 35 Fed. Rep. 68, 1888; *Rubber Harness Trimming Co. v. Rubber Comb Co.* 35 Fed. Rep. 498, 1888; *Hale & Kilbourn Mfg. Co. v. Hartford Mattress Co.* 36 Fed. Rep. 762, 1888; *Schmid v. Mfg. Co.* 37 Fed. Rep. 345, 1889.

² *Telephone Cases*, 126 U. S. 572, 1887.

³ *Cary v. Wolff*, 24 Fed. Rep. 139, 1885.

covered by the patent in that case is used for the new purpose, without being changed either in construction or mode of operation. That is, however, not always the fact; and where it is not the fact, the rule is of but minor practical utility as a guide to a just conclusion. It does not apply to using any new thing for a new purpose; and in order to apply it to anything which differs somewhat from the most similar thing that preceded it, it is necessary first to determine whether that difference constitutes legal novelty: to determine whether the thing covered by the patent is really old. That question must be investigated by the aid of rules other than that of the last section; and when it is determined in the negative, it will follow that the rule of that section does not apply to the case.

§ 40. Want of invention, if it really exists in a particular process or thing, can nearly always be detected by one or another of the foregoing rules. When a case arises to which neither of them applies, and relevant to which the mind remains in uncertainty, that uncertainty may be removed by means of the rule in *Smith v. The Dental Vulcanite Co.*,¹ namely: When the other facts in a 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.

§ 41. To change the form of a machine or manufacture is sometimes invention, and sometimes it is not invention. Where a change of form is within the domain of mere construction, it is not invention; but where it involves a change of mode of operation, or a change of result, it is invention, unless it is held to be otherwise in pursuance of some rule other than any which relates to form.²

¹ *Smith v. Dental Vulcanite Co.* 93 U. S. 495, 1876; *Hollister v. Mfg. Co.* 113 U. S. 72, 1884; *Hill v. Biddle*, 27 Fed. Rep. 560, 1886.

² *Winans v. Denmead*, 15 Howard, 341, 1853; *Davis v. Palmer*, 2 Brock,

310, 1827; *Mable v. Haskell*, 2 Cliff, 510, 1865; *Aiken v. Dolan*, 3 Fisher, 204, 1867; *United States Bung Mfg. Co. v. Independent Bung Co.* 31 Fed. Rep. 76, 1887.

§ 42. A question of invention is a question of fact and not of law ;' though it is to be determined by means of the rules of law set forth in this chapter. In applying those rules, patents are not held void for want of invention except where invention is clearly absent. ²

§ 43. Every inventor or constructor is presumed by the law to have borrowed from another whatever he produces that was actually first invented and used by that other.' It follows that such of the foregoing rules as involve an inquiry into the state of the art to which the thing or process in controversy pertains, may involve an inquiry into the date and the character of inventions which were in fact unknown to the patentee, when he produced that thing or process. Such an inquiry ought not, however, to include anything which, had it been identical with that thing or that process, would not have negatived its novelty. What prior things will not have the latter effect is fully explained in the third chapter of this book.

§ 44. It was shown in Section 23 that patents are grantable for nothing but inventions. It is also the law that they can be granted only to those who invented the inventions they respectively cover, or to the assignees or legal representatives of those persons. The subjects of assignments and devolutions of inventions and patents are explained in the chapter on title, but this is the proper place in which to treat the subjects of joint invention and sole invention.

§ 45. If A. B. notices the need of a new machine to perform a particular function, and thereupon conceives the plan of such a machine, and proceeds to embody that plan in a successful working structure, and does all this without assistance from any other person, then it is clear that he is a sole inventor of that machine. If, on the other hand, C. D. notices the need of a new machine to perform a par-

¹ *Poppenhusen v. Falke*, 5 Blatch. 421, 1888; *Marvin v. Gotshall*, 36 49, 1862; *Shuter v. Davis*, 16 Fed. Fed. Rep. 908, 1888.
Rep. 564, 1883.

² *Reiter v. Jones*, 35 Fed. Rep. Rep. 203, 1881.
³ *Crompton v. Knowles*, 7 Fed.

ticular function, and calls the attention of E. F. to the matter, and a successful invention is, after many conversations between the two, embodied in a working machine constructed by the hands of both, then it may be that C. D. is the sole inventor, or it may be that E. F. is the sole inventor, or it may be that both are joint inventors of the machine they produced. Upon what considerations the fact on this point depends it is now in order to point out.

§ 46. Every machine, before it can be used, must be constructed as well as invented. If one man does all the inventing and another does all the constructing, the first is the sole inventor. Equally axiomatic is the proposition that if both participate in the inventing they are joint inventors, regardless of whether both take part in the constructing. Plainly true as this last doctrine appears to be, there are several Circuit Court decisions with which it is not perfectly harmonious.

Justice NELSON once decided that where A. B. aided C. D. to invent a machine, but did not furnish all the information necessary to complete the invention, and where C. D. thereupon did the required residue of the inventing, and did all of the constructing of the machine without further help, he was the sole inventor of that machine.¹

Justice SWAYNE, on the other hand, decided that where A. B. drew a sketch in sand to represent his ideas of a possible improvement of a portable steam engine, and where C. D. from that sketch made working drawings, and from those drawings built a working engine, without further interference or suggestion from A. B., the latter was the sole inventor of the improvement so produced.²

Now, if we apply the doctrine of Justice NELSON to the facts passed upon by Justice SWAYNE, we shall probably be driven to the conclusion that C. D., and not A. B., was the sole inventor of that improvement in steam engines, because it is very improbable that any mere sketch in sand furnished

¹ *Pitts v. Hall*, 2 Blatch. 229, 1851.

² *Blandy v. Griffith*, 3 Fisher, 609, 1869.

C. D. with all the information necessary to complete that invention. There must have been something which, in the language of Justice NELSON, "was left for him to devise and work out by his own skill or ingenuity, in order to complete the arrangement."

In the case before Justice NELSON it was C. D., and in that before Justice SWAYNE it was A. B., who had obtained a sole patent. In each case the defendant insisted that the other man concerned in the production of the invention, and not the patentee, was the sole inventor; and in both cases that contention was evidently unfounded in fact. The patents were *prima facie* evidence of their own validity, and not being attacked at their vulnerable points were necessarily sustained. Had the defendant in either case urged the defence of joint invention as being fatal to a sole patent, then the true question would have been before the court, and the charge to the jury in the first case, or the opinion of the judge in the other, would have been adapted to that issue. The failure of counsel to take the proper ground of defence in the two cases deprived the profession and the public of what would doubtless have been very instructive deliverances relevant to the point under present inspection. Taking into account, however, the facts of the two cases and the lack of harmony between the doctrines involved in the two opinions, it is safest to lay them both out of view in the present connection. Both cannot be followed by the Supreme Court, and it is not probable that either will be. The question has never been squarely presented to that tribunal; but when it is so presented it will doubtless be decided that where two or more persons exercised their inventive faculties in the mutual production of a new and useful process or thing, those persons are joint inventors thereof, regardless of whether one, or part, or all, or neither of those persons constructed or helped to construct the first specimen of that thing, or performed or helped to perform the first instance of that process.

§ 47. The case of the *Agawam Co. v. Jordan*¹ is not inconsistent with what is advanced at the close of the last section. The defendant in that case did not set up a joint invention by the patentee and another, but set up an alleged sole invention by that other, of the thing patented. The most that it could get its witness to testify, however, was that he suggested to the patentee one of the parts of one of the combinations secured by the patent, but that the patentee himself contrived the devices by means of which that part was incorporated into that combination. The patentee did not claim the suggested part as his invention, but only claimed several new combinations of old devices, and among the number a combination of several things, one of which was said to have been suggested by the defendant's witness. In that state of facts it was clear that the latter was neither sole nor joint inventor of anything covered by the patent, and accordingly the Supreme Court so decided.

§ 48. In order to make an invention of importance, a considerable fund of general knowledge must be possessed by the inventor. Where that fund was acquired before he undertook his invention, it is easy to see that those who imparted it are not thereby made joint inventors with him. Though not quite so obvious, it is equally certain that if, pending his experiments, an inventor seeks and secures one point of information from a scientist, and another from a machinist, and a third from a book, he is not, on account of having done the first two, any less a sole inventor than he is on account of having done the last.²

§ 49. To constitute a man an inventor, it is not necessary for him to have skill enough to embody his invention in a working machine, or in a model, or even in a drawing. If a man furnishes all the ideas needed to produce the invention aimed at, he may avail himself of the mechanical skill of others, to practically embody or represent his contrivance, and still be the sole inventor thereof.³ But it is not inven-

¹ *Agawam Co. v. Jordan*, 7 Wal- 62, 1858.
lace, 583, 1868.

² *Sparkman v. Higgins*, 1 Blatch.

³ *O'Reilly v. Morse*, 15 Howard, 209, 1846; *Stearns v. Davis*, 1

tion to conceive a result, and then employ another to produce that result.'

§ 50. Under the statute, only he or they who have invented a particular thing can lawfully obtain a patent therefor, except in cases where the applicant is an assignee or legal representative of the true inventor or inventors. It follows that if one of two or more persons obtains a patent for a process or thing which was jointly invented by them all, that patent is not valid.² In such a case it is not true that the patentee invented the thing patented. He only helped to invent it. If he could have a valid patent for that thing or process, each of his co-inventors could do likewise, and each of several persons would possess the exclusive right to the same. As to each other, such a state of affairs among patentees would be impossible, and as to the public it would be intolerable.

§ 51. So also if several persons obtain a joint patent for what was invented solely by one of them, that patent is void.' There is no statutory authority to grant a patent to a non-inventor jointly with an inventor, without an assignment or a death, any more than there is to grant a patent to a non-inventor alone. But very convincing evidence is required to establish the invalidity of a patent on the ground stated in this section.'

McArthur's Patent Cases, 696, 1859.

¹ *Streat v. White*, 35 Fed. Rep. 426, 1888.

² *Arnold v. Bishop*, 1 McArthur's Patent Cases, 36, 1841; *H. T. Slemmer's Appeal*, 58 Penn. 164, 1868.

³ *Ransom v. New York*, 1 Fisher, 269, 1856; *Hotchkiss v. Greenwood*,

4 McLean, 461, 1848; *Barrett v. Hall*, 1 Mason, 473, 1818; *Royer v. Coupe*, 29 Fed. Rep. 363, 1886; *Stewart v. Tenk*, 32 Fed. Rep. 665, 1887.

⁴ *Button Fastener Co. v. Lucas*, 28 Fed. Rep. 371, 1886; *Schlicht & Field Co. v. Machine Co.* 46 Off. Gaz. 1394, 1888.

CHAPTER III.

NOVELTY.

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| <p>52. Novelty necessary to patentability.</p> <p>53. Novelty defined.</p> <p>54. Not negatived by knowledge or use in a foreign country.</p> <p>55. Not negatived by private patent granted in a foreign country.</p> <p>56. Prior printed publications.</p> <p>57. Fulness of prior patents and printed publications.</p> <p>58. Novelty not negatived by any abandoned application.</p> <p>59. Qualification of the last rule.</p> <p>60. Successful prior applications.</p> <p>61. Novelty not negatived by any unpublished drawing, or prior model.</p> <p>62. Novelty not negatived by anything substantially different.</p> <p>63. Abandoned experiments.</p> <p>64. Novelty in cases of designs.</p> <p>65. Novelty not negatived by anything apparently similar or chemically identical, but practically useless.</p> | <p>66. Novelty not negatived by antiquity of parts.</p> <p>67. Novelty not negatived by prior accidental and not understood production.</p> <p>68. Novelty not negatived by anything neither designed, nor apparently adapted, nor actually used for the same purpose as the</p> <p>69. Comparative dates. [invention.</p> <p>70. Dates of patented inventions.</p> <p>71. Novelty is negatived by one instance of prior knowledge and use in this country.</p> <p>72. Novelty is negatived by prior making without using.</p> <p>73. Inventor's lack of knowledge of anticipating matter is immaterial.</p> <p>74. Old thing derived from new source.</p> <p>75. Questions of novelty are questions of fact.</p> <p>76. Burden of proof relevant to novelty.</p> |
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§ 52. THE statutes of the United States have always provided that anything to be patentable must be new. Statements that some things are not patentable because, though new in a commercial sense, they are not new in the eye of the patent law, occur in a few reported cases. In every such instance, however, it would have been more accurate to say that some things are not patentable because, though new things, they are not invented things. Such things lack patentability not because they lack newness, but because

they lack invention. The subject belongs to the domain of invention and not to that of novelty, and it is therefore treated in the second chapter of this book. With this explanation, it is not untrue or misleading to say that whatever is really new, is new in the eye of the patent law.

§ 53. Many things are new in the eye of the patent statutes in addition to those things which are really new. The word has, therefore, a broader signification in those statutes than it has in the dictionaries; but that broader meaning is not capable of a short definition. Novelty is the conventional name of that statutory newness, but that name does not indicate the boundaries of the thing which it denotes. Those boundaries can be delineated only by enumerating and explaining those classes of facts which fall within them, but which fall without the boundaries of actual newness: those classes of facts which negative newness, but which do not negative novelty.

§ 54. Novelty is not negatived by prior knowledge and prior use in a foreign country of the thing patented, provided the patentee, at the time of making his application for a United States patent, believed himself to be the first inventor of the thing covered thereby, and provided that thing had nowhere been patented to another, and nowhere been described in a printed publication.¹

Knowledge in the mind of a man who lives in this country, that the patented thing was known and used in a foreign country before its invention here, is not such knowledge in this country as will negative the novelty of the patent covering that thing.²

§ 55. Novelty is not negatived by any prior private patent granted in any foreign country,³ nor by any public patent granted in England, unless the complete specification of the latter was filed before the person obtaining the American

¹ Revised Statutes, Sections 4887 746, 1884.
and 4928.

² Brooks v. Norcross, 2 Fisher,

³ Doyle v. Spalding, 19 Fed. Rep. 661, 1851.

patent made the invention.' In neither of those two cases can it be truly said that the invention was antecedently patented in a foreign country, that is, made patent to the public, and therefore such transactions do not come within the statute. On the other hand, it is safe to say that novelty would be negatived by a full description in the specification of a prior public patent of the thing covered by an American patent, even though that thing was not covered by the claims of the prior patent, and therefore not patented to the prior inventor.² This doctrine must result from the fact that whatever is well described in a patent is patented, that is, made patent to the public, whether it is claimed by the patentee or not. Indeed the Supreme Court has decided that novelty is negatived by a prior patent which shows the device in its drawings and describes it in the specification, but does not clearly state its use.

§ 56. A printed publication is anything which is printed, and, without any injunction of secrecy, is distributed to any part of the public in any country; and such a publication may negative novelty.⁴ Indeed, it seems reasonable that no actual distribution need occur, but that exposure of printed matter for sale is enough to constitute a printed publication. Whether a drawing, either in a patent or a printed publication, if unaccompanied by description in words, will negative novelty is an unsettled question.⁵ Its answer depends upon the meaning of the word "described" in the statute. If that meaning is confined to the last definition of Webster, then only description in words can negative novelty; but if it covers also the first definition of Webster, then representation by lines, as in a drawing, must have that effect. Inasmuch as drawings can generally give information which is as clear as that which words alone can give, relevant to

¹ *Smith v. Goodyear Dental Vulcanite Co.* 93 U. S. 498, 1876.

² *United States Bung Mfg. Co. v. Independent Bung Co.* 31 Fed. Rep. 79, 1887.

³ *Stow v. Chicago*, 104 U. S. 547,

1881.

⁴ *Rosenwasser v. Spieth*, 129 U. S. 47, 1888.

⁵ *Judson v. Cope*, 1 Fisher, 619, 1860; *Reeves v. Bridge Co.* 5 Fisher, 456, 1872.

the construction and character of a machine or manufacture, there seems to be no meritorious reason for their not having the same effect on the novelty of subsequent patents. No injustice can result from such a rule, because, in order to have any effect on such novelty, drawings as well as words must be able to endure the test stated in the next section.

§ 57. Novelty is not negatived by any prior patent or printed publication, unless the information contained therein, is full enough and precise enough to enable any person skilled in the art to which it relates, to perform the process or make the thing covered by the patent sought to be anticipated.¹ It follows from this rule that difference is fatal to anticipation, if that difference is greater than any which could occur between two things, independently constructed by two skilful mechanics from the same specification. The phrase "skilful mechanic," as used in this connection, does not include mechanics who are skilful only in methods of servile imitation. It refers only to mechanics who know how to vary form without varying substance, and who, in constructing a machine from a printed description, or from Patent Office drawings, could readily and would freely alter proportions and change details in order to adapt the contrivance to a particular use, or in order to secure greater merit of workmanship for the thing constructed. If a difference greater than what could arise in this way, is found to exist between a patented thing, and the thing described in a prior patent or printed publication, then the latter cannot negative the novelty of the former. It may, however, defeat the patent for want of invention, though failing to defeat it for want of novelty. Whether or not it can do so, is to be ascertained in each case by applying thereto the established rules on the subject of invention.

¹ Seymour *v.* Osborne, 11 Wallace, 516, 1870; Cawood Patent, 94 U. S. 704, 1876; Downton *v.* Milling Co. 108 U. S. 466, 1882; Eames *v.* Andrews, 122 U. S. 66, 1886; Roberts

v. Dickey, 4 Fisher, 532, 1871; Cahill *v.* Brown, 3 Bann. & Ard. 580, 1878; Hammerschlag *v.* Scamoni, 7 Fed. Rep. 584, 1881.

§ 58. Novelty is not negatived by any prior abandoned application for a patent.¹ Abandoned applications for patents are not by the statutes made bars to patents to later applicants. They furnish no evidence that any specimen of the things they describe was ever made or used anywhere. Being only pen and ink representations of what may have existed only as mental conceptions of the men who put them upon paper, they do not prove that the things which they depict were ever known in any country. Nor can they be classed among printed publications, for they are usually in writing, and are not published otherwise than by being placed on file in the Patent Office.

§ 59. When there is evidence that he who made and abandoned an application for a patent, made also some effort to carry his invention into practical use, then that application is admissible in evidence to aid the court to determine the date and the nature of the invention which was sought to be embodied in a working form. If, however, upon the whole of the evidence, it appears that what the inventor did, outside of his abandoned application, did not amount to enough to negative the novelty of a subsequent patent to a later inventor, then that abandoned application becomes immaterial to that issue.²

§ 60. Novelty is not negatived by any successful application for a patent, nor by any documents pertaining thereto, other than the letters patent issued in pursuance thereof.³ When such an application, or such a document, is offered to prove the existence of something which is not shown by the letters patent themselves, the justice and propriety of this rule is apparent at a glance. The rule necessarily follows from the same considerations as those which reject an abandoned application, when an abandoned application is offered to negative novelty. But when a successful appli-

¹ Corn-planter Patent, 23 Wallace, 211, 1874; *N. W. Extinguisher Co. v. Phila. Extinguisher Co.* 1 Bann. & Ard. 177, 1874; *Lyman Ventilating & Refrigerator Co. v.*

Lalor, 1 Bann. & Ard. 403, 1874.

² Corn-planter Patent, 23 Wallace, 211, 1874.

³ *Howes v. McNeal*, 5 Bann. & Ard. 77, 1880.

cation is offered only to prove the date of the invention claimed in the resulting patent, a case will occur which will doubtless occasion the establishment of an exception to the rule.

§ 61. Novelty is not negatived by any prior unpublished drawings, no matter how completely they may exhibit the patented invention,¹ nor by any prior model, no matter how fully it may coincide with the thing covered by the patent.² 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 and improvements thereof, that they shall not have been previously known or used by others in this country.³ 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 negative the sort of 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 there-

¹ *Ellithorp v. Robertson*, 4 Blatch. 309, 1859; *Draper v. Potomska Mills*, 3 Bann. & Ard. 214, 1878; *Detroit Lubricator Mfg. Co. v. Renchard*, 9 Fed. Rep. 293, 1881; *Odell v. Stout*, 23 Fed. Rep. 159, 1884; *Pennsylvania Diamond Drill Co. v. Simpson*, 29 Fed. Rep. 291, 1886.

² *Cahoon v. Ring*, 1 Cliff, 593, 1861; *Stainthorp v. Humiston*, 4 Fisher, 107, 1864; *Johnson v. McCullough*, 4 Fisher, 170, 1870; *Stillwell & Bierce Mfg. Co. v. The Cincinnati Gas Light & Coke Co.* 1 Bann. & Ard. 610, 1875.

³ Revised Statutes, Section 4886.

with, 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.

§ 62. Novelty is not negatived by anything substantially different from that covered by the patent, even though the function of the prior thing was identical with that of the patented article. This rule necessarily follows from the doctrine that a valid patent may be granted for a new means of producing an old result.¹ In order to defeat a patent for want of novelty, the anticipating thing must be substantially identical with that covered by the patent. If a marked and apparently important change is found in the patented thing, and one which is not assignable to mere omission of parts,² or mere substitution of equivalents,³ the defence will fail. But a thing which will not defeat a patent for want of novelty, may defeat it for want of invention. It will do so wherever the observed difference corresponds in character with either of those differences between a patented thing and the prior art, which, in the second chapter of this book, were shown to be insufficient to constitute invention.

§ 63. The rule of the last section will probably govern every case which justly comes within the doctrine that novelty is not negatived by any unsuccessful abandoned experiment. That rule is far more reliable than that doctrine, because the latter is subject to such qualifications and explanations, that its practical utility in deciding cases is but small. A thing may have been abandoned and still negative the novelty of a thing independently invented long after that abandonment.⁴ Such will be the result if the earlier

¹ *O'Reilly v. Morse*, 15 Howard, 62, 1853.

² *Jennings v. Lowenstine*, 31 Fed. Rep. 84, 1887.

³ *Hartshorn v. Barrel Co.* 119 U. S. 676, 1886.

⁴ *Waterman v. Thomson*, 2 Fisher,

463, 1863; *Shoup v. Henrici*, 2 Bann. & Ard. 249, 1876; *N. W. Extinguisher Co. v. Phila. Extinguisher Co.* 1 Bann. & Ard. 177, 1874; *McNish v. Everson*, 5 Bann. & Ard. 484, 1880.

thing was identical with the later, and was used long enough to show that it would work.¹

If a given experimental device was unsuccessful in the hands of its contriver, that fact must have been due either to one or more faults of principle, or to one or more faults of construction, or to one or more faults of each of these kinds. If partly or wholly due to any fault of principle, that very fact shows that the unsuccessful device was substantially different from subsequent successful patented things. For that reason alone, it would have failed to negative the novelty of those things even if it had not been unsuccessful. If, on the other hand, a prior device was unsuccessful merely because its construction was faulty, it is far from certain that it will not be held to negative the novelty of all subsequent devices identical with it in plan, mode of operation, and function.

The Stevens car-brake can conveniently be used to illustrate this point, because the reader can look upon a woodcut of that brake in Webster's Dictionary, and because its construction is particularly suitable to the question in hand. Simple and excellent as that contrivance is, it was not conceived till after several more complicated and less useful brakes were produced and patented. The conception came to the inventor in one moment of time, though after a long study of the problem. He knew then, as well as he ever did afterward, that the conceived combination would certainly succeed. Now suppose some other mechanic in the United States had conceived the same apparatus a year earlier, and had promptly constructed all the parts of the first specimen thereof, and had promptly fitted all those parts together and to a railroad car; and suppose that the chain F, being somewhat light in proportion to the strain upon it, had parted asunder the first time the apparatus was attempted to be operated, so that no result was produced; and suppose that, because of

¹ Gayler v. Wilder, 10 Howard, 477, 1850; Sayles v. Railway Co. 4 Fisher 588, 1871; Stephenson v. Railroad Co. 14 Fed. Rep. 459, 1881.

sickness, death, or other sufficient reason, no attempt was ever made to mend or replace that chain, or to again use that specimen of the apparatus. Such events would constitute an unsuccessful abandoned experiment, but nevertheless they would probably be held to negative the novelty of the Stevens patent, because they would teach the public how to make and use specimens of the Stevens brake about as effectually as if the chain F had not parted. It is believed that no precedent exists for an opinion contrary to this; and if one is hereafter discovered or made, it will probably be found to be inconsistent with at least one decision of the Supreme Court.¹

The truth, therefore, appears to be that an unsuccessful abandoned experiment may possibly negative the novelty of a later invention, and that where it fails to have that effect, it would have failed, even if it had been neither unsuccessful nor abandoned. Novelty is to be ascribed to new things, regardless of whether old and different things were successful or unsuccessful, abandoned or not abandoned. Novelty is to be denied to old things, regardless of the accidents which caused earlier specimens of the same things to fail to operate, or caused their use to be discontinued.

§ 64. The question of the novelty of a design, is to be determined by the comparative appearance of that design and of prior designs, in the eyes of average observers, and not by their comparative appearance in the eyes of experts making an analytical inspection.² Nor is the novelty of any design negatived by the fact that all of its features can be collected out of scattered prior designs.³

§ 65. Novelty is not negatived by anything fundamentally incapable of the function of the thing covered by the patent, even though the character of the prior thing was chemically

¹ Pickering v. McCullough, 104 U. S. 319, 1881.

² Perry v. Starrett. 3 Bann. & Ard. 489, 1878; Foster v. Crossin,

23 Fed. Rep. 402, 1885; Kraus v. Fitzpatrick, 34 Fed. Rep. 39, 1888.

³ Simpson v. Davis, 12 Fed. Rep. 144, 1882.

identical with the patented thing, or mechanically similar thereto.

In *Morey v. Lockwood*¹ the prior Mau syringe was relied upon to negative the novelty of the syringe of Dr. Davidson and his brother. The latter is the now well-known soft rubber bulb apparatus. The former was exactly like it, except that the central part was a soft rubber cylinder with metallic heads, instead of a soft rubber bulb. The mode of operation of the two syringes was identical. The Mau apparatus proved to be of no practical value, simply because the metallic heads of the cylinder strongly counteracted the user's efforts to compress its rubber walls. Feeble persons could not use it, and those who had enough muscular power did not care to perform the needed labor. Practically, therefore, the Mau syringe proved to be of no value, and very few were ever sold. For these reasons the Supreme Court held that it did not negative the novelty of the Davidson patent.

The *Wood Finishing Co. v. Hooper*² is a case the patent involved in which, covered the employment of finely powdered flint, quartz, or feldspar, mixed with oil or other fluent substance, for the purpose of filling the pores of the surface of wood. A prior patent had been granted for the employment of silicious marl or infusorial earth for the same purpose. It was shown that all five of these substances consisted mainly of silica or the oxide of silicon, but that the first three differed from the last two in being non-absorbent instead of porous, and in consisting of angular instead of rounded particles. These two differences made the first three substances very valuable for wood-filling, whereas the others were not valuable for that purpose. Judge NATHANIEL SHIPMAN, therefore, decided that the prior patent did not negative the novelty of the later one.

§ 66. Novelty is not negatived by the fact that every part of the patented thing is old.³ This rule necessarily follows

¹ *Morey v. Lockwood*, 8 Wallace, 230, 1868.

² *Bridgeport Wood Finishing Co.*

v. Hooper, 5 Fed. Rep. 63, 1880.

³ *Bates v. Coe*, 98 U. S. 48, 1878;

Imhaeuser v. Buerk, 101 U. S. 660,

from the doctrine which allows patents for new combinations of old devices. In such cases the whole is different from the sum of all its parts, precisely as this printed page is different from what it would be if the same words were arranged in alphabetical order, or were printed promiscuously upon the paper. If, however, a new assemblage of old things amounts only to aggregation and not to combination, or if it results in no new mode of operation, the patent which covers it will be void for want of invention,¹ though not void for want of novelty.

§ 67. Novelty is not negatived by any prior accidental production of the same thing, unaccompanied by knowledge on the part of the producer sufficient to enable him to repeat that production.² The reason of this rule arises out of that point of patent law policy which rewards persons for teaching the public how to perform processes and construct things which nobody else in the United States knew how to perform or to construct, and relevant to which no adequate information could be found in any public patent or printed publication anywhere in the world. But novelty is negatived by proof of prior use, where that use was understood in point of method, though not correctly understood in point of result.³

§ 68. Novelty is not negatived by anything which was neither designed, nor apparently adapted, nor actually used, to perform the function of the thing covered by the patent, though it might have been made to perform that function by means not substantially different from that of the patented invention.⁴ This rule rests upon the same reason as the rule of the last section, and is even more favorable to

1879; *Parks v. Booth*, 102 U. S. 104, 1880; *Cantrell v. Wallick*, 117 U. S. 694, 1885; *Johnson v. Railroad Co.* 33 Fed. Rep. 501, 1888.

¹ Sections 32 and 37 of this book.

² *Ransom v. New York*, 1 Fisher, 265, 1856; *Pelton v. Waters*, 1 Bann. & Ard. 599, 1874; *Andrews v. Car-*

man, 2 Bann. & Ard. 277, 1876.

³ *Dorlon v. Guie*, 25 Fed. Rep. 816, 1885.

⁴ *Clough v. Mfg. Co.* 106 U. S. 178, 1882; *Bell Telephone Co. v. Dolbear*, 17 Fed. Rep. 605, 1883; *Kittle v. Hall*, 29 Fed. Rep. 514, 1887.

patentees than that. Though recently established, it is established thoroughly, inasmuch as it is the result of repeated and careful consideration by one of the ablest patent jurists in the United States, and inasmuch as, in establishing it, his associates on the Supreme bench concurred with him in reversing his own decision on the circuit.

The rule of this section cannot govern any case which lacks either of the circumstances upon which it is founded, for negation of novelty is not averted by the mere fact that the inventor of the prior device did not design it to perform the function of the patented device,¹ nor by the mere fact that its ability to perform that function is not apparent to every beholder, nor by the mere fact that it was never actually used for that purpose, nor by any two of these facts combined.

§ 69. Novelty is not negatived by anything which was invented, patented, or described in a printed publication prior to the granting of the patent sought to be anticipated, or even prior to the application therefor, unless the anticipating event occurred prior to the date of the invention secured by that patent.²

One apparent exception to this rule has been stated in an *obiter dictum* by the Supreme Court,³ and indorsed in another *obiter dictum* by Judge McKINNON.⁴ In those instances it was said that where two patents for the same invention are granted to the same inventor, the last and not the first is void, even where the last was first applied for. The exception is however only apparent, because the patent last applied for is as much entitled to date from the making of the invention as the other. The date of invention assignable to the two patents being exactly the same, the first patent will negative the novelty of the last, regardless

¹ Leonard v Lovell, 29 Fed. Rep. 315, 1886.

² Cochrane v. Deener, 94 U.S. 791, 1876; Elizabeth v. Pavement Co. 97 U. S. 130, 1877; Parker v. Hulme, 1 Fisher, 52, 1849; Bartholomew v.

Sawyer, 1 Fisher, 520, 1859.

³ Suffolk Co. v. Hayden, 3 Wallace, 315, 1865.

⁴ M'Millin v. Rees, 5 Bann. & Ard. 239, 1880.

of which was first applied for. The *dictum* of the Supreme Court in this matter is not inconsistent with Judge LOWELL's decision,¹ that, "in the absence of other evidence of the dates of invention, the first application must be taken to represent the first invention;" because the fact of an identical inventor is evidence, in such cases, that the date of invention was identical. No man can make one invention at two different times.

And the *dictum* in *Suffolk Co. v. Hayden* has no applicability to a case where an inventor takes out a patent which describes and claims what was described but not claimed in a prior patent of his; because in such a case the prior patent is not for the same invention as the last.²

§ 70. In order to apply the rule of the last section, it is necessary to fix the date of the invention covered by the patent sought to be anticipated. In cases where the invention may be exhibited in a drawing or in a model, it will date from the completion of such a model or such a drawing as is sufficiently plain to enable those skilled in the art to understand the invention;³ and patented inventions always date at least as early as the dates of the execution of the original applications therefor, provided the original applications exhibit the inventions with the above-mentioned extent of sufficiency.⁴ In cases where a patented invention was explained in words, without the aid of any model or any drawing, it will date from the completion of such a written description as would teach others how to make and use the invention described. In cases where the inventor makes a specimen of the thing invented before he makes any model, or drawing, or written description to represent that thing, the

¹ *Pennington v. King*, 7 Fed. Rep. 462, 1881.

² *Eagle Mfg. Co. v. Bradley*, 35 Fed. Rep. 297, 1888.

³ *Loom Co. v. Higgins*, 105 U. S. 594, 1881; *Heath v. Hildreth*, 1 McArthur's Patent Cases, 24, 1841; *Perry v. Cornell*, 1 McArthur's Pat-

ent Cases, 78, 1847; *Farley v. Steam Gauge Co.* 1 McArthur's Patent Cases, 621, 1859; *Hubel v. Dick*, 28 Fed. Rep. 139, 1886.

⁴ *Kearney v. Railroad Co.* 32 Fed. Rep. 322, 1887; *National Machine Co. v. Brown*, 36 Fed. Rep. 321, 1888.

invention will date from the completion of that specimen. Perfection is not necessary to such a specimen, in order to entitle it to such an effect. Substantial completeness is enough.

No invention ought to date from any day wherein it had no existence or representation outside of the mind of the inventor, no matter how clear or how complete his mental conception of its character and mode of operation may have been. Mental conceptions are not useful inventions until they are so embodied that the world could use them after the death of the persons who conceived them. To allow inventions to take date from mental conceptions would strongly tempt inventors to commit perjury in order to appear to anticipate real anticipations of their patents.

Whether an oral description, given by the inventor to another, of a subsequently patented invention, can give that invention a date earlier than that to which it would otherwise be entitled, depends upon the nature of the invention, and the capacity of the hearer to understand it and remember it. Where an invention is abstruse or is complicated, and where it is not certain that the hearer understood it, and has remembered it, well enough to communicate it to the world in case of the inventor's death, the invention ought not to date from such a description.¹ But where it is shown that the person to whom such an oral description was given, understood it completely, and has remembered it accurately, a patented invention may date back to that oral description.² The reason for allowing a patented invention to date back to an oral or a written description, or to a drawing or a model, as the case may be, while an unpatented invention, which is set up to negative the novelty of a patented invention, is not allowed to date back to either of those things, resides in the fact that those things

¹ *Stephens v. Salisbury*, 1 McArthur's Patent Cases, 385, 1855.

² *Philadelphia & Trenton R. R. v. Stimpson*, 14 Peters, 448, 1840; *Stephens v. Salisbury*, 1 McArthur's

Patent Cases, 385, 1855; *Hill v. Dunklee*, 1 McArthur's Patent Cases, 483, 1857; *Davidson v. Lewis*, 1 McArthur's Patent Cases, 599, 1858.

are incipient in their nature, and in the principle that an invention which is ultimately developed and given to the world in a patent ought equitably to date from such an incipency, while the rights of a patentee ought not to be impaired by a similar incipency which was never developed into a patent.

§ 71. Novelty is negatived by prior knowledge and use in this country, by even a single person, of the thing patented.' This rule applies even to cases where that knowledge and use were purposely kept secret;² and it applies no matter how limited that use may have been.³

In *Gayler v. Wilder*⁴ the Supreme Court announced an exception to this rule, but in a later case it intimated a denial, or at least a doubt, of the validity of that exception. According to the opinion of a majority of the court in the first case, a single instance of prior knowledge and use will not negative novelty if that use had ceased when the patent was granted, and that knowledge was forgotten until called to mind by the reinvention. Justices McLEAN and DANIEL dissented from that conclusion, and it will probably always be found impossible to fairly answer their arguments.

§ 72. Novelty is also negatived by evidence that even one specimen of the thing patented was made in this country, prior to its invention by the patentee, even though it was not used prior to that time.⁵ This rule results from the statute which provides that things, in order to be patentable, must not have been known or used by others in this country.⁷ If the prior article produced or proved appears

¹ *Coffin v. Ogden*, 18 Wallace, 120, 1873; *Brush v. Condit*, 20 Fed. Rep. 832, 1884.

² *Reed v. Cutter*, 1 Story, 598, 1841.

³ *Bedford v. Hunt*, 1 Mason, 301, 1817; *Rich v. Lippincott*, 2 Fisher, 2, 1853.

⁴ *Gayler v. Wilder*, 10 Howard,

477, 1850.

⁵ *Coffin v. Ogden*, 18 Wallace, 125, 1872.

⁶ *Corn-planter Patent*, 23 Wallace, 220, 1874; *Parker v. Ferguson*, 1 Blatch. 408, 1849; *Pitts v. Wemple*, 2 Fisher, 15, 1855; *Stitt v. Railroad Co.* 22 Fed. Rep. 650, 1884.

⁷ Revised Statutes, Section 4886.

on inspection to have been identical with the patented thing, and if it is proved to have been made in this country before the date of the patented invention, it follows that it was known here prior to that time, and the novelty of the patent is necessarily negatived. If, however, the identity of the patented and the prior article can be known only by actual use, and if the prior article never was actually used till after the date of the patented invention, then its prior making will not negative novelty.¹ In that case, though its existence was known prior to the invention of the patented thing, it was not known to be what the patented thing afterward was. Knowledge in order to negative novelty must include knowledge of the character, as well as knowledge of the existence, of the prior thing.

§ 73. Negation of novelty is not averted by the fact that the inventor had no knowledge of the anticipating matter when he made the invention covered by the patent.² The patent laws do not reward people for producing things which, though new to them, are old to others in this country.

§ 74. Nor is negation of novelty averted by the fact that the anticipating substance was made by a different process, or derived from a different source from that which produced the patented substance, for it does not make an old thing new to derive it from a new and unexpected quarter³ or to make it by a new and improved method.⁴

§ 75. Questions of novelty are questions of fact.⁵ This point is very obvious, except in cases where the prior thing is a patent or printed publication. In those cases it may be supposed that questions of novelty are questions of law arising on the construction of documents. The point has,

¹ Sayles v. Railway Co. 4 Fisher. 588, 1871; Stitt v. Railroad Co. 22 Fed. Rep. 650, 1884.

² Many v. Sizer, 1 Fisher, 19, 1849.

³ Cochrane v. Badische Anilin & Soda Fabrik, 111 U. S. 311, 1883; Badische Anilin & Soda Fabrik v.

Cummins, 4 Bann. & Ard. 490, 1879.

⁴ Cottle v. Krementz, 31 Fed. Rep. 42, 1887.

⁵ Battin v. Taggert, 17 Howard, 74, 1854; Turrill v. Railroad Co. 1 Wallace, 491, 1863.

however, been settled by the Supreme Court, in a case involving the consideration of a prior patent, and bearing with equal logical force upon a prior printed publication.¹ In that case it was held that the question whether the novelty of a patent is negatived by a prior patent, depends not upon the construction of the latter, but depends rather upon the outward embodiment of the terms contained in the latter document; and that such outward embodiment is to be properly sought, like the explanation of latent ambiguities arising from the description of external things, by evidence *in pais*. The court accordingly indorsed the proposition that such questions belong to the province of evidence, and not to that of construction; and said that even where no testimony is required to explain the terms of art or the description contained in the respective documents, the question is still to be treated as a question of fact.

§ 76. The burden of proof of a want of novelty rests upon him who avers it, and every reasonable doubt should be resolved against him.² It follows from this declaration of the Supreme Court, and has been expressly decided by several Circuit Courts, that novelty can only be negatived by proof which puts the fact beyond a reasonable doubt.³

¹ *Bischoff v. Withered*, 9 Wallace, 812, 1869.

² *Coffin v. Ogden*, 18 Wallace, 120, 1873; *Cantrell v. Wallick*, 117 U. S. 696, 1885; *Parham v. Machine Co.* 4 Fisher, 482, 1871; *Webster Loom Co. v. Higgins*, 4 Bann. & Ard. 88, 1879; *Shirley v. Sanderson*, 8 Fed. Rep. 908, 1881; *Green v. French*, 11 Fed. Rep. 591, 1882; *Duffy v. Reynolds*, 24 Fed. Rep. 858, 1885; *Dreyfus v. Schneider*, 25 Fed. Rep. 481, 1885; *Osborne v. Glazier*, 31 Fed. Rep. 404, 1887; *Smith v. Davis*, 34 Fed. Rep. 785, 1888; *Howard v. Plow Works*, 35 Fed. Rep. 745, 1888.

³ *Wood v. Mill Co.* 4 Fisher, 560, 1871; *Hawes v. Antidel.* 2 Bann. & Ard. 10, 1875; *Bignall v. Harvey*, 5 Bann. & Ard. 636, 1880; *Worswick Mfg. Co. v. Buffalo*, 20 Fed. Rep. 126, 1884; *Thayer v. Hart*, 20 Fed. Rep. 694, 1884; *Everest v. Oil Co.* 20 Fed. Rep. 849, 1884; *American Bell Telephone Co. v. People's Telephone Co.* 22 Fed. Rep. 313, 1884; *McDonald v. Whitney*, 24 Fed. Rep. 600, 1885; *Jennings v. Kibbe*, 24 Fed. Rep. 698, 1885; *Wetherell v. Keith*, 27 Fed. Rep. 364, 1886; *Hobbie v. Smith*, 27 Fed. Rep. 659, 1886; *Cohansey Mfg. Co. v. Wharton*, 28 Fed. Rep. 191, 1886;

Under this rule, a patent enjoys the same presumption of novelty, that an unconvicted prisoner does of innocence.¹ Unlike most civil titles, it is not liable to be overthrown by a mere preponderance of evidence. The reason for this discrimination, resides in the fact that patentees are generally strangers to the alleged transactions upon which want of novelty is sought to be based. In civil suits generally the parties are both cognizant of the matters in controversy, and therefore equally able to guard against error and perjury in the witnesses. In patent cases, on the other hand, the alleged facts relied upon by defendants to show want of novelty, are nearly always wholly outside the knowledge of the plaintiffs. Those allegations may really be without any foundation, and the plaintiffs be wholly ignorant of that fact. It is easy for a few bad or mistaken men to testify, that in some remote or unfrequented place, they used or knew a thing substantially like the thing covered by the patent, and did so before that thing was invented by the patentee. In such a case it may happen that the plaintiff can produce nothing but negative testimony in reply: testimony of persons who were conversant with the place in question, at the time in question, and did not see or know the thing alleged to have been there at that time. If mere preponderance of evidence were to control the issue, the affirmative testimony of a few persons, that they did see or know or use a particular thing at a particular time and place, would outweigh the negative testimony of many persons, that they were at or near that place at that time, and did not see or know or use any such thing. But such negative testimony may cast a reasonable doubt upon such affirmative evidence, and if it is strong enough for that purpose it will render the latter unavailing.²

American Bell Telephone Co. v. Globe Telephone Co. 31 Fed. Rep. 733, 1887.

¹ Cluett v. Claffin, 30 Fed. Rep. 923, 1887; Untermeyer v. Freund, 37 Fed. Rep. 343, 1889.

² Sayles v. Railway Co. 4 Fisher, 588, 1871; Washburn & Moen Mfg. Co. v. Haish, 4 Fed. Rep. 900, 1880; Green v. French, 11 Fed. Rep. 591, 1882.

CHAPTER IV.

UTILITY.

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| 77. Utility necessary to patentability. | 82. Functions which sometimes work evil, and sometimes work good. |
| 78. Utility is negatived by lack of function. | 83. Functions thought by some to be good, and by others to be bad. |
| 79. Perfection not necessary to utility. | 84. Good functions in wrong places. |
| 80. Beauty has utility. | 85. Doubts relevant to utility to be solved against infringers. |
| 81. Utility is negatived where function is evil. | |

§ 77. THE useful arts are those that Congress is authorized by the Constitution to promote, and accordingly the statute includes utility among the qualities which a process or a thing must have in order to be patentable.¹ To possess utility, a thing or a process must be capable of producing a result, and that result must be a good result. Both these elements inhere in the meaning of the word; and they are so distinct as to require separate explanation.

§ 78. Utility is absent from all processes and devices which cannot be used to perform their specified functions, and patents for such subjects are therefore void.² This rule applies even to cases in which, by simply adding new elements to useless contrivances, highly useful inventions are produced.

In *Burrall v. Jewett*³ the patent covered the cylinder of a threshing-machine, having rows of teeth inserted in its convex surface and revolving within a barrel which had no

¹ Revised Statutes, Section 4886.

² *Bliss v. Brooklyn*, 10 Blatch. 522, 1873; *Rowe v. Blanchard*, 18 Wis-

consin, 465, 1864.

³ *Burrall v. Jewett*, 2 Paige, 143, 1830.

teeth. The contrivance was confessedly useless. After the patent for it was granted, the patentee, or some other person, by simply inserting rows of teeth in the concave surface of the barrel, produced the successful threshing-machine, which has everywhere superseded the ancient flail. The law applicable to these facts was stated by Chancellor WALWORTH in the following terms: "The patent is void if the machine will not answer the purpose for which it was intended, without some addition, adjustment, or alteration, which the mechanic who is to construct it must introduce of his own invention, and which had not been invented or discovered by the patentee at the time his patent was issued."

In *Bliss v. Brooklyn* the patent covered a certain hose-coupling. The contrivance was worthless, because it proved on trial to be inoperative. The subsequent addition of a lug to one of its parts, transformed the coupling into a useful invention. Judge BENEDICT nevertheless held the patent to be invalid for want of utility.

§ 79. If, however, a device performs a good function, though but imperfectly, the utility of that device is not negatived by the fact that it is susceptible of improvement, which will make it operate much better,¹ nor by the fact that some prior invention performed the same function quite as well,² or even performed it with superior excellence.³ Nor is utility negatived by later inventions which are so much superior to the patented process or thing, that they entirely superseded the use of the latter.⁴ Indeed, patents are never held to be void for want of utility, merely because the things covered by them perform their functions but poorly.⁵ In such cases no harm results to the public

¹ *Wheeler v. Reaper Co.* 10 Blatch. 189, 1872.

² *Seymour v. Osborne*, 11 Wallace, 516, 1870; *Shaw v. Lead Co.* 11 Fed. Rep. 715, 1882.

³ *Bell v. Daniels*, 1 Fisher, 375, 1858.

⁴ *Railway Co. v. Sayles*, 97 U. S. 559, 1878; *Poppenbusen v. Comb Co.* 2 Fisher, 72, 1858; *McComb v. Ernest*, 1 Woods, 203, 1871.

⁵ *Vance v. Campbell*, 1 Fisher, 485, 1859; *Conover v. Roach*, 4 Fisher, 16, 1857.

from the exclusive right, because few will use the invention, and because those who do use it without permission, will seldom or never be obliged to pay for that use, anything beyond the small benefit they may really have realized therefrom.'

§ 80. Utility is not negatived by the fact that the manufacture covered by the patent has no function except to decorate the object to which it is designed to be attached.² In such cases utility resides in beauty. Whatever is beautiful is useful, because beauty gives pleasure, and pleasure is a kind of happiness, and happiness is the ultimate object of the use of all things.

§ 81. Utility is negatived if the function performed by an invention is injurious to the morals, the health, or the good order of society.³ An invention to improve the art of forgery, or one to facilitate the spread of a contagious disease, or one to render air or water intoxicating, would of course be unpatentable for want of utility. The more completely such an invention could perform its function, the more objectionable it would be in this respect. But utility is not negatived by the fact that the article covered by a patent is an imitation of a natural substance.⁴

§ 82. An important question relevant to utility in this aspect, may hereafter arise and call for judicial decision. It is perhaps true, for example, that the invention of Colt's revolver was injurious to the morals, and injurious to the health, and injurious to the good order of society. That instrument of death may have been injurious to morals, in tending to tempt and to promote the gratification of private revenge. It may have been injurious to health, in that it is very liable to accidental discharge, and to thereby cause wounds, and even homicide. It may also have been injurious to good order, especially in the newer parts of the country, because it facilitates and increases private war-

¹ *Gibbs v. Hoefner*, 19 Fed. Rep. 324, 1881.

² *Magic Ruffle Co. v. Douglas*, 2 Fisher, 330, 1863.

³ *Bedford v. Hunt*, 1 Mason, 301, 1817.

⁴ *In re Corbin and Martlett*, 1 McArthur's Patent Cases, 521, 1857.

fare among frontiersmen. On the other hand, the revolver, by furnishing a ready means of self-defence, may sometimes have promoted morals and health and good order. By what test, therefore, is utility to be determined in such cases? Is it to be done by balancing the good functions with the evil functions? Or is everything useful within the meaning of the law if it can be used to accomplish a good result, though in fact it is oftener used to accomplish a bad one? Or is utility negatived by the mere fact that the thing in question is sometimes injurious to morals, or to health, or to good order? The third hypothesis cannot stand, because if it could it would be fatal to patents for steam-engines, telegraphs, electric lights, and indeed many of the noblest inventions of the nineteenth century. The first hypothesis cannot stand, because if it could it would make the validity of the patents to depend on a question of fact, to which it would often be impossible to give a reliable answer. The second hypothesis is the only one which is consistent with the reason of the case, and with the practical construction which the courts have given to the statutory requirement of utility.

§ 83. Another question relevant to utility of function will sooner or later demand the attention of counsel and of courts. A particular invention may invariably perform one specific function, which function is deemed good in some quarters, and in other quarters is thought to be bad. The function performed by a newly invented smoking-pipe, if it increased the prevalence of smoking, would be thought by many persons to be only evil, and that continually: would be deemed by many moralists to be injurious to the morals, and by many physicians to be injurious to the health of society. James I. would doubtless have refused a patent for such an invention, unless by granting one he could have diminished its use. On the other hand, there are many persons who would regard such an invention as truly useful. Federal judges would be found among both parties, and an entire difference of personal opinion on the point might perhaps exist among the justices of the Supreme

Court themselves. Personal opinion cannot, therefore, control the decision of such a question, for if it could there would be no stability to the jurisprudence of the subject. Nor ought former custom to be the criterion, for if it were each age would be hampered by a prior and lower civilization. Science may hereafter demonstrate the uniform hurtfulness of smoking, and when it does the courts can hardly adjudge it to be useful on the ground that millions of men formerly smoked. It seems, therefore, that in such cases of divided personal opinion relevant to the utility of a particular result, the only criterion of decision is the average public sentiment of the time when the question arises. Accordingly, the courts at present uphold patents which relate to tobacco, and will probably always sustain the utility of inventions which perform functions that average public sentiment is willing to have performed.

§ 84. Utility is negatived by the fact that the patented process or thing is injurious to the thing to which it is applicable,¹ and also by the fact that the function performed by the patented part of a machine, though good in itself, is injurious to the utility of the machine as a whole.² The first of these points is well illustrated by the first case cited in this section: a case based on a patent for a process of treating leather to an application of fat liquor. The second point is equally well illustrated by the second case: a case based on a patent for a locomotive spark arrester. To arrest sparks is in itself a good thing to do, but where it must be done in such a way as to stop or seriously retard the locomotive, it is not desirable to attempt it. Therefore a device which would arrest sparks, but only at the expense of retarding the locomotive from the smoke-pipe of which they issued, was rightly held to be wanting in utility.

§ 85. A patent is *prima facie* evidence of utility,³ and

¹ Klein v. Russell, 19 Wallace, 433, 1873. ley's Federal Digest, 618, 1849.

² Wilton v. Railroad Co. 1 Bright- ³ Vance v. Campbell, 1 Fisher, 483, 1859.

doubts relevant to the question should be resolved against infringers,¹ because it is improbable that men will render themselves liable to actions for infringement, unless infringement is useful.²

¹ *Whitney v. Mowry*, 4 Fisher, 215, 1870.

S. 94, 1881; *La Rue v. Electric Co.* 81 Fed. Rep. 82, 1887.

² *Lehnbeuter v. Holthaus*, 105 U.

CHAPTER V.

ABANDONMENT.

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| <p>86. The several sorts of abandonment.</p> <p>87. Abandonment of inventions.</p> <p>88. Actual abandonment of inventions.</p> <p>89. Actual abandonment by express declaration.</p> <p>90. Actual abandonment by formal disclaimer.</p> <p>91. Actual abandonment resulting from laches before application.</p> <p>92. Actual abandonment resulting from laches after application and before issue of letters patent.</p> <p>93. Constructive abandonment before application.</p> <p>94. "Public use," defined and delineated.</p> <p>95. Experimental use.</p> <p>96. "On sale," delineated and defined.</p> <p>97. Sale of inchoate right to a patent.</p> | <p>98. Degree of identity necessarily involved between the thing constructively abandoned and the thing patented.</p> <p>99. Making, works no constructive abandonment.</p> <p>100. Public knowledge works no constructive abandonment.</p> <p>101. Public use or sale in a foreign country.</p> <p>103. Constructive abandonment after application, and before issue of letters patent.</p> <p>104. Rules of constructive abandonment are inflexible.</p> <p>105. Surrender of letters patent.</p> <p>106. Abandonment of invention after letters patent, unknown to the law.</p> <p>107. Acquiescence in unlicensed use of patented invention.</p> <p>108. Questions of abandonment are questions of fact.</p> |
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§ 86. AN inventor may abandon an unsuccessful endeavor to make an invention ; or having made an invention, he may abandon it to the public ; or having made an invention and having applied for a patent thereon, he may abandon that application without abandoning that invention. Transactions of the first sort are commonly called unsuccessful abandoned experiments. They confer no rights upon those who make them, and they affect no rights

of any other person.' Transactions of the third sort are treated in the chapter on applications: the sixth chapter of this book. Transactions of the second sort require treatment in respect that they are inventions; and also require separate treatment in respect that they are abandoned. Treatment of the first sort takes no account of the fact of abandonment, because abandoned inventions have the same effect on the rights of subsequent inventors that they would have if they had not been abandoned. That subject, therefore, does not belong to this chapter. It is treated in the chapters on invention and letters patent, where the state of the art is a very important factor in the discussion; and also in the chapter on novelty, where anticipation is the point of inquiry. Treatment of the second sort indicated above is the special function and scope of this chapter. Abandoned inventions are here considered with regard to the effect abandonment of them has upon the rights of their inventors, and with regard to the rules by means of which abandonment is to be affirmed or denied in particular cases.

§ 87. Abandonment of an invention may be actual, or it may be constructive. It is actual when it is the result of intention. It is constructive when it is the result of some statute which operates regardless of the intention of the inventor. The two sorts require and will receive separate treatment in this chapter, but there are some points of fact and of law which apply equally to both. Either kind may occur before any application for a patent is made, or may occur after such an application, and before any letters patent are issued.² So also, either actual or constructive abandonment of an invention, is fatal to the validity of any patent that may afterward be granted therefor. The inchoate right to a patent when once abandoned can never be resumed, for where gifts are once made to the public, they become absolute and irrevocable.³

¹ American Bell Telephone Co. v. Cushman Telephone Co. 35 Fed. Rep. 734, 1888.

² Rifle & Cartridge Co. v. Arms

Co. 118 U. S. 24, 1885.

³ Pennock v. Dialogue, 2 Peters, 1, 1829; Kendall v. Winsor, 21 Howard, 328, 1858; Consolidated Fruit

§ 88. Actual abandonment of an invention occurs whenever there is an entire relinquishment of all expectation of securing a patent therefor, and an accompanying formation of an expectation that the invention will always be free to the public.¹ Such a relinquishment may be shown by direct, or by circumstantial evidence. It may be proved by things said or things done by the inventor, or it may be proved by his omission or delay to do what the law requires to be done in order to secure letters patent.

§ 89. An inventor abandons his invention to the public when he makes an express declaration to that effect.²

In the case of *Pitts v. Hall*,³ Justice NELSON charged the jury to the contrary of this rule, but it is believed that he never was followed in this respect by any other Federal judge. Subsequently Justice CURTIS charged the jury, in *Kendall v. Winsor*, that abandonment might be shown by declarations or conduct, and the Supreme Court held that Justice CURTIS's instruction was in strict conformity with the true principle. The Supreme Court also said in that case: "It is the unquestionable right of every inventor, to confer gratuitously the benefits of his ingenuity upon the public, and this he may do by express declaration."

§ 90. So also an inventor will no doubt be held to abandon a particular invention, when he formally disclaims it in an application for a patent for some other invention;⁴ and by sameness of reasoning, when he formally disclaims it in a separate paper filed for that purpose. The Supreme Court decided in 1854, that no abandonment results from the mere fact that the inventor described the invention in an application for a patent, without either claiming or disclaiming the same.⁵ When the cited case was tried in the

Jar Co. v. Wright, 94 U. S. 96, 1876;
Planing Machine Co. v. Keith, 101
U. S. 484, 1879; *Consolidated Fruit
Jar Co. v. Stamping Co.* 27 Fed.
Rep. 377, 1886.

¹ *Babcock v. Degener*, 1 McArthur's Patent Cases, 616, 1859.

² *Kendall v. Winsor*, 21 Howard, 328, 1858; *Rifle & Cartridge*

Co. v. Arms Co. 118 U. S. 24,
1885.

³ *Pitts v. Hall*, 2 Blatch. 237,
1851.

⁴ *Leggett v. Avery*, 101 U. S. 259,
1879.

⁵ *Battin v. Taggert*, 17 Howard,
88, 1854.

court below, the judge charged the jury "That a description, by the applicant for a patent, of a machine, or a part of a machine, in his specification, unaccompanied by a notice that he has rights in it as an inventor, or that he desires to secure title to it as a patentee, is a dedication of it to the public." But when the case reached the Supreme Court, that instruction was decided to be erroneous, and a new trial was therefore awarded. The paramount precedent thus established has, however, been overlooked in many recent cases, beginning with *Miller v. Brass Co.*, in 1882.¹ In that case, Justice BRADLEY wrote the following *obiter dictum*: "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 face of the patent, are in law a dedication to the public of that which is not claimed." That *obiter dictum* was contrary to what the Supreme Court decided in the case of *Battin v. Taggart*, and like the *obiter dictum* of the same Justice in the case of *Carr v. The United States*,² which was afterwards mentioned and overruled by the Supreme Court in the case of *the United States v. Lee*,³ it has no force as law. The rule in *Battin v. Taggart* therefore remains unreversed, and has been enforced in several cases in the Circuit Courts, even since *Miller v. Brass Co.* was published.⁴

§ 91. Abandonment is also proved by evidence that the inventor is chargeable with laches, relevant to applying for a patent,⁵ or relevant to prosecuting or renewing his application after it has been rejected or withdrawn.⁶ Long delay constitutes laches, unless there was some reason which rendered that delay consistent with an expectation to

¹ *Miller v. Brass Co.* 104 U. S. Rep. 424, 1884.
352, 1881.

² *Carr v. United States*, 98 U. S. 433, 1878.

³ *United States v. Lee*, 103 U. S. 217, 1882.

⁴ *Vermont Farm Machine Co. v. Marble*, 19 Fed. Rep. 307, 1884; *Cahn v. Wong Town On*, 19 Fed.

⁵ *Consolidated Fruit Jar Co. v. Wright*, 94 U. S. 96, 1876; *Craver v. Weyhrich*, 31 Fed. Rep. 607, 1887.

⁶ *Planing Machine Co. v. Keith*, 101 U. S. 484, 1879; *Rifle & Cartridge Co. v. Arms Co.* 118 U. S. 22, 1885.

finally secure a patent. Extreme poverty of the inventor is such a reason ;¹ but poverty which was not sufficient to prevent the inventor from securing patents on other inventions,² or from spending money for an education,³ is not such a reason. The fact that during all, or during much of the delay the inventor was within the so-called Southern Confederacy, and therefore unable to apply for a United States patent, has also been repeatedly held to be such a reason.⁴ Mental disorder which was great enough to generally incapacitate the inventor for business during the time of the delay, is also such a fact as will negative laches,⁵ and physical disorder ought under the same circumstances to have the same effect.

Neither can laches be predicated of any delay which was caused by the experiments of the inventor in making or perfecting his invention,⁶ nor of any delay caused by absorbing misfortune,⁷ nor upon any neglect of which his patent solicitor was guilty,⁸ nor upon any delay of action on the part of public officers or courts.⁹ Nor does delay constitute laches, when it was caused by the fact that the invention could only be used in connection with one covered by another patent, and by the fact that the inventor failed to make any arrangement with the owner of that patent for the joint use of the two inventions.¹⁰ If, under such circumstances, the inventor waits till the older patent expires before securing his patent, his delay is amply accounted for

¹ *Smith v. Dental Vulcanite Co.* 93 U. S. 491, 1876; *Celluloid Mfg. Co. v. Crofut*, 24 Fed. Rep. 796, 1885.

² *Rifle & Cartridge Co. v. Arms Co.* 118 U. S. 24, 1885; *Wickersham v. Singer*, 1 McArthur's Patent Cases, 689, 1859.

³ *Craver v. Weyhrich*, 31 Fed. Rep. 607, 1887.

⁴ *Johnsen v. Fassman*, 1 Woods, 142, 1871; *Knox v. Loweree*, 1 Bann. & Ard. 589, 1874.

⁵ *Ballard v. Pittsburg*, 12 Fed.

Rep. 784, 1882.

⁶ *Agawam Co. v. Jordan*, 7 Wallace, 583, 1868.

⁷ *Beedle v. Bennett*, 122 U. S. 76, 1886.

⁸ *Birdsall v. McDonald*, 1 Bann. & Ard. 165, 1874; *Howes v. McNeal*, 3 Bann. & Ard. 376, 1878.

⁹ *Adams v. Jones*, 1 Fisher, 530, 1859; *Sayles v. Railroad Co.* 2 Fisher, 523, 1865.

¹⁰ *Webster v. New Brunswick Carpet Co.* 1 Bann. & Ard. 84, 1874.

by his desire to enjoy, for the full statutory term of a patent, the practical exclusive right to his invention. 'To predicate abandonment of delay suffered for such a purpose would be logically impossible.

§ 92. Where an application for a patent is rejected when it ought to be allowed, and where the inventor long acquiesces in that erroneous rejection, supposing it to be right, he cannot, on receiving better information, renew his application or file another, and thereupon secure a valid patent.¹ In such a case the desire of the inventor to secure a patent may never have left him, but there was doubtless a complete, though perhaps reluctant, relinquishment of all expectation of so doing. An abandonment of an invention is not less real because it was unnecessary. But Congress, by a special act, may waive an abandonment and authorize a patent to issue for the abandoned invention.²

§ 93. Constructive abandonment of inventions prior to applications for letters patent, is the offspring of certain statutes, the earliest of which was the Patent Act of 1836.³ Sections 6 and 7 of that Act authorized the Commissioner of Patents to grant a patent only where the alleged invention had not been in public use or on sale with the applicant's consent or allowance, prior to the application. Section 15 provided that in suits for infringement, judgment should be rendered for the defendant, if he should have pleaded and proved that the thing patented had been in public use or on sale, with the consent or allowance of the patentee, before his application for a patent. Section 7 of the Patent Act of 1839⁴ provided that no patent should be held to be invalid by reason of purchase, sale, or use of the thing covered thereby, prior to the application for a patent, except on proof of abandonment of such invention to the public, or on proof that such purchase, sale, or use had

¹ *Marsh v. Commissioner*, 3 Bissell, 321, 1872; *Consolidated Fruit Jar Co. v. Stamping Co.* 27 Fed. Rep. 377, 1886.

² *Graham v. Johnston*, 21 Fed.

Rep. 42, 1884.

³ 5 Statutes at Large, Ch. 357, p. 117.

⁴ 5 Statutes at Large, Ch. 80, p.

354.

been for more than two years prior to such application for a patent. This provision of the Act of 1839 was, in one respect, restrictive of the enactments just cited from the statute of 1836; and in one respect it enlarged their operation. Its effect was to amend those enactments in the same way that it would have done, if it had inserted the words "for more than two years" in the proper place in their phraseology, and had also cancelled the qualification which related to consent and allowance.¹ This phrase "for more than two years" means earlier than two years,² so that the law which the two statutes established on the subject is expressed in the following sentence. A patent is void if the invention covered thereby was in public use or on sale earlier than two years before the application for that patent. And that continued to be the law of the United States on the subject under the Consolidated Patent Act of July 8, 1870,³ and also under the Revised Statutes.⁴ The two years contemplated by this law are ascertained by measuring backward from the date of the filing of the application in the Patent Office;⁵ but where a second or renewed application is filed to take the place of another which described and claimed the same invention, and which was withdrawn or relinquished with intent to file the second application, the two years are ascertained by measuring backward from the date of the filing of the first application.⁶

§ 94. What is "public use," within the meaning of the statute? This question has now received light from a sufficient number of decisions, affirming or negating the fact of public use in particular cases, to make it possible to deduce a moderately precise answer from judicial authorities.

If the inventor allows his invention to be used by other

¹ *Andrews v. Hovey*, 123 U. S. 267, 1887; 124 U. S. 694, 1887.

² *Consolidated Fruit Jar Co. v. Wright*, 94 U. S. 94, 1876.

³ 16 Statutes at Large, Ch. 230, p. 198.

⁴ Revised Statutes, Section 4886.

⁵ *Campbell v. New York*, 35 Fed. Rep. 504, 1888.

⁶ *International Crown Co. v. Richmond*, 30 Fed. Rep. 778, 1887.

persons generally, either with or without compensation, then it will be in public use within the meaning of the statute.¹

If the inventor uses his invention for profit, and not by way of experiment, that is a public use,² unless actual use resulting in profit is necessary to show the inventor how to perfect his invention, and unless he does perfect it in accordance with the teachings of such use.³ Nor will the fact that the inventor is but an employé in the place where he uses his invention, or the fact that the profit goes primarily to his employer, oust the operation of this rule.⁴

To constitute public use, it is not necessary that more than one specimen of the thing invented should have been publicly used,⁵ nor that more than one person should have known of that use.⁶ Nor is it necessary to public use that the article used could have been seen by the public eye, if the ordinary use of such articles is veiled from view.⁷

§ 95. Experimental use is never public use within the meaning of the statute, if it is conducted in good faith for the purpose of testing the qualities of the invention, and for no other purpose not naturally incidental to that.⁸ In such a case it is immaterial whether the experimental use disclosed a necessity for improvement, or disclosed no such necessity; and is also immaterial whether the use was conducted with secrecy or not. It may indeed have been had in the open air, and have continued every day for several years, and have been known to hundreds of persons, and have incidentally inured to the profit of the user and of the public, and still not be a public use, within the meaning of the statute, if the nature of the invention was such that only

¹ *Elizabeth v. Pavement Co.* 97 U. S. 135, 1877.

² *Elizabeth v. Pavement Co.* 97 U. S. 137, 1877.

³ *Sprague v. Mfg. Co.* 12 Fed. Rep. 724, 1882.

⁴ *Worley v. Tobacco Co.* 104 U. S. 340, 1881.

⁵ *Consolidated Fruit Jar Co. v.*

Wright, 94 U. S. 94, 1876; *Jones v. Barker*, 11 Fed. Rep. 597, 1882.

⁶ *Egbert v. Lippmann*, 104 U. S. 336, 1881.

⁷ *Egbert v. Lippmann*, 104 U. S. 336, 1881.

⁸ *Beedle v. Bennett*, 122 U. S. 77, 1886.

long-continued out door use could show whether the invention possessed utility, or show in what respects, if any, it required to be improved.¹ The liberal ideas which underlie the decision just cited will doubtless be applied to every variety of invention, as occasion serves, and will be found elastic enough to cover every meritorious case. Indeed, Judge LOWELL has gone still further in the direction of liberally allowing scope to experimental use, and has decided that such use is not public use within the meaning of the law, where, in order to test its comparative as well as its absolute utility, and in order to convince others of its merits, an inventor allows them to use his invention after he has himself become satisfied that it is useful.² But where the main object of the use was profit, and improvement was only an incidental aim, the use is not experimental in the eye of the law;³ and proof of the experimental character of any use which occurred earlier than two years before the application for a patent, must be full, unequivocal, and convincing, or it cannot prevail to save that patent from invalidity.⁴

§ 96. What is being "on sale," within the meaning of the statute? The answer to this question also, can now be accurately delineated in nearly or quite all of its boundaries.

A single instance of sale of one specimen of the thing invented is enough to constitute putting the invention on sale,⁵ and indeed a device will be on sale within the meaning of the law, if it is offered for sale, whether any specimen of it is actually sold or not.⁶ If, however, the nature of the invention is such that the inventor is obliged to put it into the hands of others for crucial experiment, he may sell specimens to those others for that purpose, and such a sale

¹ *Elizabeth v. Pavement Co.* 97 U. S. 134, 1877.

² *Sinclair v. Backus*, 5 Bann. & Ard. 81, 1880.

³ *Smith & Griggs Mfg. Co. v. Sprague*, 123 U. S. 256, 1887.

⁴ *Smith & Griggs Mfg. Co. v. Sprague*, 123 U. S. 254, 1887.

⁵ *Consolidated Fruit Jar Co. v. Wright*, 94 U. S. 94, 1876.

⁶ *Plimpton v. Winslow*, 14 Fed Rep. 921, 1883.

will not be obnoxious to the law now under consideration.¹ But if the invention could have been tested by the inventor on his own premises, as well as by any one there or elsewhere, then either an absolute or a conditional sale of a specimen of the thing invented, will be putting the invention on sale, unless there is unequivocal evidence that the sale was made for the purpose of experimental use.² And where a specimen of an invention is built or made to order, it is not "on sale" till it is completed, delivered, and accepted.³

§ 97. An assignment of the inchoate right to an invention, is not such a sale as will be obnoxious to the statute now under explanation.⁴ So far from furnishing evidence of abandonment, the sale of the inchoate right to a patent indicates an expectation that such a patent will be obtained, and that right be thus translated into a legal title.

§ 98. Precise identity between the thing covered by the patent, and the thing which the inventor allowed to be in public use or on sale more than two years before he applied for that patent, is not necessary to constitute constructive abandonment of the invention covered by the latter. It is enough if the two devices are substantially the same,⁵ but it is not enough that the two devices perform the same function and are somewhat similar in construction and in mode of operation.⁶

§ 99. No constructive abandonment results from any mere making of a specimen of an invented thing more than two years before his application for a patent.⁷ But where an invention consists in a process of making a thing, the making of a specimen of that thing, by that process, is a

¹ *Graham v. McCormick*, 5 Bann. & Ard. 244, 1880; *Graham v. Mfg. Co.* 11 Fed. Rep. 142, 1880.

² *Henry v. Soapstone Co.* 5 Bann. & Ard. 108, 1880.

³ *Campbell v. New York*, 45 Off. Gaz. 345, 1888.

⁴ *Elm City Co. v. Wooster*, 6 Fisher, 452, 1873.

⁵ *Hall v. Macneal*, 107 U. S. 90, 1882; *Theberath v. Trimming Co.* 15 Fed. Rep. 251, 1883.

⁶ *Draper v. Wattles*, 3 Bann. & Ard. 618, 1878.

⁷ *Comstock v. Sandusky Seat Co.* 3 Bann. & Ard. 188, 1878; *Campbell v. New York*, 36 Fed. Rep. 261, 1888.

use of that process, and is therefore subject to the rules which govern using, and not to that which applies to making only.

§ 100. Public knowledge of an invention, acquired with the consent of the inventor, prior to his application for a patent, was formerly fatal to the validity of any patent granted for that invention. The Patent Act of 1793¹ provided that to be patentable a thing must not have been known before the making of an application for a patent thereon. The Supreme Court construed that enactment to mean only that the invention must not have been known to the public with the consent of the inventor.² The Patent Act of 1836 repealed all prior statutes on the subject of patents, and did not provide that any unfavorable effect on an inventor's rights should result from public knowledge of his invention, acquired at any time after its production by him.³ Nor has any later statute made any such provision. Since 1836 there has, therefore, been no reason for an inventor to keep his invention secret, unless he proposed to rely upon secrecy, and not upon a patent, for his profits, or unless he feared that some other person, obtaining knowledge of the invention, would falsely claim it as his own.

§ 101. A public use or a sale of a specimen of a newly invented thing, occurring in any foreign country after its invention by an applicant for an American patent, but more than two years before his application is made, will have the same effect upon such a patent, as it would have had if that public use or that sale had occurred in the United States. That part of Section 4886 of the Revised Statutes which treats of public use or sale of a thing after its invention by an applicant, is not limited to this country; as that part is which treats of knowledge or use by others of that thing before its invention by the applicant. It is true that Section 4920, which provides for certain defences to infringe-

¹ 1 Statutes at Large, Ch. 11, 18, 1829.
Section 1, p. 318.

² *Elizabeth v. Pavement Co.* 97

³ *Pennock v. Dialogue*, 2 Peters, U. S. 136, 1877.

ment suits, provides that a defendant may give notice and prove that the invention had been in public use or on sale in this country more than two years before an application for a patent, and does not provide that he may give notice and prove that any such sale or use occurred elsewhere. But it is also true that Section 4920 does not enumerate all the defences that may be made to patent suits. It merely provides what defences may be made under the general issue, and it leaves a larger number to be set up in special pleas. That section does not, therefore, negative or tend to negative the effect on this subject of Section 4886.

§ 103. Constructive abandonment of an invention, after an application for a patent thereon, necessarily results from constructive abandonment of that application, in certain classes of cases which are explained in the chapter on applications.¹ In still another class of cases, constructive abandonment of an invention, after an application for a patent thereon, necessarily results from a particular kind of constructive abandonment of that application, unless a new application is filed within a certain time after such abandonment. That class of cases is the following. Where an applicant omits to pay the final fee within six months from the time at which his application was allowed, and notice thereof sent to him or to his agent, and where he also omits to make any new application for a patent on the same invention within two years after such allowance, he can never obtain a patent for that invention.²

§ 104. The statutory law relevant to constructive abandonment, resulting from a public use or from a sale of a newly invented thing, more than two years before an application for a patent, is a law which operates inflexibly upon all cases coming within it. Its effect cannot be obviated by any evidence showing reasons for the delay, however ample and meritorious those reasons may be.³ The rule of this section doubtless applies also to the constructive abandonment explained in the last.

¹ Section 147 of this book.

³ *Sisson v. Gilbert*, 9 Blatch. 189,

² Revised Statutes, Section 4897. 1871.

§ 105. Surrender of an invention may be effected after the grant of letters patent therefor, by means of a formal surrender of those letters patent. A proceeding of the kind was mentioned by the Supreme Court as being confessedly proper as early as 1832,¹ and an actual surrender of the sort was tacitly approved by that tribunal about twenty years later.²

§ 106. No abandonment of an invention after the issue of letters patent thereon, has ever been judicially decided to exist in the United States. The Patent Act of 1832³ provided that a certain class of aliens might obtain United States patents, who had theretofore been excluded from that privilege; but it coupled with that provision an enactment that every patent granted by virtue of that Act, should cease and determine in case of failure on the part of the patentee to introduce the invention into public use in the United States within one year from the issuing of the patent, or in case of a discontinuance of such public use for any period of six months, or in case of failure on the part of the patentee to become a citizen of the United States. In providing such a rule of constructive abandonment for a certain class of aliens, Congress showed that it did not overlook the subject of non-user of patented inventions; and in omitting to provide any such rule for citizens of the United States, Congress showed that it did not intend constructive abandonment to result from non-user in their cases. Even as to aliens, the policy of the law upon the point was soon given up. The Act of 1836 repealed all former patent statutes, and did not re-enact the provision just cited from the Act of 1832, nor put any corresponding restrictions upon any class of patentees. Nor has any later statute contained any provision of the kind. The fair inference from this course of legislation seems to be, that Congress does not intend any patent right to be lost on any ground of non-user of that right. Even before Congress

¹ *Grant v. Raymond*, 6 Peters, 240, 1854.
1832.

² *Battin v. Taggert*, 17 Howard, 74, 577.

³ 4 Statutes at Large, Ch. 203, p.

had thus indicated its intention on the subject, Justice WASHINGTON instructed a jury that no disuser of an invention, after it is patented, can amount to an abandonment, so as to deprive the patentee or his assignees of their exclusive right to it for the term of the patent.¹ So also the Supreme Court has held that no presumption arises against a patent from any use of the invention by the public after the patent is granted.² Since no abandonment of an invention, after it is patented, can arise out of any existing statute, or be based on any non-user by the patentee, or on any user by the public, we seem shut up to the conclusion that no such abandonment is known to our laws.

§ 107. Acquiescence by a patentee in unlicensed use of his invention, during the life of the patent, has sometimes been said or been intimated by courts, to amount to an abandonment of the patent and of the invention. Four cases containing such statements or suggestions are to be found in the reports. In two of them the judges made their observations on the subject, in spite of their decisions that no such question was involved in the pleadings. In the other two cases the views of the judges were inserted in charges to juries, but inasmuch as the juries found for the respective plaintiffs, it seems that there were no facts in the cases which called for such statements in the charges. The opinions of the four judges on the point seem, therefore, to be no more weighty than the reasons which support them. But no reasons applicable to the subject of abandonment of a patent are contained in either of the cases, though one of them contains statements of reasons adapted to support the doctrine of estoppel. Nor do the four cases agree among themselves, relevant to the character or to the quantity of acquiescence needed to support an hypothesis of abandonment of a patent. In *Wyeth v. Stone*,³ Justice STORY intimated that such acquiescence must be without objection,

¹ *Gray v. James*, 1 Peters C. C. 1833.
403, 1817.

² *Wyeth v. Stone*, 1 Story, 282,

³ *Shaw v. Cooper*, 7 Peters, 320, 1840.

and must continue for a series of years. In *Ransom v. New York*,¹ Judge HALL placed no such limitation as the last of these upon the doctrine, and if he hinted at the first of them he hinted but vaguely. In *Bell v. Daniels*,² Judge LEAVITT said that it would require a strong case to prove abandonment of a patent actually granted. In *Williams v. Railroad Co.*,³ Judge WALLACE said: "Neither does mere delay or acquiescence establish an abandonment or dedication of the patent. There must be an acquiescence in the appropriation of the right, of such a character as reasonably to induce the belief that the owner intended to relinquish it to the public use." The opinions cited in this section, so far as they disagree with the statutes and decisions cited in the last, do not agree in that disagreement, and they seem insufficient to outweigh, or even to modify, the doctrine set forth in that section.

§ 108. Questions relevant to actual or to constructive abandonment of inventions are questions of fact;⁴ and every reasonable doubt relevant to any such question should be solved in favor of the patent, for the law does not favor forfeiture.⁵

¹ *Ransom v. New York*, 1 Fisher, 273, 1856.

² *Bell v. Daniels*, 1 Bond, 219, 1858.

³ *Williams v. Boston & Albany Railroad Co.* 4 Bann. & Ard. 441, 1879.

⁴ *Battin v. Taggert*, 17 Howard, 84,

1854; *Kendall v. Winsor*, 21 Howard, 330, 1858.

⁵ *Pitts v. Hall*, 2 Blatch. 238, 1851; *McCormick v. Seymour*, 2 Blatch. 256, 1851; *Birdsall v. McDonald*, 1 Bann. & Ard. 165, 1874; *Comstock v. Sandusky Seat Co.* 3 Bann. & Ard. 188, 1878.

CHAPTER VI.

APPLICATIONS.

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§ 109. AN application for a patent consists of the following transactions. The deposit in the Patent Office of a written petition to the Commissioner of Patents; the like deposit of a written specification of the invention; the mak-

ing of an oath ; the payment of the Patent Office fee ; and in some cases the deposit of a drawing ; and in some cases the deposit of a model ; and in some other cases the deposit of specimens.' Applications, and proceedings on applications, are primarily governed by the provisions of the Revised Statutes. Where those provisions do not cover a particular point, that point is governed by the rules of the Patent Office.² Every such rule, unless it is inconsistent with law, is as authoritative as the Revised Statutes themselves.³

§ 110. The petition is a communication signed by the applicant and addressed to the Commissioner of Patents, stating the name and residence of the petitioner, and requesting the grant of a patent for the invention therein designated by name and by a reference to the specification for a full disclosure thereof.⁴ The petition must be the petition of the inventor, and not of an assignee of the inventor, though it may properly request that the patent, when granted, shall be granted to an assignee ;⁵ and it must so request in order to induce the Supreme Court of the District of Columbia to order the Commissioner to issue a patent the right to which has been assigned.⁶ If, however, the inventor dies before the patent is granted, the petition may be made and signed by his executor or administrator.⁷

§ 111. The specification properly consists of seven parts. 1. The preamble, giving the name and residence of the applicant, the title of the invention, and the name of any foreign country from which he or his assigns may have received a foreign patent for the same invention, and other particulars connected therewith. 2. A general statement of the nature and object of the invention. 3. A brief

¹ Revised Statutes, Sections 4888, 4889, 4890, 4891, 4892, 4893; Rules of Practice of the United States Patent Office, revised April 18, 1888, Rule 30.

² Revised Statutes, Section 483.

³ United States v. Commissioner of Patents, 22 Off. Gaz. 1365, 1882.

⁴ Patent Office Rule 33.

⁵ Revised Statutes, Section 4895; Patent Act, of March 3, 1837, Section 6.

⁶ Runstetler v. Atkinson, MacArthur & Mackey, 382, 1883.

⁷ Revised Statutes, Section 4896; Patent Act of April 17, 1800, Sec. 2.

description of the drawings, if drawings are made, showing what each view represents. 4. A detailed description of the invention, explaining fully its construction and mode of operation, if it is a thing, or the manner of performing it, if it is a process. 5. The claim or claims. 6. The signature of the inventor. 7. The signatures of two witnesses.¹

§ 112. The preamble states the name and residence of the inventor, and the title of the invention, in order to connect the specification with the petition; and it states the particulars of foreign patents previously granted for the same invention, in order to inform the Commissioner whether he is to grant a patent for seventeen years, or whether, in pursuance of Section 4887 of the Revised Statutes, he is to so limit the patent, that it will purport to expire at the same time with some foreign patent for the same invention. There is no statute which makes it the duty of the applicant to furnish the Commissioner with information on that subject. If he omits to do so, and if the Commissioner ascertains the facts elsewhere, and limits the term of the patent accordingly, then every purpose is answered that would have been answered if the applicant had stated the facts in his application. The rules of the Patent Office, however, do require the applicant to mention such a foreign patent, if any exists;² and in the absence of such mention the Commissioner, if he grants a patent, grants it for the term of seventeen years. If subsequent litigation discloses the prior granting of a foreign patent for a term sooner ending, it will be impossible for the United States patent to continue in force for the full term expressed on its face. The Supreme Court has lately held that, under such circumstances, the patent may be reformed by construction, and thus be given the same duration that it ought to have purported to have.³ But other courts had previously held that, under the same circumstances, a patent is altogether void. The subject is fully explained in the seventh chapter of this book, and is mentioned in this place in order to show the practical importance

¹ Patent Office Rule 39.

² Patent Office Rule 39.

³ Telephone Cases, 126 U.S. 572, 1888.

of conforming to the rule of the Patent Office in regard to the matter.

§ 113. The general statement of the nature and function of the invention, is a convenient mode of introducing the detailed description. If it is omitted in form, it will necessarily be inserted in substance in the detailed description itself.

§ 114. The description of the drawings is a convenience in aid of their understanding, but if that description is omitted, and all reference to the drawings is excluded from the specification, no statutory requirement is necessarily departed from.¹ In such a case, however, the specification would perhaps be impossible to be understood, and therefore be obnoxious to the rules stated in the next section.

§ 115. The detailed description must be full enough, and clear enough, and concise enough, and exact enough, to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make and use the invention, if it is a machine or a manufacture, or to compound the invention, if it is a composition of matter, or to perform the invention, if it is a process.² If the description falls below this standard, the patent, if granted, will be void.³ But this standard may be reached, in the case of a design, by a reference to the drawing or photograph⁴ annexed to the specification.

The statute also says that in case of a machine, the applicant 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.⁵ These provisions must be read in the light of their avowed object. That object is identification. The first provision cannot mean that the inventor must infallibly explain the law of nature which makes his machine work; for if it means that, neither Morse nor Bell complied with it when describing the telegraph or

¹ *Emerson v. Hogg*, 2 Blatch. 9, 62, 1853.
1845.

² Revised Statutes, Section 4888.

³ *O'Reilly v. Morse*, 15 Howard,

⁴ *Dobson v. Dornan*, 118 U. S.
14, 1885.

⁵ Revised Statutes, Section 4888.

the telephone, and, indeed, neither Morse nor Bell nor any man could have done so. The second provision cannot mean that every inventor must infallibly judge which of several forms of his machine will eventually be found to work best, for if it means that, it requires what is often impossible: requires the inventor to foresee the ultimate effects of new and comparatively untried causes. The first provision means that the essential distinctive characteristic of the machine shall be explained; and the second provision means that the inventor shall state the mode which he contemplates to be the best.' Inasmuch as the validity of a patent depends on the sufficiency of the description, the subject of this section is treated with more detail in the chapter on letters patent, the seventh of this book. Enough has been outlined in this connection to show what kinds of statements those descriptions need to contain.

§ 116. The claim or claims constitute a necessary part of every specification. The statutory requirement in this regard is, that the applicant "shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention."¹ The practice of the Patent Office has always been to require the claim or claims to be made in that part of the specification which immediately precedes the signatures. It is a practice of many solicitors of patents to write claims in vague phraseology, with an idea that vagueness is elasticity, and that elasticity is excellence. Such a practice is neither honest nor expedient. It is not honest, because it is often intended, and always adapted to deceive the public, and to lead individuals into unintended infringement. It is not expedient, because dishonesty is bad policy in matters of patents, as in all other human affairs, and because vagueness of claims may make a patent void which would otherwise be valid. It is the practice of many other solicitors of patents to write claims in loose phraseology, because they do not know how to write precise sentences. By multiplying words they

¹ Carver v. Mfg. Co 2 Story, 432, 1857.
1843; Page v. Ferry, 1 Fisher, 309,

² Revised Statutes, Section 4888.

hope to hit the mark, on the same principle that the user of a shotgun hopes to hit a solitary bird. But the principles which apply to shotguns do not apply to rhetoric. The true rhetorician uses a rifle, not a blunderbuss. With him every word hits its target, because it is adapted to do so, and because he knows how to aim it.

Writing a claim for a patent may require as many points of information and powers of mind, as can ever be required for any prose writing of similar length. More than half the chapters of this book contain such points of information, but neither this nor any other law book, can embody all that the penner of such a claim requires to know. A few leading points may, however, be conveniently stated in this place.

§ 117. In cases where the description sets forth an entire machine, the applicant may lawfully make a claim coextensive with the description, if the machine as a whole possesses novelty. But such a claim ought seldom to be the only one in a patent, because, for reasons stated in the chapter on infringement, it can, in most cases, be readily evaded. The proper practice is to fix upon the new parts, or new sub-combinations, which the described machine contains, and to make a separate claim for each of those parts, and for each of those combinations.¹ Indeed, the applicant may, if he will, apply for and receive a separate patent for each of those parts and combinations.² In either way the rights of the inventor may be secured, because it is a rule of infringement that a patent is infringed whenever any one of its claims is violated. To secure a particular part of a machine, a claim must specify that part; and to secure a particular combination of some of the parts of a machine, a claim must specify all of those parts, and the description must explain their joint mode of operation, and must state their joint function.³ And a combination may

¹ Gill v. Wells, 22 Wallace, 24, 224, 1874.
1874; Adams v. Jones, 1 Fisher, 530, 1859.

² Parks v. Booth, 102 U. S. 102, 1880.

³ Corn-Planter Patent, 23 Wallace,

be claimed separately, though it cannot do useful work separately from the residue of the machine or apparatus of which it constitutes a part.¹

§ 118. In cases where the description sets forth a manufacture, there ought to be a claim for each of its patentable features; for if there is but one claim, and if all those features are covered by it, then those persons who manage to dispense with even the least of them, incur no liability by making, using, or selling articles which possess all the others.²

§ 119. In cases where the description relates to a composition of matter, the claim should cover that composition in its entirety, and should, either expressly, or by reference to the description, specify the respective proportions which the different ingredients bear to each other.³ But where some of the described ingredients may be dispensed with, the applicant, if he states that fact in the description, may have a separate claim for a composition of matter composed only of the residue, or he may have a single claim covering the indispensable ingredients, whether with or without the others.⁴

§ 120. In cases where the description relates to a process, the claim should cover all the necessary elements in that process, and cover no more. If it covers less than all the necessary elements, it will not secure the invention described, and will not secure anything of value as a patent. If it covers more than the necessary elements, it can be evaded by persons who omit those which are unnecessary, when using the others.

§ 120a. In cases where the description and its accompanying drawing or photograph represent a design, the claim may identify its subject by a reference to that drawing or photograph.⁵

¹ Hancock Inspirator Co. v. Jenks, 1868.
21 Fed. Rep. 915, 1884.

² Prouty v. Ruggles, 16 Peters, 336, 1842.

³ Tyler v. Boston, 7 Wallace, 327,

1868.

⁴ Rubber Co. v. Goodyear, 9 Wallace, 788, 1869.

⁵ Dobson v. Dornan, 118 U. S. 14, 1885.

§ 121. The signatures of the applicant and of the witnesses must embody the full names of those persons, and must be legibly written.¹ The grammatical construction of the statutory provision, relevant to signatures, seems to indicate that the document signed by the applicant, and not the signature of that applicant, is the thing which is to be attested by the two witnesses. In cases where language of similar character has been used in statutes, which prescribe the mode of attesting wills, it has been decided to be immaterial, whether the witnesses sign before or sign after the execution of the document;² but where such statutes have provided for attesting the signatures rather than the will, it is the law that the document is void if the witnesses sign before the testator.³ It is the practice of the Patent Office to regard the attestation as being attestation of the signatures, and, accordingly, to require two witnesses for each signature, in cases of joint applications for joint inventions. The same two witnesses may indeed attest all the signatures; but where one witness attested the signature of one joint inventor, and another witness attested the signature of the other, of two joint inventors, the Patent Office has held the attestation to be insufficient.

§ 122. The oath is not required by the statute to be in writing, nor to be recorded. It may be taken anywhere in the United States, before any person authorized by law to administer oaths at that place; or, when the applicant resides in a foreign country, it may be taken before any minister, chargé d'affairs, consul, or commercial agent, holding commission under the government of the United States, or before any notary public of the foreign country in which the applicant may be.⁴

Recital in the letters patent, that the required oath was made by the applicant, is, in the absence of fraud, conclusive evidence of that fact.⁵ The presence, in the files of

¹ Patent Office Rule 40.

888.

² *O'Brien v. Gallagher*, 25 Conn. 229, 1856.

⁴ Revised Statutes, Section 4892.

³ Wharton on Evidence, Section

⁵ *Seymour v. Osborne*, 11 Wallace, 516, 1870.

the Patent Office, of a paper purporting to be the oath in a given case, but void for lack of a jurat, or for some other fault, is a harmless circumstance.' In such a case the law presumes that the oath recited in the letters patent was made orally, or was embodied in some other paper. It is presumed that the Commissioner will never issue a patent till he is satisfied that the applicant has somehow made oath to the facts to which the statute requires him to swear. When the Commissioner is so satisfied, and recites the fact in the letters patent, all inquiry on the subject is foreclosed, except in cases of actual fraud. Rule 47 of the Patent Office provides, however, that the oath or affirmation is to be attested in all cases by the proper official seal of the officer before whom it is taken. That implies that the Commissioner requires the oath to be put into writing. If, however, he were to waive that requirement in a given case, and were to content himself with an oral oath, and were to recite in the patent that the required oath was made, the law would still have been complied with.

§ 123. The statute requires an applicant to make oath that he does verily believe himself to be the first inventor of the invention for which he solicits a patent, and to state of what country he is a citizen.¹ The Patent Office rules require that this last mentioned statement shall also be made in the oath, and that the applicant shall also state in the oath, where he resides, and whether the invention has been patented to himself, or to any other with his consent or knowledge, in any country, and if it has, that the applicant shall name, under oath, such foreign country or countries, and shall likewise set forth the number and date of every such patent granted therein, and that, according to his knowledge and belief, the same has not been in public

¹ *Crompton v. Belknap Mills*, 3 Fisher, 536, 1869; *DeFlorez v. Reynolds*, 14 Blatch. 506, 1878; *Hoe v. Kahler*, 12 Fed. Rep. 111, 1882;

Hancock Inspirator Co. v. Jenks, 21 Fed. Rep. 914, 1884.

² Revised Statutes, Section 4892.

use in the United States for more than two years prior to the application in this country.¹

The statute of 1836, which was in force till the approval of the Act of 1870, required the applicant to make oath or affirmation of what country he was a citizen,² whereas the Act of 1870, and the Revised Statutes, require only his statement on that subject. The old law governs all applications made before July 8, 1870; and under it Justice GRIER decided that where an applicant mentioned a wrong country in his oath, that error rendered his patent void, even though it arose from an erroneous opinion relevant to what constituted citizenship of the United States.³ But under the Statute of 1870, re-enacted in the Revised Statutes, such an error does not invalidate a patent.⁴

When an application for a patent is made by an executor or administrator of a deceased inventor, the statute directs the oath to be so varied in form that it can be made by him.⁵ Whether, in such a case, it is necessary for the applicant to swear that he believes that the deceased believed himself to be the first inventor, or whether it is necessary for the applicant to swear that he believes that the deceased was in fact the first inventor of the invention, is an unsettled question. If the first is the true view, then an executor may obtain, without perjury, a patent for an invention which he may know to have been previously used in the United States. If the second is the true view, then an executor may be unable to obtain, without perjury, a patent for an invention never before known or used in this country, and not previously patented or described in any printed publication, in this or in any foreign country, and not known or believed by its inventor, to have been previously known or used anywhere in the world. In the first of these contingencies, a wrong may result to the public, and in the last, a wrong may result to the beneficiaries of the deceased.

¹ Patent Office Rules 46 and 39. 1854.

² 5 Statutes at Large, Ch. 357, Section 6, p. 119.

³ Child v. Adams, 1 Fisher, 193,

⁴ Tonduer v. Chambers, 37 Fed. Rep. 337, 1889.

⁵ Revised Statutes, Section 4896.

§ 124. An affirmation in judicial form may always be substituted for any oath required by any United States statute.¹ Nor is this rule confined, as it is in the statutes of some of the States, to cases where the affiant informs the magistrate that he has scruples of conscience against taking an oath.

§ 125. The Patent Office fee, due with the application for a patent for a process, machine, manufacture, or composition of matter, is fifteen dollars, and a final fee of twenty dollars is payable after such a patent has been allowed and before it is issued. The fees for patents for designs, vary with the length of the terms of the patents applied for. For such a patent for three years and six months, the fee is ten dollars: for such a patent for seven years, the fee is fifteen dollars: for such a patent for fourteen years, the fee is thirty dollars.² Fees for design patents are required to be paid in advance.³ The final fee, above mentioned, must be paid within six months after the patent is allowed, and notice thereof is sent to the applicant or his agent; and if that fee is not paid within that time, the statute provides that the patent shall be withheld.⁴ The Commissioner of Patents has no jurisdiction to do what the statute forbids. If, therefore, he were to issue a patent on an application, the final fee for which was not paid till more than six months after the patent was allowed, he would be acting without authority, and the patent would, for that reason, be void. It is important, therefore, to know how long a time the six months is, which is allowed for the payment of that fee. At common law, a month is a lunar, not a calendar month.⁵ Many of the States have reversed this definition by statute, but Congress never has. It is therefore the legal definition of the word "month" in the section now under view. Six calendar months can never consist of fewer than one hundred and eighty-one days, while six lunar months cover a space of time about two weeks shorter

¹ Revised Statutes, Section 1.

² Revised Statutes, Section 4934.

³ Patent Office Rule 217.

⁴ Revised Statutes, Section 4885.

⁵ Blackstone, Book 2, Ch. 9.

than that. This difference should be regarded by applicants for patents. If a patent were granted on an application, the final fee for which was paid more than six lunar months after the patent was allowed, that patent would be void for want of jurisdiction in the Commissioner to issue it.

§ 126. Drawings are required by the statute to be furnished by applicants for patents, in all cases wherein the invention admits of representation by drawings.¹ The statutory requirement relevant to the character of such drawings, is merely that they shall be signed by the applicant or by his attorney in fact, and shall be attested by two witnesses. The Patent Office rules require, in addition, that drawings must show every feature of the invention covered by the claims; and when the invention consists of an improvement on an old machine, must exhibit, in one or more views, the invention itself, disconnected from the old structure, and also, in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.² Those rules also describe numerous other characteristics for drawings.³ They are all necessary to the systematic and proper conduct of the business of the office, and must be carefully followed in order to secure favorable action from the Commissioner.

To be as useful as possible, all drawings for letters patent ought to show the true positions and proportions of the parts of the inventions which they purport to delineate; but it is not necessary that they be accurate enough to be used as working drawings, from which to construct specimens of those inventions.⁴

Drawings in applications filed prior to July 8, 1870, and after July 4, 1836, were required to have "written references."⁵ The object of such references was to connect the various parts of the drawings with the corresponding parts

¹ Revised Statutes, Section 4889.

² Patent Office Rule 50.

³ Patent Office Rule 51.

⁴ American Hide and Leather Splitting Machine Co. v. Machine Co.

⁴ Fisher, 284, 1870; Royer v. Coupe, 29 Fed. Rep. 369, 1886.

⁵ 5 Statutes at Large, Ch. 357, Section 6, p. 119.

of the specification ; but it was a sufficient compliance with that statute, where those references were made on the drawings, though not made in the specification.' The present statute says nothing about any references, or other means of connecting drawings with specifications ; but the Patent Office rules require that they shall be connected by figures adjacent to the different views, and by letters or figures adjacent to the different parts of the drawings, and by incorporating those figures and letters in the descriptive part of the specification.²

§ 127. A model of the invention is required by the statute to be furnished by the applicant, in all cases wherein the invention admits of representation by model, provided the Commissioner requires a model.' This proviso was not in the statute of 1836, but it was inserted in that of 1870, in order to enable the Commissioner to dispense with models, in all cases where their utility is inferior in value to their cost, and to the room they would occupy in the Patent Office. Under the operation of the proviso, models are at present called for by the Commissioner in very few of the cases which admit of representation thereby.

§ 128. Specimens of compositions of matter, and of the ingredients thereof, are required by the statute to be furnished by applicants for patents for such compositions of matter, in all cases where the Commissioner calls for such specimens.⁴ He always does call for at least a specimen of the composition, put up in proper form to be preserved, unless that composition is in its nature perishable.⁵

§ 129. An application for a patent dates from its filing in the Patent Office, and not from the day of its execution by the applicant, nor from the day of the deposit of a model in the Patent Office, nor from the day of the deposit of anything there less than the full application,⁶ but where an

¹ Emerson v. Hogg, 2 Blatch. 1, 1845.

² Patent Office Rules 38 and 51.

³ Revised Statutes, Section 4891.

⁴ Revised Statutes, Section 4890.

⁵ Patent Office Rule 62.

⁶ Draper v. Wattles, 3 Bann. & Ard. 618, 1878; Henry v. Francetown Soap-stone Stove Co. 5 Bann. & Ard. 108, 1880; Campbell v. New York, 35 Fed. Rep. 504, 1888.

application is divided by filing a new one for part of its subject, the new one will date from the date of the old one.¹ In the absence of other evidence, the date of the application for a particular patent, is taken to be identical with the date of the letters patent itself.² Letters patent, and printed certified Patent Office copies of letters patent, not old enough to have expired, always have upon them, in the space under the title, a memorandum that the application therefor was filed on a particular specified day. But no such memorandum is evidence of the fact it recites. It is not evidence at common law, nor in pursuance of any statute. That section of the Revised Statutes³ which gives evidential character to certain certified copies, does not include any such memorandum, because it is no part of the letters patent upon which it is placed, and because it is not a copy of any record, book, paper, or drawing belonging to the Patent Office. It is an indication of what some such record, book, or paper appears to show, but it is not evidence of its own accuracy, nor is it covered by the certificate attached to the document upon which it is placed.

§ 130. Those transactions which constitute an original application for a patent, have thus far constituted the subjects explained in this chapter. When such an application is made by any person, it becomes the duty of the Commissioner to cause an examination thereof, and of the invention covered thereby. If, upon such examination, it appears that the applicant is justly entitled to a patent under the law, it is the duty of the Commissioner to issue one to him for that invention.⁴ The statute does not prescribe that the Commissioner shall cause this examination to be made by any particular subordinate, and he may overrule the decision of any subordinate to whom he may have committed the matter.⁵

¹ *Smith & Griggs Mfg. Co. v. Sprague*, 123 U. S. 250, 1887.

² *Worley v. Tobacco Co.* 104 U. S. 342, 1881.

³ Revised Statutes, Section 892.

⁴ Revised Statutes, Sections 4893, 4886.

⁵ *Hull v. Commissioner of Patents*, 7 Off. Gaz. 559, 1875; 8 Off. Gaz. 46, 1875.

The examination may extend not only to the novelty of the invention covered by the application, but also to any other question of fact, upon which the validity of the patent, if granted, may be expected to depend. If the investigation of any such question necessitates the taking of testimony by the Commissioner, he cannot take that testimony in the form of ex-parte affidavits, but must take it in the form of depositions, made upon notice to the applicant to appear and cross-examine the deponents.¹

§ 131. Whenever, after an examination, any application for a patent is rejected, it is the duty of the Commissioner to notify the applicant thereof, giving him the reasons for such rejection, together with such information and references, as may be useful in judging of the propriety of prosecuting the application, or of altering the specification; and if, after receiving such a notice, the applicant persists in his request for a patent, with or without altering his specification, it thereupon becomes the duty of the Commissioner to cause a re-examination of the case.²

§ 132. If, without amending his specification, the applicant persists in his request for a patent, and if the application is again rejected by the primary examiner, to whom the Commissioner referred the case, then the applicant may appeal to the board of examiners-in-chief;³ and if unsuccessful there, he may appeal to the Commissioner in person;⁴ and if the Commissioner refuses to grant him a patent, the applicant may appeal to the Supreme Court of the District of Columbia sitting in banc,⁵ but not to the Secretary of the Interior;⁶ and if the Commissioner refuses to allow that appeal, he may be compelled to do so, by a writ of mandamus, granted by the latter tribunal, upon the petition of the applicant.⁷ These appeals must all be heard on the

¹ Alteneck's Appeal, 23 Off. Gaz. 269, 1882.

² Revised Statutes, Section 4908; Patent Office Rule 65.

³ Revised Statutes, Section 4909.

⁴ Revised Statutes, Section 4910.

⁵ Revised Statutes, Section 4911.

⁶ Butterworth v. Hoe, 112 U. S. 50, 1884.

⁷ Commissioner of Patents v. Whiteley, 4 Wallace, 533, 1866.

case as submitted to the primary examiner.¹ No appeal, therefore, should be taken until the application is in such a condition that the patent will issue, if the decision of the primary examiner is reversed.² If that decision is reversed by the board of examiners-in-chief, the primary examiner can require no amendment,³ but must pass the case for issue. If the board affirms the decision of the primary examiner, the Commissioner will not reverse the board on any question of fact, unless its decision was clearly against the weight of evidence.⁴ If the Commissioner affirms the decision of the board, because the patent ought not, in his judgment to issue, he need assign but one reason for that opinion. The applicant cannot demand of him that he pass upon any other question.⁵ And the Commissioner may at any time before the issue of a patent reverse his own or any other favorable patent office action thereon, and reject the application.⁶

§ 133. Where an appeal is taken to the Supreme Court of the District of Columbia, the applicant is required to give notice thereof to the Commissioner, and to file in the Patent Office, within such time as the Commissioner shall appoint, his reasons for the appeal, specifically set forth in writing.⁷

The court, before hearing the appeal, gives notice to the Commissioner of the time and place thereof, and the Commissioner is required, thereupon, to give like notice to all persons who appear to be interested in the case. The applicant is required to lay before the court, at the hearing, certified copies of all the papers in the case, and the Commissioner is required to furnish the court with a full written statement of the grounds of his decision; and at the request of any party interested, or of the court, the Commis-

¹ Hammond's Appeal, 2 Off. Gaz. 57, 1872.

² Mewes' Appeal, 2 Off. Gaz. 617, 1872.

³ Brunner's Appeal, 1 Off. Gaz. 303, 1872.

⁴ Hazelip v. Richardson, 10 Off.

Gaz. 747, 1876.

⁵ Commissioner of Patents v. Whiteley, 4 Wallace, 532, 1866.

⁶ United States v. Butterworth, 3 Mackey, 233, 1884.

⁷ Revised Statutes, Section 4912.

sioner and the examiners may be examined under oath, in explanation of the principles of the thing for which a patent is demanded.' The court, thereupon, hears the case in a summary way, on the evidence produced before the Commissioner, and confines its revision of the Commissioner's decision, to the points set forth in the applicant's reasons of appeal. Having decided the questions involved, the court gives the Commissioner a certificate of its proceedings and decisions, which, being entered of record in the Patent Office, governs the further proceedings in the case. No such decision, however, precludes any person from contesting the validity of any patent issued in pursuance thereof, in any court wherein that validity may be called in question.² And no such decision, if adverse to the applicant, deprives the Commissioner of jurisdiction to grant a patent for the same invention, on a later and proper application of the same inventor.³

§ 134. Whenever a patent is refused by the Commissioner of Patents, or by the Supreme Court of the District of Columbia, on appeal from the Commissioner, the applicant may file a bill in equity in any United States Circuit Court having or acquiring jurisdiction of the parties.⁴ The only way in which any such Circuit Court can acquire jurisdiction of the Commissioner, is by his voluntary appearance therein and submission thereto, but the Supreme Court of the District of Columbia has jurisdiction over him, for the purposes of this law, by virtue of his official residence in Washington, in that District.⁵ The complainant in such a bill may be the inventor-applicant, or, in case of an assignment of the invention, he may be the assignee, because the latter is considered to be an applicant within the meaning of the law on this subject.⁶ If there is no opposing party,

¹ Revised Statutes, Section 4913.

² Revised Statutes, Section 4914; *Fry v. Quinlan*, 13 Blatch. 205. 1875.

³ *United States v. Colgate*, 32 Fed. Rep. 624. 1884.

⁴ Revised Statutes, Section 4915,

and Section 629, ¶ 9.

⁵ *Butterworth v. Hill*, 114 U. S. 129, 1885.

⁶ *Gay v. Cornell*, 1 Blatch. 508, 1849.

a copy of the bill is required to be served on the Commissioner; but the Secretary of the Interior is not a proper party to such a bill;¹ and the Commissioner is not a necessary party, where there is a party whose interests are those which are adverse to the interests of the complainant;² and in that case the bill may be filed in the Circuit Court of the United States for that District wherein that party is an inhabitant.³ Where either class of these conditions are fulfilled, the court has jurisdiction to adjudge that the applicant is entitled to receive a patent for his invention, as specified in his claims, or for any part thereof, as the facts in the case may appear to be; and such an adjudication, if made, authorizes the Commissioner to issue such a patent, on the applicant's filing in the Patent Office a copy of the adjudication, and otherwise complying with the requirements of the law;⁴ and it then becomes the duty of the Commissioner to issue the patent.⁵ But no court has any jurisdiction to restrain the Commissioner from issuing a patent to the defendant, in any such case as those treated in this section.⁶

In order to decide the issues of such a bill in equity as is treated in this section, the court where the bill is pending will take testimony, and any other admissible evidence, according to the course of courts of equity, and will also consider whatever was before the Patent Office in the proceedings which resulted in the refusal to grant a patent, and, if the case has been before the Supreme Court of the District of Columbia, will also consider the proceedings which took place in that tribunal.⁷ The litigation explained in this section, is therefore original and not appellate litigation.

¹ *Kirk v. Commissioner of Patents*, 37 Off. Gaz. 451, 1886.

² *Graham v. Teter*, 25 Fed. Rep. 555, 1885.

³ 24 Statutes at Large, Ch. 373, p. 552.

⁴ Revised Statutes, Section 4915.

⁵ *Butterworth v. Hoe*, 112 U. S.

62, 1884; *Vermont Farm Machine Co. v. Marble*, 20 Fed. Rep. 118, 1884.

⁶ *Whipple v. Miner*, 15 Fed. Rep. 117, 1883.

⁷ *Butterworth v. Hoe*, 112 U. S. 61, 1884; *Gandy v. Marble*, 122 U. S. 439, 1886.

But it may not be resorted to, as a concurrent remedy with an appeal to the Supreme Court of the District of Columbia, in any case where such an appeal lies; because where that remedy exists it must be exhausted before the ultimate redress obtainable by a bill in equity can be invoked.¹ Where an application is brought before the Commissioner to decide an interference question, or where he withholds a patent by virtue of his general supervisory authority, the remedy now under consideration is the only one to which the applicant can resort, for no appeal lies to the Supreme Court of the District of Columbia, nor can any writ of mandamus be granted by that tribunal, to compel the Commissioner to issue a patent in such cases.²

The remedy delineated in this section must be invoked within two years after the last official action on the application; unless the complainant satisfies the court in which it is invoked, that the longer delay was unavoidable.³

§ 135. The right to amend applications for patents is one of great value and frequent exercise, but it has never been expressly established by any statute. No statute prior to that of 1836 even mentioned the subject, and that statute only provided that whenever it appeared to the Commissioner, that one or more of the claims of an application were inadmissible for want of novelty, or that the description was defective and insufficient, he should notify the applicant thereof, and should furnish him with such information as might be useful in judging of the propriety of altering his specification, so as to exclude that part of the subject-matter found not to be new.⁴ No change relevant to this point was made in the statute till 1870, when, in the place of the foregoing provision, it was enacted that whenever any claim was rejected, for any reason whatever, the Commissioner should notify the applicant thereof, and should fur-

¹ Kirk v. Commissioner of Patents, 37 Off. Gaz. 451, 1886.

² Hull v. Commissioner of Patents, 7 Off. Gaz. 559, 1875; 8 Off. Gaz. 46, 1875.

³ Gandy v. Marble, 122 U. S. 439, 1886.

⁴ 5 Statutes at Large, Ch. 357, Section 7, p. 120.

nish him with such information as might be useful in judging of the propriety of altering his specification.' The present statute on the subject is substantially identical with that of 1870.²

There is no apparent material difference, at this point, between any of the three statutes, unless the provision in that of 1836, relevant to the nature of the amendment contemplated by that section, constitutes a limitation not found in either of the others. The two later statutes provide that the Commissioner shall furnish the applicant with such information as may be useful in judging of the propriety of altering his specification. The earlier statute adds to that provision the words: "to embrace only that part of the invention or discovery which is new." All three of the statutes recognize the right of an applicant to alter his specification, after rejection of any claim therein. They differ from each other only in regard to the kind of information which they require the Commissioner to furnish the applicant, to guide him in the exercise of that right. Neither of them furnishes the foundation of that right, or limits that right to cases where the application has been rejected. They all provide a proceeding for such cases, but neither of them negatives the existence of such a right in other cases.

§ 136. The real foundation of the right to amend applications for patents, is found in Section 4888 of the Revised Statutes, a section substantially identical with Section 26 of the Patent Act of 1870, and with the second sentence of Section 6 of the Patent Act of 1836, and with the middle part of Section 3 of the Patent Act of 1793. Ever since 1793, one or another of these four enactments has been in force, and has provided, in substance, that before any inventor shall receive a patent for his invention, he shall file in the Patent Office a full, clear, and exact written description of that invention. Ever since 1836, one or another of the three statutes first mentioned has been in force,

¹ 16 Statues at Large, Ch. 230, Section 41, p. 204.

² Revised Statutes, Section 4903.

and has additionally provided that before any inventor shall receive a patent, he shall particularly point out and claim the part or combination which he claims as his invention. Now when a statute enacts that a thing shall be done before a particular event can occur, it implies that it can be done prior to such an event. An inventor may therefore do those things before he receives a patent. If he fails in his first attempt to furnish a proper and adequate description, or to furnish proper and adequate claims, he may try again, and, if necessary, still again and again. If he finally succeeds in both, the Commissioner acquires jurisdiction to grant him a patent, provided all the other requirements of the law are also complied with. The statute does not attend to the details of this matter. It only provides that at some time before a patent is issued, a proper description and a proper claim shall be filed in the Patent Office. To what extent these things must be done at first, and to what extent and under what circumstances they may be done by way of amendment of the original papers, are matters which Section 483 of the Revised Statutes relegates to the regulation of the Commissioner of Patents, subject to the approval of the Secretary of the Interior. To ascertain, therefore, what may and what may not be done by way of amendments of applications, the true recourse is to the rules of the Patent Office.

§ 137. The applicant may amend before or after the first rejection, and he may amend as often as the examiner presents any new references or reasons for rejection; but after such action on all the claims as entitles the applicant to an appeal to the board of examiners-in-chief, no amendment is allowed, unless the applicant convinces the examiner or the Commissioner that there was a sufficient excuse for the delay in presenting it.¹ Amendments not affecting the merits may be made after the patent is allowed, and even after the final fee is paid, provided those amendments are approved first by the examiner, and then by the Commissioner.²

¹ Patent Office Rule 68.

² Patent Office Rule 78.

§ 138. In original applications which are capable of illustration by drawing or model, all amendments of the model, drawings, or specification, or of additions thereto, must conform to at least one of them, as they existed at the time of filing the application. Matter not found in either, and involving a departure from the original invention, cannot be introduced by way of amendment, but can be shown or claimed only in a separate application. Where the invention covered by an application does not admit of illustration by drawing, or by model, amendment of the specification is permitted, upon proof, satisfactory to the Commissioner, that the matter covered by the amendment was a part of the original invention.¹ When an inventor files an application for a patent, he is regarded as applying for such a patent as will cover every patentable thing represented either in the specification, drawing, or model of that application.² If, therefore, his claims, as first submitted to the Commissioner, do not cover every such thing, he may amend them to whatever extent is necessary to make them do so, or he may add other claims to accomplish that purpose.

§ 139. An applicant must amend his specification, whenever such amendment is required to correct inaccuracy or unnecessary prolixity therein, or to secure correspondence between the claim and the other parts of the specification.³ So also, unless the original drawings and model conform to certain standards of artistic and mechanical excellence set forth in the rules, the applicant must furnish amended drawings and an amended model which do conform to those requirements.⁴

§ 140. An interference is a proceeding carried on in the Patent Office, for the purpose of determining the question of priority between two or more parties, each of which is seeking a patent for the same invention; or between two or more parties, at least one of which is seeking a patent for

¹ Patent Office Rule 70.

³ Patent Office Rule 71.

² *Singer v. Braundsdorf*, 7 Blatch. 532, 1870.

⁴ Patent Office Rules 49 to 59.

an invention already covered by a patent which has not yet expired.¹ The proceedings in interferences are governed by an elaborate code of Patent Office rules, which are as binding as the law itself,² and to which the practitioner, in such cases, will necessarily resort for detailed information.³ It is unnecessary to explain those rules in this text-book, but it is expedient to set down in this connection the relevant rules of law, which rest directly upon the statutes and decisions for their sanction.

§ 141. There is no limit to the number of interferences to which an application may be subjected; and if a patent is issued without going through every such proceeding, previously ordered by the Commissioner, that patent will be void.⁴ The ordinary rules of evidence which are applied in United States courts are used in interference cases.⁵ This includes the rules which relate to dispensing with evidence of facts of public notoriety.⁶ The doctrines of estoppel also apply in these contests, in the same manner in which they apply in other litigious proceedings.⁷

§ 142. No decision of the Commissioner, in any interference case, is pleadable as *res judicata* in any action in any court.⁸ Such a decision merely settles the immediate action of the Patent Office. If it is made between two or more applications, a patent is granted to the inventor decided to be first, and no patent is granted to either of the others. If it is made between an application and a patent, and is made in favor of the application, the Commissioner will grant a

¹ Revised Statutes, Section 4904; Patent Office Rule 93; United States *v.* Commissioner of Patents, 7 Off. Gaz. 603, 1875.

² Arnold *v.* Bishop, 1 McArthur's Patent Cases, 31, 1841; United States *v.* Marble, 2 Mackey, 12, 1882.

³ Patent Office Rules 93 to 132, and 146 and 147.

⁴ Potter *v.* Dixon, 2 Fisher, 381, 1863.

⁵ Berry *v.* Stockwell, 9 Off. Gaz.

404, 1876.

⁶ Anson *v.* Woodbury, 12 Off. Gaz. 1, 1877.

⁷ Berry *v.* Stockwell, 9 Off. Gaz. 404, 1876.

⁸ Union Paper Bag Machine Co. *v.* Crane, 1 Bann. & Ard. 494, 1874; Gloucester Isinglass Co. *v.* Brooks, 19 Fed. Rep. 427, 1884; Hubel *v.* Tucker, 24 Fed. Rep. 701, 1885; Kirk *v.* DuBois, 33 Fed. Rep. 252, 1887.

patent thereon, but he cannot recall the patent already issued. In such a case, the rival inventors may litigate their interference controversy anew, on the equity side of any United States Circuit Court which has or can acquire jurisdiction of the parties.¹ That kind of litigation constitutes the subject of the chapter on interfering patents; the thirteenth chapter of this book. Or the question of priority between the two inventors may be litigated afresh in any infringement suit, brought by one of them against the other. If, in such a case as that under present consideration, it had happened that the successful applicant had filed his application before the interfering patent was granted, that patent would not have been granted at all, unless the Patent Office decision on the interference had been reversed by some higher authority. In that event the successful applicant would not have been liable to any interference suit, or any infringement suit, brought against him by his rival; for his rival would, in that event have no patent upon which to base a suit of either of those kinds. For this reason, as well as for others, every inventor who desires to secure a patent for an invention, should make his application therefor as soon as possible after making that invention. If, however, that invention requires time in reaching maturity, the inventor may prevent the issuing of any interfering patent in the mean time, by filing a caveat in the Patent Office.

§ 143. A caveat is a document in which an inventor states the function, and the distinguishing characteristics, of the invention to which it refers, and prays protection for his right thereto, until he shall have matured that invention. A caveat remains in force only one year; and while it is in force, its only statutory function is to prevent the issuing of any patent to another for the same invention until after the caveator has notice of the interfering application, and has thus had an opportunity to file an application himself, and so delay the issuing of a patent to his competitor until interference proceedings in the Patent Office shall have decided the

¹ Revised Statutes, Section 4918.

question of priority.¹ If an invention is fully described in a caveat, then that caveat will constitute evidence showing that invention to have been made at least as early as the caveat was filed. This, however, is an incidental and not a statutory function of such a document, and it cannot be performed by any caveat which is not complete enough in its description to enable a skilful mechanic, without inventing anything himself, to construct a specimen of the invention to which the caveat refers. But even where a caveat does not reach that standard, it constitutes evidence that the invention had reached the stage of development shown in the caveat, at the time the caveat was executed.²

Omission to file a caveat does not impair the ultimate rights of an inventor;³ and omission to consider a caveat does not invalidate a patent granted to another in pursuance of the oversight.⁴

§ 144. No appeal lies, in any interference case, from the Commissioner of Patents to the Supreme Court of the District of Columbia.⁵ The decision of the Commissioner in any such case, however, may be reviewed by means of a bill in equity, filed in any United States Circuit Court having or receiving jurisdiction of the parties.⁶ Whether any appeal lies to the Supreme Court of the United States from any decree of any Circuit Court, rendered in any such case, or in any other case brought by authority of the same statute, is an unsettled question. Appeals are demandable from the Circuit Courts to the Supreme Court in all equity cases "touching patent-rights."⁷ Such is the provision of the Revised Statutes, and such was the provision of the Patent Act of 1870.⁸ Prior to the approval of the last-mentioned statute, such appeals were allowable in all "cases

¹ Revised Statutes, Section 4902; *Bell v. Daniels*, 1 Fisher, 372, 1858.

² *Jones v. Wetherell*, 1 McArthur's Patent Cases, 413, 1855.

³ *Heath v. Hildreth*, 1 McArthur's Patent Cases, 25, 1841.

⁴ *Cochrane v. Waterman*, 1 McArthur's Patent Cases, 59, 1844.

⁵ Revised Statutes, Section 4911.

⁶ Revised Statutes, Section 4915, and Sec. 629, ¶ 9; Section 134 of this book.

⁷ Revised Statutes, Section 699.

⁸ 16 Statutes at Large, Ch. 230, Section 56, p. 207.

arising under any law of the United States, granting or confirming to inventors the exclusive right to their inventions," and were demandable in a portion of such cases.¹ This last-quoted phraseology was probably wide enough to cover cases brought in the Circuit Courts to review adverse decisions of the Commissioner of Patents, or of the Supreme Court of the District of Columbia, on applications for letters patent; but it does not follow that the present statute is wide enough for that purpose. Cases brought under Section 4915 of the Revised Statutes are not cases "touching patent-rights." They are cases touching rejected applications for patent-rights. If, therefore, they are held to be appealable to the Supreme Court, they must be so held by virtue of a loose construction of the statute regulating appeals.

§ 145. An application for a patent may be abandoned. That abandonment may be actual, or it may be constructive. The facts which constitute an actual abandonment of an application, may also constitute an actual abandonment of the invention covered thereby; and a constructive abandonment of an application, may or may not work a constructive abandonment of the invention.

Actual abandonment of an application does not always follow from the fact that the applicant withdrew it from the Patent Office. If, when withdrawing it, he intended to file a new application for the same invention, and accordingly does so, the two are held to constitute one continuous application within the meaning of the law.² This doctrine applies, even if the new application is not filed till long after the old one was withdrawn, provided there was no laches chargeable to the applicant on account of the delay.³

Nor does actual abandonment of an application necessarily follow from the fact that it was rejected by the Patent Office, and then allowed to lie dormant by the applicant.

¹ 5 Statutes at Large, Ch. 357, Section 17, p. 124.

² *Godfrey v. Eames*, 1 Wallace, 317, 1863; *International Crown Co.*

v. Richmond, 30 Fed. Rep. 779, 1886.

³ *Howes v. McNeal*, 3 Bann. & Ard. 376, 1878.

If, in such a case, the applicant always expected to secure a patent, either on the original application or on another, and if, without laches, he made and prosecuted another application for the same invention, and secured a patent thereon, the two applications are considered, in the eye of the law, to be one.¹

Laches, if it intervenes between a withdrawn or rejected application and a new application covering the same invention, will, however, be fatal to any claim of continuity.² It will constitute evidence that the first application was actually abandoned, and equally good evidence of the actual abandonment of the invention itself.³

§ 146. Constructive abandonment of an application occurs whenever two years intervene between the filing of the application and its being made complete enough to entitle it to examination, according to the rules of the Patent Office; and such an abandonment also occurs if the applicant allows two years to pass without regularly prosecuting his application after any particular action is taken thereon by the Patent Office, and notified to him, provided, in either case, the Commissioner of Patents is not convinced that the delay was unavoidable.⁴ If he is so convinced, he may condone the delay by granting a patent; and if he grants a patent, his decision on the point is conclusive.⁵

All applications, also, which were rejected or withdrawn prior to July 8, 1870, and not revived within six months after that day, were thereby constructively abandoned.⁶ The statutory provision just cited, did not operate to renew any right to any abandoned invention.⁷ Nor did it fix any

¹ *Smith v. Dental Vulcanite Co.* 93 U. S. 500, 1876; *Blandy v. Griffith*, 3 Fisher, 617, 1869; *Graham v. McCormick*, 5 Bann. & Ard. 244, 1880; *Ligowski Clay Pigeon Co. v. Clay Bird Co.* 34 Fed. Rep. 334, 1887.

² *Bevin v. Bell Co.* 9 Blatch. 61, 1871; *Weston v. White*, 13 Blatch. 452, 1876.

³ *Planing Machine Co. v. Keith*,

101 U. S. 484, 1879.

⁴ Revised Statutes, Section 4894, *Kirk v. Commissioner of Patents*, 37 Off. Gaz. 451, 1885.

⁵ *M'Millin v. Barclay*, 5 Fisher, 199, 1871.

⁶ 16 Statutes at Large, Ch. 230, Section 35, p. 202.

⁷ *Planing Machine Co. v. Keith*, 101 U. S. 488, 1879.

time after which any invention should be held to be abandoned, for it provided no result from six months' delay, except that the application should be held to have been abandoned.

So, also, constructive abandonment of his application occurs when any applicant fails to pay the final fee within six months from the time at which a patent is allowed, and notice of such allowance is sent to him or to his agent.¹ The six months referred to in this paragraph are lunar, and not calendar, months.²

§ 147. Constructive abandonment of an application will work constructive abandonment of the invention covered thereby, where the abandonment of the application arose from either of the causes stated in the first paragraph of the last preceding section, if no new application is filed soon enough to independently avoid the statute relevant to public use or sale more than two years before application for a patent.³ The same thing is true, for the same reason, where the abandonment of the application arose from the cause stated in the second paragraph of the last preceding section. But the same reason does not exist relevant to the cause of constructive abandonment stated in the third paragraph of that section. If, therefore, an applicant fails to pay the final fee within six months after an allowance of a patent to him, and if he files a new application for a patent, on the same invention, within two years after that allowance, but more than two years after that invention was first in public use or on sale, the question arises whether the constructive abandonment of the first application will prevent the two applications from being regarded as one, on the principles stated in the second and third paragraphs of Section 145 in this chapter. No answer to that question is found in any adjudicated case; and as the point is unlikely to arise, and as its solution involves much argument, no answer is attempted in this book.

But in every case where a new application is made with-

¹ Revised Statutes, Section 4885.

² *Lindsay v. Stein*, 10 Fed. Rep.

³ Section 125 of this book.

913, 1882.

in two years after the invention was first in public use or on sale, a patent, if granted on that new application, will not be unfavorably affected by the fact that a former application was made, and was constructively abandoned.

§ 148. Patents are authorized by law, only on compliance with the statutory prerequisites to their issue. The Commissioner has therefore no jurisdiction to grant any patent, except where all those prerequisites have been substantially performed. If he inadvertently grants a patent in any other case, he exceeds his jurisdiction, and it is therefore open to every person who is sued as an infringer of that patent, to successfully defend against such an action, by pleading and proving the particular fault or omission with which the applicant was chargeable.¹ In all cases, however, where the application was complete enough to give the Commissioner jurisdiction, the patents will be unaffected by evidence that the Commissioner was improvident or injudicious in the exercise of his discretionary powers over these applications. If, for example, he omits to require that specimens of the ingredients shall be furnished, with a particular application for a patent for a composition of matter, it is not open to any infringer to show that the public interest would have been better subserved had such a requirement been made.² The same rule also governs the same point in cases where the Commissioner omits to require a model.³ But it is probably open to any defendant to defeat a recovery for infringement, by pleading and proving that no drawing of the invention was filed in the Patent Office, and that the nature of the case admitted of drawings. This must be the law, unless the Commissioner is the sole and final judge of this last point of fact; and it is not probable that Congress intended to make him so, for no such intention is expressed in the statute,⁴ and no such intention is consistent with public policy.

¹ *Grant v. Raymond*, 6 Peters, 218, 1832; *Parks v. Booth*, 102 U. S. 101, 1880; *Ransom v. New York*, 1 Fisher, 257, 1856.

² *Tarr v. Folsom*, 1 Bann. & Ard. 24, 1874.

³ Revised Statutes, Section 4891.

⁴ Revised Statutes, Section 4889

CHAPTER VII.

LETTERS PATENT.

149. No exclusive right to inventions, at common law.
150. Constitutional exclusive right to inventions in the United States.
151. Patents are property.
152. Dignity of property in patents.
153. Patents are not odious monopolies.
154. Patent rights are absolute, not qualified.
155. Patent rights are beyond State interference.
156. Patent rights are not subject to common law executions, but may be subjected to creditors' bills in equity.
157. Patent rights are as exclusive of the government, as they are of any citizen.
158. Patents do not cover specimens purchased of the inventor, or made with his knowledge and consent, before application therefor.
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163. Duration of United States patents for inventions first patented in a foreign country, according to the statute of 1870.
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170. Beginning of the terms of United States patents.
171. To whom letters patent are granted by the government.
172. Letters patent as documents.
173. The specification.
174. The description.
175. The description.
176. The claim or claims.
177. The claim or claims.
178. Particularity in descriptions and claims, are conditions precedent to validity.
179. Questions of sufficiency of particularity of descriptions and claims, are questions of fact, and not of law.
180. Plurality of inventions in a single letters patent.
181. Construction of letters patent.
182. Claims to be construed in the light of descriptions.
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184. Claims construed in the light of the state of the art.

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| 185. Proper liberality of construction.
186. Proper strictness of construction.
187. Construction in the light of contemporaneous understanding of the inventor.
188. Construction in the light of contemporaneous statutes. | 189. Questions of construction are questions of law, and not of fact.
190. Letters patent presumed to be for same invention as the application therefor.
191. Letters patent are constructive notice of their contents to every person. |
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§ 149. No inventor has any special right to his invention at common law.¹ This is not a virtue in that law. It is an imperfection; an omission. That omission is due to the fact that the common law came into being in the middle ages, and in England. New and useful inventions were seldom produced in those ages, and most of those which were produced, were produced in Italy or on the continent of Europe. There was little or no occasion or opportunity in England, for the creation or recognition of any exclusive, or otherwise paramount, customary right in inventions. Even in those countries where new and useful things were more frequently invented, their inventors were oftener persecuted as heretics than rewarded as benefactors. Despotie kings were wont, in many countries, to confer monopolies upon their favorites, regardless of any meritorious right to the things monopolized; and it sometimes happened, in England and elsewhere, that, in pursuance of this practice, a monopoly of an invention was granted to its true inventor. Such a grant, however, was always a matter of kingly grace, and never a matter of legal right. In the reign of James the First, the English parliament limited this exercise of royal prerogative to cases of inventions, and thus laid the foundation of the patent laws of England. The limiting statute did not purport to confer upon inventors, any inchoate right which they might perfect and make absolute by proceeding in any manner pointed out by law. It recognized the power of the king

¹ *Brown v. Duchesne*, 19 Howard, 195, 1856; *American Hide and Leather Splitting Machine Co. v.*

Machine Co. 4 Fisher, 294, 1870; *Rein v. Clayton*, 37 Fed. Rep. 356, 1889.

to secure to any inventor an exclusive right to his invention, if his royal pleasure prompted him so to do. But the exercise of that power was so infrequent for more than a century, that Blackstone, in his Commentaries on the Laws of England, devoted but one sentence to the branch pertaining to patents for inventions.

§ 150. In the United States of America, the superior right of an inventor to his invention has a far better foundation than could be furnished by the prerogative of any king. That foundation is the consent of the people of the United States: a consent primarily expressed in the Federal Constitution, and elaborately defined in the federal statutes. The Constitution was established as the supreme law of the United States, on the twenty-first day of June, 1788. It conferred power upon Congress to promote the progress of the useful arts, by securing, for limited times, to inventors, the exclusive right to their respective inventions.¹ In exercise of that power, Congress, on the tenth day of April, 1790, enacted the first federal statute on the subject; and provided therein that the exclusive right in contemplation, should be secured to the respective inventors, by means of a written grant from the United States, to be named letters patent.² It is the office of this chapter to explain the nature, the extent, and the duration of the right secured by such a document; to outline the general form and necessary characteristics of such a document itself; and to set forth the rules by which such documents are properly construed.

§ 151. Patent rights are property.³ Therefore their owners cannot be constitutionally deprived of those rights, without due process of law.⁴ Due process of law includes

¹ Article 1, Section 8.

² 1 Statutes at Large, Ch. 7, p 109.

³ *Brown v. Duchesne*, 19 Howard, 195, 1856; *Seymour v. Osborne*, 11 Wallace, 533, 1870; *Consolidated Fruit Jar Co. v. Wright*, 94 U. S.

96; 1876; *Cammeyer v. Newton*, 94 U. S. 226, 1876; *James v. Campbell*, 104 U. S. 357, 1881; *Marsh v. Nichols*, 128 U. S. 612, 1888.

⁴ Fifth Amendment to the Constitution.

the constitutional judgments and decrees of courts; but it does not include any act of Congress, or of any other legislature.¹ Patent rights, once vested, are therefore incapable of being divested by act of Congress.² Nor can Congress do indirectly, that which it is forbidden to do with directness. It cannot destroy nor seriously impair the value of a patent right, under the guise of altering or repealing the existing remedies applicable to its enforcement, any more than it can so treat any other kind of property.³

§ 152. The right of property which an inventor has in his invention, is excelled, in point of dignity, by no other property right whatever. It is equalled, in point of dignity, only by the rights which authors have in their copyrighted books. The inventor is not the pampered favorite or beneficiary of the government, or of the nation. The benefits which he confers, are greater than those which he receives. He does not cringe at the feet of power, nor secure from authority an unbought privilege. He walks everywhere erect, and scatters abroad the knowledge which he created. He confers upon mankind a new means of lessening toil, or of increasing comfort; and what he gives cannot be destroyed by use, nor lost by misfortune. It is henceforth an indestructible heritage of posterity. On the other hand, he receives from the government, nothing which costs the government or the people a dollar or a sacrifice. He receives nothing but a contract, which provides that for a limited time he may exclusively enjoy his own. Compared with those who acquire property by devise or inheritance; compared with those who acquire property by gift or marriage; compared with those who acquire property by profits on sales, or by interest on money; the man who acquires property in inventions, by creating things unknown before, occupies a position of superior dignity. Even the man

¹ *Barron v. Baltimore*, 7 Peters, 247, 1833; *Kent's Commentaries*, Lecture 24, p. 13; *Taylor v. Porter*, 4 Hill (N. Y.), 147, 1843.

² *McClurg v. Kingsland*, 1 How-

ard, 202, 1843.

³ *Green v. Biddle*, 8 Wheaton, 75, 1823; *Bronson v. Kinzie*, 1 Howard, 317, 1843.

who creates value by manual labor, though he rises in dignity above the heir, the donee, the merchant, and the money-lender, falls in dignity below the author and the inventor. The inventor of the reaper is entitled to greater honor than his father who used the grain cradle; and the inventor of the grain cradle is entitled to greater honor than his ancestors, who, for a hundred generations, had used the sickle. Side by side stand the inventor and the author. Their labor is the most dignified and the most honorable of all labor; and the resulting property is most perfectly theirs.

LORD BACON gave the weight of his opinion, to views somewhat similar to the foregoing. The following is a translation of one of his Latin paragraphs.

“The introduction of great inventions appears one of the most distinguished of human actions, and the ancients so considered it; for they assigned divine honors to the authors of inventions, but only heroic honors to those who displayed civil merit; such as the founders of cities and empires, legislators, the deliverers of their country from lasting misfortunes, the quellers of tyrants and the like. And if any one rightly compare them, he will find the judgment of antiquity to be correct; for the benefits derived from inventions may extend to mankind in general, but civil benefits to particular lands alone; the latter, moreover, last but for a time, the former forever. Civil reformation seldom is carried on without violence and confusion, while inventions are a blessing and a benefit without injuring or afflicting any.”¹

§ 153. “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 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

¹ *Novum Organum*, Book 1, Section CXXIX.

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, as contemplated by the Constitution and sanctioned by the laws of Congress." Such is the accepted doctrine as formulated by Justice CLIFFORD when speaking for the Supreme Court.¹ The same ideas were more concisely expressed in an earlier case by Justice DANIEL.² Speaking of the inventor's exclusive right, he said: "This was at once the equivalent given by the public for benefits bestowed by the genius and meditations and skill of individuals, and the incentive to further efforts for the same important objects." Writing an opinion of the Supreme Court, and referring to the doctrine of patents, Justice MILLER said: "It is no longer a scarcely recognized principle, struggling for a foothold, but it is an organized system, with well-settled rules, supporting itself at once by its utility, and by the wealth which it creates and commands."³ These opinions of the Supreme Court agree, therefore, in holding, with all fair and thoughtful men, that patent-rights are not hurtful monopolies, but are rights of property at once dignified, honorable, and strong.

§ 154. A patent-right is an absolute, and not a qualified, right. During the term of his patent, a patentee may, if he pleases, decline to allow any other person to make, use, or sell the invention which it covers, and at the same time may refrain from making, using, and selling his invention himself.⁴ From July, 1832, until July, 1870, there was an exception to this rule. Under the statute of 1790, aliens, as well as citizens, might receive United States patents;⁵

¹ Seymour v. Osborne, 11 Wallace, 533, 1870.

² Kendall v. Winsor, 21 Howard, 322, 1858.

³ Merrill v. Yeomans, 94 U. S. 573, 1876.

⁴ Pitts v. Wemple, 1 Bissell, 93, 1855; American Bell Telephone Co. v. Service Co. 45 Off. Gaz. 1193, 1888.

⁵ 1 Statutes at Large, Ch. 7, Section 1, p. 109.

but the statute of 1793 confined that privilege to citizens of the United States.¹ The statute of 1800 extended the right to aliens who had resided two years within the United States, and provided that patent-rights should be obtained, used, and enjoyed by such persons, in as full and ample a manner, and under the same conditions, limitations, and restrictions, as in the case of citizens.² That continued to be the state of the law on the point till July 13, 1832; when Congress provided that still another class of aliens might have patents: namely, aliens who were residents of the United States, and had declared their intention, according to law, to become citizens thereof. It was, however, expressly provided that any patent, granted to an alien of this class, should determine and become absolutely void, without resort to any legal process to annul or cancel the same, in case of failure on the part of the patentee, for the space of one year from the issuing thereof, to introduce into public use in the United States the invention covered by the patent; or in case such public use be discontinued for any period of six months; or in case of failure of the patentee to become a citizen of the United States as soon as the law allowed.³ Four years later, however, this statute was repealed by that of 1836. The latter statute extended the right to obtain United States patents to all inventors; but it provided that an effectual defence to an action for infringement might be based on the fact that the patentee, if an alien at the time the patent was granted, had failed and neglected, for the space of eighteen months from the date of the patent, to put and continue on sale to the public, on reasonable terms, the invention for which the patent issued.⁴ But no such qualification of any patent-right is contained in the consolidated Patent Act of 1870,⁵ nor in

¹ 1 Statutes at Large, Ch. 11, Section 1, p. 318.

² 2 Statutes at Large, Ch. 25, Section 1, p. 37.

³ 4 Statutes at Large, Ch. 203,

Section 1, p. 577.

⁴ 5 Statutes at Large, Ch. 357, Sections 6 and 15, pp. 119 and 123.

⁵ 16 Statutes at Large, Ch. 280, Section 61, p. 208.

the Revised Statutes ;¹ so that the rule stated at the head of this section applies to nearly all existing patents.

§ 155. No State has any power to make a law interfering with the sale of any patent-right,² but every State has power to regulate the making, the selling, and the using of the things covered by any patent-right, to the same extent that it lawfully regulates the making, selling, and using of similar unpatented things. 'Things covered by patents are as much subject to the revenue laws,³ and other public laws⁴ of a State or municipality, as any other things. A patent for a dynamite powder, or for a deadly poison, or for an explosive oil, does not oust nor affect the power of local authorities to prescribe the place and manner of the manufacture, storage, and sale of those dangerous substances. Nor does a patent on a sewing-machine exempt the patentee from any State tax on the machines he may make, use, or sell within the boundaries of that State. The reason why a State may regulate the sale of a patented thing, and may not regulate the sale of the patent covering that thing, is explainable as follows. A patentee has two kinds of rights in his invention. He has a right to make, use, and sell specimens of the invented thing ; and he has a right to prevent all other persons from doing either of those acts. The first of these rights is wholly independent of the patent laws ; while the second exists by virtue of those laws alone.⁵ A patentee therefore holds the first of these rights subject to the police powers, and the taxing powers, of the State ; while the second, being the creature of the laws of Congress, is wholly beyond State control or interference.⁶

§ 156. Patent-rights, being, as they are, intangible prop-

¹ Revised Statutes, Section 4920.

² *Ex parte* Robinson, 2 Bissell, 313, 1870; *Castle v. Hutchinson*, 25 Fed. Rep. 394, 1885.

³ *Webber v. Virginia*, 103 U. S. 347, 1880.

⁴ *Patterson v. Kentucky*, 97 U. S. 505, 1878.

⁵ *Bloomer v. McQuewan*, 14 Howard, 539, 1852; *In re* Brosnahan, 18 Fed. Rep. 62, 1883; *United States v. Bell Telephone Co.* 29 Fed. Rep. 43, 1886.

⁶ *May v. County of Buchanan*, 29 Fed. Rep. 478, 1886.

erty, cannot be seized and sold under the authority of any writ of *fiery facias*, or other common-law execution.' They may, however, be reached by a creditor's bill in equity, and thus be applied to the payment of the debts of the owners; the same as trust property, choses in action, or stock of a debtor in a corporation, may be reached and applied. A court of equity may, in pursuance of its powers in such cases, decree that the debtor patentee pay the judgment upon which the bill is based, or, in default thereof, that his patent-right be sold under the direction of the court, and an assignment thereof be executed by him, and, in default of his executing such an assignment, that some suitable person be appointed trustee to execute the same in his place.⁷

§ 157. Patent-rights are exclusive, not only of citizens and residents of the United States, but also of the government itself, and of its agents. The government has no more right than any private citizen, to make, use, or sell a patented invention, without the license of the patentee.⁸ When the government grants letters patent for an invention, it confers upon the patentee an exclusive property therein, which cannot be appropriated or used by the government itself, without just compensation, any more than land which has been patented to a private purchaser can, without compensation, be appropriated or used by the government.⁴

§ 158. No patent-right covers any use or sale of any specimen of the patented thing, which was purchased of the inventor, or made by another with his knowledge and consent, before his application for a patent therefor.⁵ Where another than the inventor, surreptitiously obtains knowledge

¹ *Stephens v. Cady*, 14 Howard, 528, 1852; *Stevens v. Gladding*, 17 Howard, 447, 1854.

² *Ager v. Murray*, 105 U. S. 126, 1881.

³ *United States v. Burns*, 12 Wallace, 252, 1870; *Cammeyer v. Newton*, 94 U. S. 284, 1876; *McKeever v. United States*, 23 Off. Gaz. 1527,

1879.

⁴ *James v. Campbell*, 104 U. S. 856, 1881; *United States v. Palmer*, 128 U. S. 271, 1888.

⁵ Revised Statutes, Section 4899; *Wade v. Metcalf*, 129 U. S. 202, 1889; *Duffy v. Reynolds*, 24 Fed. Rep. 858, 1885.

of an invention, and, without the consent of the inventor, makes a specimen of the invented thing before any patent thereon is applied for, that specimen is covered by a patent for that invention, as truly and as fully as it would be if it had been made by an infringer after the date of that patent. Such a case is clearly outside of the rule just stated, and of the statute upon which that rule is based. Indeed Justice STORY,¹ and afterward the full Supreme Court,² held such a case to be outside the corresponding provision of the Patent Act of 1839,³ though that provision did not literally exclude such a case.

Where another than the first inventor, re-invents and constructs a specimen of an invention, before any patent is applied for thereon, and does so without any knowledge of the inventor, or of his doings, and without the knowledge or consent of the inventor himself, he cannot invoke the rule stated at the beginning of this section; because knowledge and consent of the inventor is an express element in the statute which supports that rule. If, however, such a re-invention and such a construction occurred before July 8, 1870, the thing so constructed is outside of any patent afterward applied for, because the Patent Act of 1839 can be invoked in its behalf, and because the corresponding provision of that act was not limited to cases where the inventor had knowledge and gave consent. Where such a re-invention and construction occurred after July 8, 1870, it is probable that the specific thing, so constructed, is taken out of the operation of a patent afterward applied for, by the direct action of the fifth amendment to the Constitution of the United States. That amendment provides that no person shall be deprived of property without due process of law. Things independently re-invented and innocently made, before the first inventor applied for a patent thereon, are the lawful property of him who thus made them. To deprive

¹ Pierson v. Screw Co. 3 Story, 326, 1858.
402, 1844.

² 5 Statutes at Large, Ch. 88, Sec-

³ Kendall v. Winsor, 21 Howard, tion 7, p. 354.

him of the right to use and to sell those things, would be to lessen or to destroy their value, and thus to deprive him of property rights. If such an act is ever done at the suit of the first inventor, after he gets his patent, it will be done by virtue of that patent. Now, a patent is the creature of a statute. No statute is "due process of law,"¹ and no patent can be "due process of law" unless a creature can be greater than its creator: unless a statute can authorize a contract to accomplish, upon the rights of third parties, a result which the statute itself is forbidden to accomplish. If this reasoning, and this conclusion, is correct, it will not follow therefrom, that such a re-inventor may construct any specimen of the invention after the first inventor has obtained a patent thereon. To deprive a re-inventor of such a privilege, is not to deprive him of property, for no re-inventor has any property right in an invention which he was the second in the United States to make, any more than he would have if he had learned of that invention from a newspaper or from a book.

§ 159. The rule stated at the head of the last section does not apply to any process patent. The provision of 1870,² and Section 4899 of the Revised Statutes, treat only of machines or other patentable articles, and confer exemption from the operation of patents upon nothing but specific things. Now, a process is neither an article nor a thing. It is a series of acts. It is therefore outside the language of the law on this subject. It is also outside the reason of that law. That reason is as follows. Where another than the first inventor of a particular tangible thing, buys from the inventor a specimen of that thing, or makes such a specimen with his consent, or re-invents and makes such a specimen independently of the first inventor, that specimen ought to be exempt from any patent afterward applied for by the first inventor; because, if it is not so exempt, it will

¹ *Barron v. Baltimore*, 7 Peters, 247, 1833; *Taylor v. Porter*, 4 Hill (N. Y.) 147, 1843.

² 16 Statutes at Large, Ch. 230, Section 37, p. 203.

become worthless in the hands of one who honestly expended of his substance to procure it, and who procured it without violating any patent or any law. Processes are not subjects of these considerations. A process cannot be purchased. The right to practise a patented process can indeed be purchased; but the right to practise an unpatented process, while it remains unpatented, cannot be the subject of a sale, because that right belongs to every one without any purchase. So also, if an inventor of a process consents that another person may practise that process, before the inventor applies for a patent, that fact furnishes no reason why that person should be allowed to practise that process, against the will of that inventor, after the date of his patent. To deprive such a person of such a privilege, is not to deprive him of the use of a thing. It is only to deprive him of the privilege of repeating a series of acts. These considerations apply also to cases where a re-inventor produces and practises a process, after its production by the first inventor, and before any application is made for a patent thereon, and without any knowledge of the first inventor or his doings. Such a re-inventor has no more natural right to practise that process, after a patent is granted to the first inventor, than any other person has. He has no such right growing out of the fact that he was a re-inventor, because the patent laws do not reward re-inventors, and because patents to first inventors are exclusive of re-inventors, as well as of other persons. He has no such right growing out of rights of property, because to deprive him of the privilege of repeating the process is not to deprive him of the use of any tangible property, and because he has no intangible property in the process itself.

The language of the Patent Act of 1839¹ was, however, different from that of the Act of 1870, and of the Revised Statutes, on the point treated in this section. The earlier Act contained a considerable clause which is not in either of the others, and which induced the Supreme Court to

¹ 5 Statutes at Large, Ch. 88, Section 7, p. 354.

decide that the earlier statute applied to patents for processes, as well as to patents for things.¹ The reasoning of Justice BALDWIN, in the case, was never convincing to the present text-writer. It was spoken of by Justice STORY as "certainly general;"² and Judge WHEELER has well said that "It is not probable that *McClurg v. Kingsland* would be followed beyond cases of its class, upon the same statute."³ As far as *McClurg v. Kingsland* construed the Act of 1839, and applied that Act to the very case then at bar, it is entitled to loyal respect and obedience, even from those who cannot follow its reasoning. But *McClurg v. Kingsland* is no guide to the meaning of the present statute on the subject, because that statute is substantially different from the one construed in that case, and because the reasoning of that case has no convincing force when applied to the language of the now existing statute.

§ 160. Every United States patent is in general coextensive, in point of the territory it covers, with the territory covered by the jurisdiction of the United States.⁴ Every such patent, therefore, covers the use of the patented thing in or under the tide-waters of the United States; and that, too, even in cases where the government has granted, to others than the patentee, the exclusive right to do, at a particular place, the particular thing which the patented invention is adapted to accomplish.⁵ In the case just cited, the complainant had a patent on a certain submarine telegraph cable; and the defendant had a grant from Congress, giving it the sole right, for fourteen years, to lay, construct, land, maintain, and operate telegraphic cables in and over the waters, reefs, islands, shores, and lands over which the United States have jurisdiction, from the shores of Florida to the island of Cuba. Under these circumstances, Justice BLATCHFORD decided that the defendant acquired, by its

¹ *McClurg v. Kingsland*, 1 Howard, 202, 1843.

² *Pierson v. Screw Co.* 3 Story, 408, 1844.

³ *Brickill v. New York*, 5 Bann.

& Ard. 547, 1880.

⁴ Revised Statutes, Section 4884.

⁵ *Colgate v. Ocean Telegraph Co.* 17 Blatch. 310, 1879.

grant, no right to use the patented cables of the complainant; and he intimated that the complainant acquired by his patent no right to use his cables between Florida and Cuba. His Honor supported this intimation by saying that no patent confers upon its owner any right to make or use his invention in the house of another; and he supported his decision by saying that the fact just mentioned does not confer upon another than the patentee any right to make or use the invention of the latter in the house of the former.

§ 161. No United States patent-right extends to the mere use of the patented invention on any foreign ship while temporarily in a harbor of the United States for the purposes of commerce; though such a right would be infringed by making or selling the patented article on board any foreign vessel while in either of our ports.¹ United States patent-rights extend to the decks of United States ships, even when those ships are on the high seas, as fully as they extend to the solid earth of the United States.²

§ 162. The regular duration of a United States patent for a process, machine, manufacture, or composition of matter, was fourteen years, under the statutes prior to that of 1861; but it was enacted, in Section 16 of the Patent Act of March 2 of that year, that all patents thereafter granted should remain in force for seventeen years from the date of issue.³ Section 22 of the Consolidated Patent Act of 1870 provided that every patent should grant to the patentee, his heirs or assigns, for the term of seventeen years, the exclusive right to make, use, and vend the invention covered thereby.⁴ Section 4884 of the Revised Statutes makes the same provision as that made on this point by the Act of 1870. The phrase "every patent" is not to be understood in its literal signification. It means every patent, the duration of which is not otherwise prescribed by statute. In the latter category, design patents fall. Such patents are grantable

¹ *Brown v. Duchesne*, 19 Howard, 196, 1856.

² *Gardiner v. Howe*, 2 Cliff. 464, 1865.

³ 12 Statutes at Large, Ch. 88, Section 16, p. 249.

⁴ 16 Statutes at Large, Ch. 230, Section 22, p. 201.

for fourteen years, or for seven years, or for three years and six months, as the applicant may in his application elect.¹ In the same category, also, fall patents for inventions for which their owners previously obtained one or more foreign patents. United States patents of this class cannot be granted for more than seventeen years, and they generally have to be limited to some shorter length of time.

§ 163. "Every patent granted for an invention which has previously been patented in a foreign country, shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years."² Such is the present statute on this subject, and the corresponding provision of the Patent Act of 1870 was substantially the same.³

These enactments apply only to cases wherein the foreign patent was taken out by the United States patentee, or at least with his knowledge and consent. No foreign patent obtained by another, without that knowledge and that consent, after the inventor made his invention, and before the United States patent was granted, can operate to limit the duration of the latter.⁴

These enactments apply to a case where a foreign patent was granted before the granting of the corresponding United States patent, even if the foreign patent was made a secret one at the request of the applicant therefor;⁵ but they do not apply to a case where a foreign patent was dated before the granting of the corresponding United States patent, but not sealed nor published till afterward;⁶ though they do apply to a case where the United States patent was granted after the foreign patent was sealed, upon an application filed before that event.⁷

¹ Revised Statutes, Section 4931.

² Revised Statutes, Section 4887.

³ 16 Statutes at Large, Ch. 280, Section 25, p. 201.

⁴ Kendrick v. Emmons, 2 Bann. & Ard. 210, 1875.

⁵ Gramme Electrical Co. v. Elec-

tric Co. 17 Fed. Rep. 838, 1883.

⁶ Gold & Stock Telegraph Co. v. Telegram Co. 23 Fed. Rep. 340, 1885; Emerson v. Lippert, 31 Fed. Rep. 911, 1887; Seibert Oil Co. v. Powell Co. 85 Fed. Rep. 591, 1888.

⁷ Bate Refrigerating Co. v. Gillett,

Contract by patent Mann, off Gay 330. 1880

Whether these enactments apply where the invention claimed in the United States patent was not claimed but only described in the prior foreign patent, is a question which has been decided in the affirmative in one case,¹ and in the negative in another,² and has not yet been settled.

In a case to which these enactments apply, the United States patent will not expire with the first term of the foreign patent, if the foreign patent is extended before the expiration of its first term, in pursuance of a statute which was in force when the United States patent was applied for and when it was issued, and which conferred an absolute right to such an extension, and if the extension or extensions of the foreign patent cover a continuous space of time;³ but it has been decided on the Circuit, and not yet otherwise decided by the Supreme Court, that where the patentee has no absolute right to an extension of the first term of his foreign patent, no such extension has any effect upon the duration of his United States patent.⁴

The termination of a foreign patent, prior to its appointed end, because of an omission of the patentee to do what the foreign laws require in order to keep it in force, has no effect upon the duration of a corresponding United States patent;⁵ but a repeal *ab initio*, of a foreign patent which would otherwise limit the duration of a corresponding United States patent, restores the latter to its full term of seventeen years.⁶

It is not necessary, to the validity of a United States patent granted for an invention which has previously been granted in a foreign country, that it shall be so limited on its face, as to appear to expire at the same time with the

13 Fed. Rep. 553, 1882; Gramme Electrical Co. v. Electric Co. 17 Fed. Rep. 838, 1883; Edison Electric Light Co. v. United States Electric Lighting Co. 35 Fed. Rep. 135, 1888.

¹ Commercial Mfg. Co. v. Canning Co. 27 Fed. Rep. 87, 1886.

² Holmes Protective Co. v. Alarm Co. 22 Fed. Rep. 841, 1884.

³ Bate Refrigerating Co. v. Hammond. 129 U. S. 151, 1889.

⁴ Henry v. Tool Co. 3 Bann. & Ard. 501, 1878.

⁵ Holmes Protective Co. v. Alarm Co. 21 Fed. Rep. 458, 1884; Paillard v. Bruns, 29 Fed. Rep. 864, 1886.

⁶ Bate Refrigerating Co. v. Gillett, 20 Fed. Rep. 192, 1884.

foreign patent which limits its life.' 'The statute is satisfied when the courts decline to enforce it after the expiration of that foreign patent, whether or not it appears on its face to be so limited.'

The law set forth in this section applies to no patent which was originally granted prior to July 8, 1870; and applies to no reissue of any patent which was originally granted before that date, even though the reissue itself was granted after that date.' The duration of such patents, where they were granted for inventions which had previously been granted in some foreign country, was governed by certain earlier statutes which it is now in order to explain.

§ 164. Section 8 of the Patent Act of 1836 provided that nothing therein contained should be construed to deprive any original and true inventor of the right to a patent for his invention, by reason of his having previously taken out letters patent therefor in a foreign country, and the same having been published, at any time within six months next preceding the filing of his specification and drawings.' Section 6 of the Patent Act of 1839 provided that no person should be debarred from receiving a patent for any invention, as provided in the Act of 1836, by reason of the same having been patented in a foreign country more than six months prior to his application, provided, among other things, that every such patent should be limited to the term of fourteen years from the date or publication of such foreign letters patent.' The effect of these enactments was to allow an inventor to take out a patent in the United States, for an invention which he had previously patented in a foreign country, no matter how long previously that

¹ Telephone Cases, 126 U. S. 572, 1888; Bate Refrigerating Co. v. Hammond, 129 U. S. 151, 1889.

² New American File Co. v. Nicholson File Co. 8 Fed. Rep. 816, 1881; Canan v. Mfg. Co. 23 Fed. Rep. 185, 1885.

³ Badische Anilin and Soda Fabrik v. Hamilton Mfg. Co. 8 Barn. & Ard. 235, 1878.

⁴ 5 Statutes at Large, Ch. 357, Section 8, p. 121.

⁵ 5 Statutes at Large, Ch. 88, Section 6, p. 354.

foreign patent was granted ;¹ but the duration of the United States patent was limited to the term of fourteen years from the date or publication of the foreign patent, unless the United States patent was applied for within six months after the foreign patent was taken out, and within six months after the foreign patent was published. This law applied only to cases where the foreign patent was published,² or, if it was a British patent, was sealed,³ before the United States patent was applied for. It did not, therefore, affect any United States patent for an invention which was patented in a foreign country while the application for the United States patent was pending in the Patent Office. It was not necessary under the law stated in this section, any more than it is necessary under the law stated in the last, that a patent should be limited on its face, so as to appear to expire when it really ceased to be in force. Whether so limited or not, the courts would limit it to its legal life, when called upon to enforce it after the end of that life ; but its validity for the term of fourteen years from the date of the foreign patent, was unaffected by the fact that on its face the United States patent purported to run for fourteen years from its own date.'

§ 165. Section 16 of the Patent Act of March 2, 1861, provided that all patents thereafter granted should remain in force for the term of seventeen years from the date of issue ; and the Supreme Court has decided that this enactment modified the statute of 1839 precisely as it would have done had it expressly substituted the word "seventeen" for the word "fourteen" in the earlier statute ; thus making it read : "every such patent shall be limited to the term of seventeen years from the date or publication of such foreign letters patent."* The law which was estab-

¹ *De Florez v. Raynolds*, 17 1885.
Blatch. 444, 1880.

² *French v. Rogers*, 1 Fisher, 136,
1851.

³ *Gold & Stock Telegraph Co. v.*
Telegram Co. 28 Fed. Rep. 343,

⁴ *C'Reilly v. Morse*, 15 Howard,
62, 1853.

⁵ *Siemens's Adm'r v. Sellers*, 123
U. S. 276, 1887.

lished on the subject by the Patent Act of 1836, as modified by the Patent Act of 1839, was still further modified to that extent by the Patent Act of March 2, 1861; and as thus modified it is the law which governs the point, in respect of patents granted between the latter date and July 8, 1870.

§ 170. The terms of all United States patents begin at their respective dates.¹ Those dates are selected by the Commissioner of Patents, but they cannot be later than six months after the time at which the respective applications are allowed;² and cannot be earlier than the time of such allowance: that is to say, patents cannot now be antedated.³

Section 8 of the Patent Act of 1836 provided that whenever the applicant should request it, the patent should take date from the time of the filing of the specification and drawings, not however exceeding six months prior to the actual issuing of the patent.⁴ This continued to be the law for nearly a quarter of a century, and patents so antedated conferred rights of action upon the patentees, for infringements occurring after their respective dates, and before the respective days of their actual issue.⁵ Section 16 of the Patent Act of March 2, 1861, provided a change in this law: provided that thereafter the term of patents should begin with the dates of their respective issue, and such has ever since been the law on the subject.⁶ In actual practice, patents are now dated and issued on the third or the fourth Tuesday after the applicant pays the final Patent Office fee.

§ 171. The grantee of the government in cases of letters patent for inventions may be the inventor himself;⁷ or his assignee;⁸ or an assignee of an assignee;⁹ or an assignee

¹ *Rein v. Clayton*, 37 Fed. Rep. 355, 1889.

² Revised Statutes, Section 4885.

³ *De Florez v. Reynolds*, 17 Blatch. 444, 1880.

⁴ 5 Statutes at Large, Ch. 357, Section 8, p. 121.

⁵ *Burdett v. Estey*, 3 Fed. Rep.

566, 1880.

⁶ 12 Statutes at Large, Ch. 88, Section 16, p. 249.

⁷ Revised Statutes, Section 4886.

⁸ Revised Statutes, Section 4895.

⁹ *Selden v. Gas Burner Co.* 19 Blatch. 544, 1881.

who has assigned the invention ;¹ or if an inventor dies before any patent is granted for his invention, the right to obtain the patent devolves 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 invention, then in trust for his devisees.² In this last case the patent may be granted to the executor by his proper personal name, without any declaration that he takes in his representative capacity ;³ and the same thing is equally true in cases where the patent is granted to an administrator. Where an inventor assigns his invention before making an application for a patent, and then makes such an application, coupled with a request that the patent be granted to the assignee, and accompanied with an entry of the assignment on the records of the Patent Office, and then dies before any patent is granted ; there appears to be no reason why the patent should not be granted to the assignee, though the statute literally provides that in all cases where the inventor dies before the patent is granted, the right to the patent devolves on his executor or administrator in trust for his heirs or devisees.⁴ But this statute must receive a reasonable construction, and it is not reasonable to hold that the death of an inventor, who has sold and assigned his inchoate right to a patent, should operate to divest his assignee of that right, and devolve it upon another person, in trust for still another party. Nor is there any propriety, in such a case, in granting the patent to the executor or administrator, on the theory that he will take as trustee for the assignee. The assignee requires no trustee, for his inchoate title, is a legal, and not a merely equitable one ;⁵ and the executor or administrator, if he

¹ Consolidated Electric Light Co. v. Edison Electric Light Co. 25 Fed. Rep. 719, 1885; Consolidated Electric Light Co. v. McKeesport Light Co. 34 Fed. Rep. 335, 1888.

² Revised Statutes, Section 4896.

³ Stimpson v. Rogers, 4 Blatch.

836, 1859; Northwestern Fire Extinguisher Co. v. Philadelphia Extinguisher Co. 1 Bann. & Ard. 177, 1874.

⁴ Revised Statutes, Section 4896.

⁵ Hendrie v. Sayles, 98 U. S. 549, 1878.

takes at all, must take as trustee for the heirs or devisees of the inventor. Where an inventor assigns his invention and dies before making any application for a patent, a difficulty arises for which the statute affords no clear solution. In such a case, it is provided that the application must be made and sworn to by the executor or administrator, for an assignee cannot apply for a patent except on the oath of the inventor himself.¹ It is also provided, that where an executor or administrator applies for a patent, he must take that patent, if granted, in trust for the heirs or devisees of the inventor.² Now under these circumstances, the law must do one of three things. It must ignore this last provision, and hold that the executor or administrator takes in trust for the assignee; or it must impose a trust upon a trust, by holding that the executor or administrator takes in trust for the heirs or devisees, and they take in trust for the assignee; or it must deprive the assignee of his right altogether. The first alternative flies in the face of the statute, and the third flies in the face of justice. The second is consistent with conscience, and can probably be adopted and enforced by courts of equity.

§ 172. Letters patent are documents consisting of the grant and the specification; and where drawings form a part of the application, they also form a part of the letters patent. The grant is a paper, issued in the name of the United States, under the seal of the Patent Office, and signed by the Secretary of the Interior, or under his direction by one of the Assistant Secretaries of the Interior,³ and countersigned by the Commissioner of Patents. It contains a short title of the invention, and purports to grant to the patentee, his heirs or assigns, for the term of seventeen years, the exclusive right to make, use, and vend the invention, throughout the United States and the territories thereof; and it refers to the specification, for the particulars

¹ Revised Statutes, Sections 4895, 4896.

² 25 Statutes at Large, Ch. 15, p. 40.

³ Revised Statutes, Section 4896.

of the invention covered by the grant.¹ Letters patent are valid where the grant is signed by an Acting Secretary of the Interior, or countersigned by an Acting Commissioner of Patents; and letters patent, so signed, are admissible in evidence without any pleading or proof of the title of such officers to their respective offices. Courts take judicial notice of the persons who preside over the departments or bureaus of the government, whether permanently or temporarily; and the production of their commissions is not necessary to support their official acts.² But if letters patent are issued without any signature of the Secretary of the Interior, or of an Acting or Assistant Secretary of the Interior, the omission is fatal to the validity of those letters patent; and the same effect would result from an omission of the counter-signature of the Commissioner of Patents, unless an Acting Commissioner of Patents should countersign in his stead.³ Such an error may, however, be corrected by affixing the omitted signature; but such a correction will affect only the future, and not the past, portion of the term of the patent.⁴ A misnomer of the patentee, in a grant, does not invalidate the patent, if he can be identified by means of any description which the letters patent may contain.⁵ If the letters patent contain no means for correcting the misnomer, it may be corrected by the proper officers of the government, whenever those officers become convinced of the mistake.⁶

§ 173. The word "specification," whenever it is used in the statute without the word "claim," covers both the claim and the description; and whenever it is used with the word claim, it covers the description only.⁷ The first is its more

¹ Revised Statutes, Section 4883, 4884.

² York and Maryland Line Railroad Co. v. Winans, 17 Howard, 30, 1854.

³ Marsh v. Nichols, 128 U. S. 605, 1888.

⁴ Marsh v. Nichols, 128 U. S. 605,

1888.

⁵ Northwestern Fire Extinguisher Co. v. Philadelphia Extinguisher Co. 1 Bann. & Ard. 177, 1874.

⁶ Bell v. Hearne, 19 Howard, 262, 1856.

⁷ Wilson v. Coon, 18 Blatch. 532, 1880.

general meaning, and to avoid confusion it is never used in any other sense in this book. The proper characteristics of specifications are herein explained by explaining the proper characteristics of descriptions and claims, which are the component parts of specifications.

§ 174. The description of the invention, which forms a part of every specification, is required to set forth that invention, and the manner and process of making 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 and use the same; and in case of a machine, the description is required to explain the principle thereof, and the mode of applying that principle which the inventor believes to be the best.¹ It is not necessary that the description should be intelligible to every intelligent man, nor to every skilled mechanic. If it can be understood by those who possess full knowledge of the prior inventions in the same department of art or science, it is full, clear, concise, and exact enough to comply with the statute.² In explaining this point of law, Justice BRADLEY, in the decision just cited, used a particularly felicitous illustration. His Honor said: "When an astronomer reports that a comet is to be seen with the telescope, in the constellation of Auriga, in so many degrees of declination, and so many hours and minutes of right ascension, it is all Greek to the unskilled in science; but other astronomers will instantly direct their telescopes to the very point in the heavens where the stranger has made his entrance into our system. They understand the language of their brother-scientist. If a mechanical engineer invents an improvement on any of the appendages of a steam-engine, such as the valve-gear, the condenser, the steam-chest, the walking-beam, the parallel motion, or what not, he is not obliged, in order to make himself understood, to describe the engine, nor the particular append-

¹ Revised Statutes, Section 4888.

² Loom Co. v. Higgins, 105 U. S. 580, 1881.

age to which the improvement refers, nor its mode of connection with the principal machine. These are already familiar to others skilled in that kind of machinery. He may begin at the point where his invention begins, and describe what he has made that is new, and what it replaces of the old."

These observations are particularly applicable to descriptions of machinery; but they also suggest the true principles on which to judge of the sufficiency of descriptions of processes, manufactures, and compositions of matter. Relevant to this last class of subjects of patents, it has been held that descriptions should state the component parts thereof, and the proportions in which they are to be mixed or combined, and should do this with clearness and precision, and should not leave the public to ascertain any such fact by experiment.¹ But where proportions must vary with circumstances, a description of an invention is sufficient, if it states the proportions proper under ordinary circumstances, and points out the direction in which they must be varied when circumstances are changed.²

§ 175. An inventor need not explain in his description, or know in point of fact, what laws of nature those are, which cause his invention to work.³ Neither is any description insufficient, in the eye of the law, on account of any mere errors it may be found to contain, where those errors would at once be detected, and their remedies be known, by any person skilled in the art, when making specimens of the invention set forth, or when practising that invention if that invention is a process,⁴ or where such errors relate to the degree of efficiency of the invention.⁵ Nor need a description state every use to which the described and claimed invention is applicable, in order to cover

¹ *Wood v. Underhill*, 5 Howard, 1, 1847; *Tyler v. Boston*, 7 Wallace, 327, 1868.

² *Consolidated Valve Co. v. Valve Co.* 113 U. S. 177, 1884.

³ *Saint Louis Stamping Co. v.*

Quinby, 4 Bann. & Ard. 195, 1879.

⁴ *Singer v. Walmsley*, 1 Fisher, 559, 1860; *Kendrick v. Emmons*, 2 Bann. & Ard. 210, 1875.

⁵ *Michaels v. Roessler*, 34 Fed. Rep. 325, 1888.

every such use.¹ Neither is it necessary, in a description in a patent for a process, to set forth all the modes in which that process may be performed, or all the kinds of apparatus which may be used in performing it, in order to cover that process with the patent. It is enough to describe one particular mode, and one particular apparatus, by means of which the process may be performed with at least some beneficial result.² Nor is a description fatally defective merely because it omits to mention something which contributes only to the degree of benefit, provided the invention will work beneficially without it;³ but the omission of anything absolutely material to the utility of the invention described, is a fatal defect in a description;⁴ unless that omission would naturally be supplied by any person skilled in the art, when making the invention if it be a thing, or when using it if it be a process. Accordingly it has been held, that where one element of a new combination covered by a patent, must have a certain form, in order to operate in that combination, and where another form of that element is known to persons skilled in the art, a description is insufficient which merely states that such old element is a part of the combination, without saying or showing which of its known forms is applicable to the case.⁵ On the other hand, no excess of description is injurious to the validity of a patent, unless the redundant matter was introduced with fraudulent intention.⁶

§ 176. The claim or claims of a specification are necessarily inserted in order to conform to the statutory requirement, that the patentee shall particularly point out and distinctly claim the part, improvement, or combination, which he claims as his invention.⁷ A claim covers and secures a process, a machine, a manufacture, or a composition of

¹ *Pike v. Potter*, 3 Fisher, 55, 1859.

² *Tilghman v. Proctor*, 102 U. S. 728, 1880.

³ *Sewall v. Jones*, 91 U. S. 185, 1875.

⁴ *Carr v. Rice*, 1 Fisher, 204, 1856.

⁵ *Schneider v. Thill*, 5 Bann. & Ard. 565, 1880.

⁶ *Sewall v. Jones*, 91 U. S. 186, 1875.

⁷ Revised Statutes, Section 4888.

matter, and never the function or result of either.¹ A claim may cover the entire process, machine, manufacture, or composition of matter, which is set forth in the description, or it may cover such parts, or such sub-processes, or such sub-combinations as are new and useful inventions; and the specification may contain a claim for the whole, and other claims for separate parts, and still other claims for separate sub-processes or sub-combinations.² But in order to be sustained, each claim must be able to independently withstand the tests of invention, of novelty, and of utility, which are stated in the second, third, and fourth chapters of this book, respectively. All claims are required to be specific, so that the public may know what they are prohibited from doing during the existence of the patent, and what they are to have at the end of the term as a consideration for the grant.³ The necessary degree of particularity in claims may be reached in various modes. Where the invention is an entire machine, the claim is sufficient if it is clearly co-extensive with the machine; and where the invention is a part of a machine or manufacture, that part must be clearly indicated in the claim which covers it.⁴ Claims for combinations of a plurality of the described devices, but less than all of them, should specify those devices unmistakably, and should clearly indicate that it is the specified combination that is claimed. But though this degree of obvious certainty is highly desirable in a combination claim, it is not absolutely necessary to the validity of such an one; for a claim may declare that it covers so much of the described mechanism as effects a particular specified result, without specifying those parts themselves. In such a case it is a question of fact to be determined in

¹ *Corning v. Burden*, 15 Howard, 252, 1853; *O'Reilly v. Morse*, 15 Howard, 62, 1853; *Carver v. Hyde*, 16 Peters, 513, 1842; *Le Roy v. Tatham*, 14 Howard, 156, 1852.

² *Railroad Co. v. Dubois*, 12 Wallace, 47, 1870; *National Machine*

Co. v. Thom, 25 Fed. Rep. 500, 1885.

³ *Brooks v. Fiske*, 15 Howard, 212, 1853.

⁴ *Seymour v. Osborne*, 11 Wallace, 516, 1870.

court, if necessary, which parts those are which effect that result and are therefore covered by the claim.¹ So also, two or more claims in substance, may sometimes be combined in one claim in form.² This may be accomplished in different ways, and among others by inserting in the claim the words "with or without" before the name or other designation of one or more of the enumerated parts of the process, machine, combination, manufacture, or composition of matter, covered by that claim.³ The claim of the Charles Goodyear rubber patent had this characteristic. It was a claim for vulcanized India rubber, whether with or without other ingredients, chemically altered by the application of heat, substantially as described.⁴

§ 177. Letters patent may be valid as to one or more claims, while being invalid as to one or more other claims in the same specification.⁵ But letters patent which contain a needless multiplication of nebulous claims, calculated to mislead the public, are void for that reason, if for no other.⁶ This word "calculated" is the word used by the justice who announced the opinion of the Supreme Court upon the point. It is itself somewhat nebulous, for it is questionable whether it means apt or means intended. Judge W. D. SHIPMAN was quite explicit when deciding a similar question. He held that a patent is not void merely because it contains a plurality of claims, each of which covers the same thing, and covers nothing else, where there is no evidence that the double claim was made with intention to mislead.⁷ In the light of this decision, the word "calculated" in the Supreme Court decision, is seen to signify intended, and the Supreme Court decision is therefore to be read with that explanation.

¹ *Silsby v. Foote*, 14 Howard, 218, 1852; *Fay v. Cordesman*, 109 U. S. 420, 1883; *Hoe v. Knapp*, 27 Fed. Rep. 208, 1886.

² *Telephone Cases*, 126 U. S. 537, 1887.

³ *Tuck v. Bramhill*, 6 Blatch. 95, 1868.

⁴ *Rubber Co. v. Goodyear*, 9 Wallace, 795, 1869.

⁵ *Russell v. Place*, 94 U. S. 606, 1876.

⁶ *Carlton v. Bokee*, 17 Wallace, 463, 1873.

⁷ *Tompkins v. Gage*, 5 Blatch. 270, 1861.