

the guidance of those principles which determine what constitutes identity and diversity, in the sense of the Patent Law, yet it is for the jury to determine, as matter of fact, under proper instructions, whether the two things are the same or different.<sup>1</sup>

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<sup>1</sup> *Boulton v. Bull*, 2 H. Bl. 4; *Whittemore v. Cutter*, 1 Gallis. 478; *Pennock v. Dialogue*, 4 Wash. 538; *Lowell v. Lewis*, 1 Mason, 191; *Phillips on Patents*, 481.

## CHAPTER VI.

### JURISDICTION OF CONGRESS AND THE FEDERAL COURTS.

§ 403. The Constitution of the United States confers upon Congress power, "to promote the progress of science and useful arts, by securing, for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries." This power is general; there is no distinction which limits it to cases where the invention has not been known or used by the public. Accordingly, it is well settled, that Congress may pass general or special laws, in favor of inventors; and they may leave a particular inventor to the protection afforded by a general law, or they may specially exempt his case from the operation of a general law, by extending his exclusive right beyond the term fixed by such general law. This may be done after the invention has been in the possession of the public, as well as before; for, when the exclusive privilege has once been secured, the grant does not imply an irrevocable contract with the public, that, at the expiration of the period, the invention shall become public property.<sup>1</sup>

§ 404. Congress, therefore, has power to pass an act, which will operate retrospectively, to give a patent for an invention which is already in public use; but no act, it has been said,

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<sup>1</sup> *Evans v. Eaton*, 3 Wheaton, 545; *S. C. Peters's Circ. C. R.* 332; *Evans v. Hettich*, 7 Wheat. 453; *Blanchard v. Sprague*, 2 Story's R. 164; *S. C.* 3 Sumner, 535; *Woodworth v. Hall*, 1 Woodb. & M. 248.

ought to be construed to operate retrospectively, unless such a construction is unavoidable.<sup>1</sup>

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<sup>1</sup> *Blanchard v. Sprague, ut supra.* Letters-patent were granted to the plaintiff, Thomas Blanchard, on the 6th of September, 1819; and, being deemed inoperative, by reason of defects in the specification, new letters-patent were granted, on the 20th of January, 1820, for the space of fourteen years. Afterward, by Act of Congress, passed the 30th of June, 1834, the sole right was granted to the plaintiff, to make, use, and vend his invention, for the term of fourteen years from the 12th of January, 1834. This act not being thought to describe, with sufficient accuracy, the letters-patent to which it was intended to refer, an additional act was passed, on the 6th of February, 1839, renewing the Act of the 30th of June, 1834, and correcting the date of the 12th of January, 1834, to the 20th of January, 1834. This last act was as follows:—“*An Act to amend and carry into effect the intention of an Act, entitled an Act to renew the Patent of Thomas Blanchard, approved June 30th, 1834.* Sec. 1. Be it enacted, &c., That the rights secured to Thomas Blanchard, a citizen of the United States, by letters-patent granted on the sixth of September, eighteen hundred and nineteen, and afterwards, on a corrected specification, on the twentieth day of January, Anno Domini eighteen hundred and twenty, be granted to the said Blanchard, his heirs and assigns, for the further term of fourteen years from the twentieth of January, eighteen hundred and thirty-four, said invention, so secured, being described, in said last-mentioned letters, as an engine for turning or cutting irregular forms out of wood, iron, brass, or other material which can be cut by ordinary tools. Provided, that all rights or privileges, heretofore sold or granted by said patentee, to make, construct, use, or vend the said invention, and not forfeited by the purchasers or grantees, shall enure to and be enjoyed by such purchasers or grantees, respectively, as fully, and upon the same conditions, during the period hereby granted, as for the term that did exist when such sale or grant was made. Sec. 2. And be it further enacted, that any person who had, *bonâ fide*, erected or constructed any manufacture or machine, for the purpose of putting said invention into use, in any of its modifications, or was so erecting or constructing any manufacture or machine, for the purpose aforesaid, between the period of the expiration of the patent heretofore granted, on the thirtieth day of June, one thousand eight hundred and thirty-four, shall have and enjoy the right of using said invention, in any such manufacture or machine, erected or erecting as aforesaid, in all respects, as though this act had not passed. Provided, that no person shall be entitled to the right and privilege by this section granted, who has infringed the patent-right and privilege heretofore granted, by actually using or vending said machine, before the expiration of said patent, without grant or license, from said patentee or his assignees, to use or vend the same.”

§ 405. The Act of Congress of July 4, 1836, § 17, declares, "that all actions, suits, controversies, and cases, arising under any law of the United States, granting or confirming to in-

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Upon this Act, Mr. Justice Story said: — "Then it is suggested, that the grant of the patent, by the Act of Congress of 1839, ch. 14, is not constitutional; for it operates retrospectively to give a patent for an invention, which, though made by the patentee, was in public use, and enjoyed by the community, at the time of the passage of the act. But this objection is fairly put at rest by the decision of the Supreme Court, in the case of the Patent of Oliver Evans. *Evans v. Eaton*, 3 Wheat. 454. For myself, I never have entertained any doubt of the Constitutional authority of Congress to make such a grant. The power is general, to grant to inventors; and it rests in the sound discretion of Congress to say, when and for what length of time, and under what circumstances, the patent for an invention shall be granted. There is no restriction which limits the power of Congress to cases where the invention has not been known or used by the public. All that is required is, that the patentee should be the inventor. The only remaining objection is, that the act is unconstitutional, because it makes the use of a machine, constructed and used before the time of the passage of the Act of 1834, ch. 213, and the grant of the patent under the Act of 1839, ch. 14, unlawful, although it has been formerly decided, that, under the Act of 1834, the plaintiff had no valid patent; and so the defendant, if he constructed and used the machine during that period, did lawful acts, and cannot now be retrospectively made a wrongdoer. If this were the true result of the language of the act, it might require a good deal of consideration. But I do not understand that the act gives the patentee any damages, for the construction or use of the machine, except after the grant of patent under the Act of 1839, ch. 14. If the language of the act were ambiguous, the Court would give it this construction, so that it might not be deemed to create rights retrospectively, or to make men liable for damages, for acts lawful at the time when they were done. The Act of Congress, passed in general terms, ought to be so construed, if it may, as to be deemed a just exercise of constitutional authority; and not only so, but it ought to be construed not to operate retrospectively, or *ex post facto*, unless that construction is unavoidable; for, even if a retrospective act is or may be constitutional, I think I may say, that, according to the theory of our jurisprudence, such an interpretation is never adopted without absolute necessity; and courts of justice always lean to a more benign construction. But, in the present case, there is no claim for any damages but such as have accrued to the patentee from a use of his machine, since the grant of the patent under the Act of 1839, ch. 14."

ventors the exclusive right to their inventions or discoveries, shall be originally cognizable, as well in equity as at law, by the Circuit Courts of the United States, or any District Court having the powers and jurisdiction of a Circuit Court, which courts shall have power, upon bill in equity filed by any party aggrieved, in any such case, to grant injunctions, according to the course and principles of Courts of Equity, to prevent the violation of the rights of any inventor, as secured to him by any law of the United States, on such terms and conditions as said courts may deem reasonable: Provided, however, that, from all judgments and decrees, from any such court rendered in the premises, a writ of error or appeal, as the case may require, shall lie to the Supreme Court of the United States, in the same manner, and under the same circumstances, as is now provided by law in other judgments and decrees of Circuit Courts, and in all other cases in which the Court shall deem it reasonable to allow the same."<sup>1</sup>

§ 406. The jurisdiction of the Circuit Courts of the United States embraces, therefore, all cases, both at law and in equity, arising under the Patent Laws, without regard to the citizenship of the parties, or the amount in controversy; and it seems to be the better opinion, that this jurisdiction is exclusive, and that the state courts cannot entertain a suit for the infringement of a patent, or to declare a patent void.<sup>2</sup>

§ 407. When a case is sent to the Supreme Court of the United States, under the discretion conferred upon the court below, by the seventeenth section of the Act of 1836, the whole case is to go up. The word "reasonable," in the sta-

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<sup>1</sup> See, also, the Act, Feb. 15, 1819, c. xix.

<sup>2</sup> 3 Kent's Com. 368; Story's Com. on the Constitution. The course of legislation on the subject of patents, may be seen in the Appendix of this work.

tute, applies to the "cases," rather than to the points of the cases.<sup>1</sup>

§ 407 *a.* A bill filed on the equity side, to set aside an assignment, is not one of the "cases" contemplated by the act; since the dispute does not arise under any act of Congress, nor does the decision depend upon the construction of any law in relation to patents.<sup>2</sup>

<sup>1</sup> *Hogg v. Emerson*, 6 Howard, 439, 478.

The Court there said: — "It may be very proper for the court below to examine those points separately, and with care, and, if most of them present questions of common law only, and not of the construction of the Patent Acts, and others present questions under those acts, which seem very clearly settled or trifling in their character, not to grant the writ of error at all. It might, then, well be regarded as not 'reasonable' for such questions, in a controversy too small in amount to make the writ a matter of right to persons, if standing on an equal footing with other suitors. But, we think, from the particular words used rather than otherwise, that the act intended, if the Court allowed the writ as 'reasonable' at all, it must be for the whole case, or, in other words, must bring up the whole for consideration."

<sup>2</sup> *Wilson v. Sandford*, 10 Howard, 99, 101. In this case, the Court said: "The object of the bill was to set aside a contract, made by the appellant with the appellees, by which he had granted them permission to use, or vend to others to be used, one of Woodworth's planing-machines, in the cities of New Orleans and Lafayette; and also to obtain an injunction against the further use of the machine, upon the ground that it was an infringement of his patent-rights. The appellant states, that he was the assignee of the monopoly in that district of country, and that the contract which he had made with the appellees had been forfeited, by their refusal to comply with its conditions. The license in question was sold for fourteen hundred dollars, a part of which, the bill admits, had been paid. The contract is exhibited with the bill, but it is not necessary, in this opinion, to set out more particularly its provisions.

The appellees demurred to the bill, and, at the final hearing, the demurrer was sustained, and the bill dismissed. And the case is brought here by an appeal from that decree.

The matter in controversy between the parties arises upon this contract, and it does not appear that the sum in dispute exceeds two thousand dollars. On the contrary, the bill and contract exhibited with it show that it is below

that sum. An appeal, therefore, cannot be taken from the decree of the Circuit Court, unless it is authorized by the last clause in the seventeenth section of the Act of 1836.

The section referred to, after giving the right to a writ of error or appeal, in cases arising under that law, in the same manner, and under the same circumstances, as provided by law in other cases, adds the following provision: — ‘And in all other cases in which the Court shall deem it reasonable to allow the same.’ The words, ‘in all other cases,’ evidently refer to the description of cases provided for in that section, and where the matter in dispute is below two thousand dollars. In such suits, no appeal could be allowed, but for this provision.

The cases specified, in the section in question, are, ‘all actions, suits, controversies, on cases arising under any law of the United States, granting or confirming to inventors the exclusive right to their inventions or discoveries.’ The right of appeal to this Court is confined to cases of this description, when the sum in dispute is below two thousand dollars. And the peculiar privilege given to this class of cases was intended to secure uniformity of decision, in the construction of the Act of Congress in relation to patents.

Now, the dispute, in this case does not arise under any act of Congress; nor does the decision depend upon the construction of any law in relation to patents. It arises out of the contract stated in the bill, and there is no act of Congress providing for or regulating contracts of this kind. The rights of the parties depend altogether upon common law and equity principles. The object of the bill is, to have this contract set aside and declared to be forfeited; and the prayer is, ‘that the appellant’s reinvestiture of title to the license granted to the appellees, by reason of the forfeiture of the contract, may be sanctioned by the Court,’ and for an injunction. But the injunction he asks for is to be the consequence of the decree of the Court, sanctioning the forfeiture. He alleges no ground for an injunction, unless the contract is set aside. And if the case made in the bill was a fit one for relief in equity, it is very clear that, whether the contract ought to be declared forfeited or not, in a Court of Chancery, depended altogether upon the rules and principles of equity, and in no degree whatever upon any act of Congress concerning patent-rights. And, whenever a contract is made in relation to them, which is not provided for and regulated by Congress, the parties, if any dispute arises, stand upon the same ground with other litigants, as to the right of appeal; and the decree of the Circuit Court cannot be reversed here, unless the matter in dispute exceeds two thousand dollars.”

APPENDIX.



# APPENDIX.

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## ON THE SUBJECT-MATTER

OF

## LETTERS-PATENT FOR INVENTIONS.

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BARRISTER AT LAW.

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In defining, arranging, and classifying the subject-matters of Letters-Patent for inventions, different terms have been employed in the laws of different countries,<sup>1</sup> and various arrangements and classifications adopted, according to the particular views and objects of their authors.<sup>2</sup>

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<sup>1</sup> In the United States, "Any new and useful art, machine, manufacture, composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter." Act of Congress, A. D. 1836.

In France, "Every discovery or new invention in all kinds of industry is the property of the inventor."

In the Netherlands, "An invention or essential improvement in any branch of arts or manufactures."

In Spain, "Whosoever invents, improves, or imports a new branch of industry, has a right of property thereto."

In Austria, "All new discoveries, inventions, and improvements, in every branch of industry."

See Parl. Rep. 12th June, A. D. 1829. Papers by John Farey.

<sup>2</sup> Mr. Godson adopts the following terms and classification:—1. A substance or thing made. 2. A machine or instrument. 3. An im-

But the subject-matter of inventions having at all times and in all countries one general characteristic, namely, the adaptation of things that exist to the wants and conveniences of man, it will be found that the laws of different countries, notwithstanding the diversity of terms employed, have all the same object, and all express substantially the same thing.<sup>1</sup>

The same uniformity of character ought also to exist in the arrangements and classifications of these adaptations or subject-matters of invention; and such will be the case, if they are founded on distinctions having a real substantive existence in the invention itself, and are not made to depend on certain preconceived views respecting the meaning of words and the propriety of the terms employed.<sup>2</sup>

provement or addition. 4. A combination or arrangement of things already known. 5. A principle, method, or process, carried into practice by tangible means. 6. A chemical discovery.

Mr. Rankin:—1. A thing manufactured. 2. A manufacturing process.

Mr. Holroyd:—1. Things made. 2. Practice of making.

Mr. Carpmael:—1. "A new combination of mechanical parts or instruments, whereby a new machine is produced, though each of the parts be separately old and well known."

2. "An improvement on any known machine, whereby such machine is rendered capable of performing more beneficially."

3. "Where the vendible substance is the thing produced, whether by chemical or mechanical process, such as a new description of fabric."

4. "Where an old substance is improved by some new working—the means of producing the improvement, in most instances, is patentable, whether chemical or mechanical."

5. "The application of a known substance or material to a new purpose, when there requires art to adapt it, is the subject of a patent."

The latter classification seems unobjectionable, and expresses, in a practical manner, the various kinds of inventions, and the means by which they are to be carried into practice.

<sup>1</sup> See Law & Practice, 8, n. x.

<sup>2</sup> The meaning of words, their propriety, and applicability, have been a fruitful source of discussion in Patent Law.

Watt's case presents an instance of a most elaborate discussion on the word 'principle.' The specification stated the invention to "consist in the following principles," and then proceeded to describe the nature of the invention, and the particular manner in which it was to be carried into practice. (Law & Pr. 46.)

That description was held sufficient, after the verdict of the jury; also

Letters-Patent are granted for inventions. The form of the legal instrument by which certain privileges are granted to the true and first inventor, or the manner in which this character may be acquired,<sup>1</sup> does not form any part of the present inquiry, which is directly simply to the question, on what kind of inventions these privileges can by law be conferred.

Invention, in its most extended sense, may be defined to <sup>Invention defined.</sup> be the embodying in words, figures, or some material form, the conceptions and creations of the mind. Such an extended application, however, of the term, including the practical exercise of mind in whatever sensible or material form exhibited, is not the subject of the present inquiry, which is confined to the class of inventions which may become the subject of Letters-Patent, and which is, defined in the statute, <sup>Subjects of letters-pa- tent.</sup> by the words "the working or making of any manner of new manufactures."<sup>2</sup> But there are inventions to which

the term principle was explained by what followed, though "particulars" or "rules of practice" might have been more correct; and, had those been used, much of the lengthened disquisition and apparent confusion in this case would probably have been spared. *Boulton and Watt v. Bull*, 2 H. Bl. 463.

The irrelevancy of this kind of discussion seems to have struck some of the judges in the subsequent case of *Hornblower and Maberly v. Boulton and Watt*.

Lord Kenyon, C. J.: "No technical words are necessary to explain the subject of a patent; as Lord Hardwicke said upon another occasion, there is no magic in words."

Lawrence, J.: "Principle may mean a mere elementary truth, but it may also mean constituent parts, and, in effect, the specification is this: 'The contrivance by which I lessen the consumption of steam consists in the following principles' (that is, constituent or elementary parts); 'A steam-vessel, in which the powers of steam are to operate, to be kept as hot as the steam by a case; a distinct vessel to condense the steam, and pumps to draw off such vapor as is likely to impede the motion of the fire-engine,' &c. That is the description of the thing." 8 T. R. 92. See, as to this term, *post*, 43.

<sup>1</sup> As to these, see Law & Pr. 49, n. *g*.

<sup>2</sup> See Law & Pr. 45, n. *e*.

Heath, J.: "I approve of the term manufactures in the statute, because it precludes all nice refinements; it gives us to understand the reason of the proviso, that it was introduced for the benefit of trade." 2 H. Bl. 482.

these terms would appear to be applicable, which, nevertheless, are not the subject of letters-patent; such, for instance, as those which are the subject of registration, under the recent statutes<sup>1</sup> giving copyright in designs for articles of manufacture.

Subjects of registration.

Character of the invention.

The invention will have a peculiar character, according to the department of knowledge from which it is derived; and, since the adaptation of the truths of exact science, or of the laws of physical science, or the application of the general properties of matter, may furnish, either alone or in combination with each other, practical results, the terms usually employed therein will be the most convenient terms to employ, in treating of the inventions derived from these respective sources.

Axiom

Thus, should the invention consist in the practical application of some simple proposition in geometry, the term "axiom"<sup>2</sup> would appropriately be introduced in the description of the invention, and, inasmuch as the same term is frequently employed to express, though, perhaps, with less propriety, the more simple truths or propositions of other departments of knowledge, and, also, any acknowledged truth, this term may be appropriately introduced in the description of any invention founded thereon.

Ashurst, J.: "Every new invention is of importance to the wealth and convenience of the public; and, when they are enjoying the fruits of a useful discovery, it would be hard on the inventor to deprive him of his reward." 8 T. R. 98.

Eyre, C. J.: "The advantages to the public from improvements of this kind are, beyond all calculation, important to a commercial country, and the ingenuity of artists who turn their thoughts towards such improvements, is, in itself, deserving of encouragement; and, in my apprehension, it is strictly agreeable to the spirit and meaning of the statute 21 Jac. I., that it should be encouraged. 2 H. Bl. 494.

<sup>1</sup> Consolidated and amended by 5 & 6 Vict. c. 100; as to which, *post.*

<sup>2</sup> The term "axiom" is used to express the simplest order of propositions, or a proposition of so simple a nature that no reasoning can add to its force; or, which may be said to be the necessary and self-evident consequence of the definitions, and not susceptible of any formal demonstration. It is also applied to all kinds of admitted truths, and all demonstrations; that is, all reasoning founded on definitions may be said to terminate in axioms.

Should the invention consist in the practical application of some of the truths or facts of physical science, the term law, or principle, may most appropriately be employed in explaining the nature of the invention and the manner in which it is to be performed.

Should the invention consist in the application of some of the properties of matter, or in the simple arrangement and combination of particles, without reference to any theoretical analysis respecting the laws or principles of action of that matter, the general words, 'method, process, or mode,' will suggest themselves as the most convenient and appropriate words for describing that invention.<sup>1</sup>

In the great majority of cases, several of these terms may be applied with perfect indifference; the peculiar habits and occupation, or the peculiar theoretical and philosophical views, of the person describing the nature of the invention, and the manner in which it is to be performed, will lead him, unconsciously, to select some in preference to the others, and to use several in the same description; and the terms, consequently, will not unfrequently be either misapplied, or used in senses somewhat inconsistent with their strict and proper application.

But such misapplication of terms cannot affect the substantial and distinctive features of the invention, and, unless the terms are employed in a manner so perverse and contrary to their ordinary acceptance that the crown may have been deceived in granting the letters-patent, or the public may be unable to understand the invention as described by them, the validity of the grant will not be affected by the particular terms employed.<sup>2</sup> Such, then, being the various terms

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<sup>1</sup> Thus, Buller, J.: "The method and the mode of doing a thing are the same, and I think it is impossible to support a patent for a method only, without having carried it into effect, and produced some new substance. But here it is necessary to inquire, what is meant by a principle reduced into practice? It can only mean a practice founded on principle, and that practice is the thing done or made, or, in other words, the manufacture which is invented." 2 H. Bl. 486.

Lawrence, J.: "Method, properly speaking, is only placing several things and performing several operations in the most convenient order; but it may signify a contrivance or device; so may an engine, and, therefore, I think it may answer the word method." 8 T. R. 64.

<sup>2</sup> A brush being thought improperly described as a "tapering

Extension  
of the pre-  
ceding  
terms.

which may be made use of, according to the department of knowledge from which the invention is derived, it becomes necessary to consider certain other applications, which may, with equal propriety, be made of them. These terms having, originally, reference to those truths and facts with the origin of which man had nothing to do, are, by a very natural and common transition, transferred to the arrangements of matter due to man's inventive skill, and the particular modes which he has devised for operating and producing effects, are expressed by the terms 'laws and principles.'

Thus, matter and things are said to be arranged according to a certain law, that is, according to a certain rule or order which man has devised, and machines are said to act according to certain principles, that is, in certain manners. All these cases, however, are referable to the ulterior laws or principles of the particular department of knowledge from which the invention may be considered as derived.

Instances.

Many instances occur, in which it is said that the one arrangement is a mechanical equivalent for another, because, according to the truths or propositions of mechanics, the relations between forces and motions may be varied indefinitely, the same effects still being produced. Hence it follows, that the same effects may be produced by two machines apparently extremely dissimilar in construction, but of which the principles are essentially the same.

In mecha-  
nics.

Thus, under certain circumstances, a wheel and axle are the same as a lever, and an inclined plane the same as a screw, and the invention will be the same, whether the one or the other be used.<sup>1</sup>

brush," it was held that the difficulty arising from the grammatical construction could not be removed, unless the term had, by the usage of the trade, acquired a perverted sense. Per Lord Ellenborough, C. J. *R. v. Metcalf*, 2 Stark. 249. But see Reports on Patents, 141.

But the use of French terms will not vitiate. Per Abbott, C. J. *Bloxam v. Elsee*, 1 Car. and P. 558.

Nor the use of words in a purely technical, or in a new sense, if explained by the context. *Derosne v. Fairie*, Pat. Rep. 157.

Clear inconsistency is a fatal defect. See Law & Practice, 88, n, b.

<sup>1</sup> In a theoretical point of view, or according to the laws of mechanics, a simple lever is the same machine as a wheel and axle; but, in respect of their practical applications, they are very different. The same is the case with the inclined plane and screw. From these may

The principle of all steam-engines, in respect of their being applications of the elastic force of steam, is the same, <sup>The steam-engine.</sup> but in respect of the mechanical arrangements by which that law of nature may be made available, so as to constitute an invention, an unlimited variety may exist. Indeed, it is not possible that one piece of matter, arranged by the hands of man, should resemble, in every respect, any other arrangement of matter, but, the same principles or rules for our guidance being observed in each arrangement, the results are substantially the same.

In every other department of science, in chemistry or electricity, for instance, there exist various substances by <sup>Chemistry and Electricity.</sup> which the same result or effect may be produced; it may be a matter of perfect indifference which substance is employed; but one invention may possess the same distinctive character as another, though the particular means by which certain results and effects are produced, are not precisely the same. The question to be determined in these cases is, whether the particular means constitute the substance of the invention.<sup>1</sup>

All results are brought about, or effects produced, by the intervention of certain agents; as, though agents are substantially the same or different, the inventions are similar or dissimilar accordingly.

The above general review of the various objects of invention will point out certain consequences and distinctive features, or characteristics, in inventions, of great importance hereafter.

First, it may be of importance to remark, that the discovery and announcement of any axiom or proposition of abstract science, of any law of nature or principle of physical science, of any property of matter, is not an invention <sup>The discovery of a truth not an invention.</sup>

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be drawn important illustrations of the subject-matter of patents. Suppose a simple lever or the inclined plane to have been known and in use; the inventor of the wheel and axle, or of the screw, would have been entitled to a patent, but he would have had some difficulty in describing it, except as a new application of the principle of the lever, or of the inclined plane. Thus in *Morgan v. Seaward*, an eccentric disk and a crank were held to be mechanical equivalents. Pat. Rep. 168 and 171.

<sup>1</sup> See *post* 528, note 1.

in the sense in which the term is here used, or such a discovery as can be the subject-matter of letters-patent. Such an invention or discovery is an addition to our knowledge only; it must be applied so that some results or effects may be produced, whereby the arts and manufactures, or trade and commerce of the country may be benefited.

The application of such truth may be an invention.

Secondly, an invention may consist in the application of an axiom or proposition of abstract science, of a law or principle of physical science, to a special purpose, or in some peculiar arrangement of matter whereby those axioms or laws are in a condition to act. And it will be material to inquire, whether the application of the axiom and principle to a specified purpose, and with an assigned object, or the particular arrangement whereby it is applied, is the substantial and essential part of the invention.

Illustration from Watt's case.

An illustration of the preceding may be derived from the celebrated case of Watt's patent. The object of this invention was to lessen the consumption of steam and fuel in fire-engines; and this was to be effected by various means; among others, by casing the steam cylinder, so that the exterior might be kept as hot as the interior. This end might be attained in many ways, which would readily suggest themselves to the parties.

The characteristic, then, of this part of the invention was, the keeping in the heat of the steam by the application of some casing — the mode in which it was to be performed would be subsidiary to the main idea. This, whether effected by a jacket kept full of steam, or by a wooden case containing sawdust, or any other non-conductor of heat, would still, substantially, be the same invention.

A similar observation may be made with respect to the rest of his invention, which furnishes an instructive example of an invention, in which the particular arrangement by which the principles were to be carried out is not of the substance of the invention, but incidental to the main idea.<sup>1</sup>

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<sup>1</sup> The doctrine here insisted on seems fully recognized by Eyre, C. J.

“The substance of the invention is a discovery, that the conducting the steam out of the cylinder, and protecting the cylinder from the external air, and keeping it hot to the degree of steam heat, will lessen the consumption of steam. This is no abstract principle; it is in



But, in the case of Arkwright's machinery for spinning cotton, the particular arrangement of the parts was the substance of the invention; and the same is the case whenever the invention consists in the making or producing some particular thing or substance, as a machine, a paint, or a medicine.<sup>1</sup> Arkwright's case.

It would follow, from the above considerations, that inventions may be viewed in one of two classes, the one, where the particular arrangement of matter is the substance of the invention, so that the result, or effect produced is the real subject-matter; the other, where the particular mode of attaining the arrangement or result is the substance of the invention, so that the real subject-matter is the mode of production. Thus, the first stocking made by hand was a new invention or manufacture, belonging to the former class, and the first stocking made by machinery was also a new invention, belonging more properly to the latter class. Under one Two classes of invention.

its very statement clothed with practical application; it points out what is to be done in order to lessen the consumption of steam. Now the specification of such a discovery seems to consist in nothing more than saying to the constructor of a fire-engine, 'for the future, condense your steam out of the body of the cylinder, instead of condensing it within it—put something round the cylinder, to protect it from the external air, and to preserve the heat within it, and keep your piston air-tight without water.' Any particular manner of doing this, one should think, would hardly need to be pointed out, for it can scarcely be supposed that a workman, capable of constructing a fire-engine, would not be capable of making such additions to it as should be necessary to enable him to execute that which the specification requires him to do. But if a very stupid workman should want to know how to go about this improvement, and, in answer to his question, was directed to conduct the steam, which was to be condensed, from the cylinder into a close vessel, by means of a pipe and a valve communicating with the cylinder and the close vessel, to keep the close vessel in a state of coldness sufficient to produce condensation, and to extract from it any part of the steam which might not be condensed by the pump—and was also told to inclose the cylinder in a wooden case, and to use a resinous substance, instead of water, to keep the piston air-tight—can it be imagined that he would be so stupid as not to be able to execute this improvement, with the assistance of these plain directions?" 2 H. Bl. 497.

See Law & Practice, 46.

<sup>1</sup> See *R. v. Arkwright*, printed case; and Pat. Rep. 56.

of these two classes — the thing produced, or mode of production — inventions may be classified.

All invention an application or adaptation.

It will follow also from the preceding, that all invention, whatever its object, will consist in new applications or adaptations. Matter is endowed with certain properties, and subject to certain laws; man cannot alter these properties or impose other laws, but he has the power of applying those properties and of giving occasion for the exercise of those laws, according to his will, and the result of the exercise of that will is exhibited in manufactured, as distinguished from elementary matter.<sup>1</sup>

### *Subject-matter, by Statute.*

Words of the statute.

Such then being the general nature of that invention by which the arts and manufactures of a country may be advanced, it is necessary to compare the preceding with the words of the statute, and to show the various ways in which the letter and spirit of the statutes of the common law may be complied with.

According to the words of the statute, letters-patent are to be for the “working or making of any manner of new manufactures within this realm, which others, at the time of making such letters-patent, shall not use”;<sup>2</sup> and the letters-patent are granted for the particular new invention stated in them. The terms “new invention” must be considered as defined and interpreted by the words of the statute; or such new inventions only will be the subject-matter of letters-patent as the spirit and letter of the statute will fairly comprehend. The express words of the statute will include all the objects of the adaptations and arrangements

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<sup>1</sup> The phrase “manufactured matter” seems to express, in a peculiar and distinct manner, all those particular arrangements which are due to the exercise of the inventive faculty of man. Matter exists in its elementary state in the iron-stone, limestone, and fuel; but when these materials have been subjected to certain processes devised by the ingenuity of man, the result is that particular species of manufactured matter which we call iron.

<sup>2</sup> See 21 Jac. 1. c. 3, s. 6; Law & Practice, 44; and Pat. Rep. 31.

of matter to which attention has already been directed, and may be considered as pointing out generally, first, the class or kind of objects, and secondly, the character of the subject-matter in respect of which the proviso was introduced. The arts and manufactures of the country constitute the class of objects; the character of the subject-matter, or the nature of the invention as defined by these words, remains to be considered.

The generality of the expression "any manner of new manufacture" removes all difficulty which might be felt, in the present advanced state of the arts, respecting the strict or literal meaning and import of the word "manufacture." That word, in its etymological sense, would refer to some object of skill or industry executed by the hands of man, and the manufactures of a country are all those objects viewed collectively; but, inasmuch as the perfection of manufacture consists in the substituting other agents for human labor, this term "manufacture" now includes every object upon which art or skill can be exercised, so as to afford products fabricated by the hand of man, or by the labor which he directs.

Meaning of  
the word  
'manufac-  
ture.'

Nor must the import of the words "any manner" be passed over without notice, since cases may occur in which, by virtue of the generality of the expression "any manner of new manufactures," inventions, respecting which some doubts might otherwise be entertained, will at once be recognized as comprehended within both the letter and spirit of the statute.

Now all manufacture consists in a series of processes, and the particular character of each manufacture depends on the particular series of processes pursued. And this series of processes may consist in executing a certain number of things in a certain definite order, or in the application of known things in a particular manner, and for particular purposes, or in some particular arrangements and combinations. And any change in the series of processes pursued will constitute a new manufacture.<sup>1</sup>

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<sup>1</sup> Eyre, C. J. : "Probably I do not overrate it when I state that two thirds, I believe I might say three fourths, of all patents granted since the statute passed, are for methods of operating and of manufacturing, producing no new substance, and employing no new machinery." 2 H. Bl. 494.

The conducting or executing the series of processes, upon which the character of the manufacture depends, is expressed in the statute by the words, "working or making," either of which is equally applicable, though some cases will occur in which one term may appear preferable to the other; and it is unnecessary to attempt distinctions, when the general import of the words is clearly expressed.

Any improvement  
a new ma-  
nufacture.

The definition of a manufacture, as consisting in the particular series of processes, and the consideration of the consequences of any change in such series, leads at once to the important practical conclusion, that any improvement in the mode of obtaining a known product is a manner of new manufacture. Hence, both the words and spirit of the statute are satisfied, either by the invention of a product not before known, or by an improvement in the mode of production; that is, by a new article, or by an article made in a new manner.

Manufac-  
tured mat-  
ter and its  
applica-  
tions.

The clause of the statute has hitherto been considered with reference to those inventions, in which some distinct product or substance is produced. It must, also, be considered with reference to a class of inventions, in which no single product or distinct substance, but a general effect or result, is obtained. In the infancy of the arts or manufactures of a country, the objects of invention will be almost exclusively new products, or new methods of obtaining those products.<sup>1</sup> But, as the arts and manufactures advance, that ingenuity which was at first exercised in obtaining new products, by the arrangements of matter in its elementary state, that is, in the production of manufactured matter, will be principally directed to the application of those products, or to new arrangements of that manufactured matter.

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<sup>1</sup> Some of the new manufactures, before the statute, (21 Jac. 1, c. 3,) were frisadoes, (Hastings's case); something concerning lead ore, (Bircot's) case; a new knife, (Matthey's case); an instrument for melting lead, (Humphrey's case); those mentioned in the statute relate to glass, alum, smalt, and making iron by means of pit coal, (Lord Dudley's.) See these in my Reports of Patents.

The latter class of inventions is commonly described as the new application of known substances in known manners, and objections have been made to such subject-matters, but, it is conceived, without good reason. For, whether the invention consist in the production of some new thing, or in some new mode of producing that thing, it really consists in the application or adaptation of matter to the particular purpose, or in the particular manner; this, as has already been observed, being one characteristic of all invention whatsoever.<sup>1</sup> The first production of iron, for instance, was a new application of known substances; and the first production of a knife, a stocking, or of any other article, is an application of some known substance or thing. The substance or thing having been once produced, attention will be directed to improvements in the mode of production. An invention, having this object, may consist either in the new application of some known substance, as of lime to iron, or in the particular order or series of the processes pursued; any change in that order or series constituting, as we have seen, a new manufacture.<sup>2</sup> A particular mode of production consists only in arranging, according to some definite rule or law, existing matter, so as to bring about a known result in that particular manner; and such an invention may also be described as a new application.

Hence, whether the thing produced or the mode of production be the subject-matter of the invention, the result obtained is manufactured matter.

On the same principle that the application and adaptation of elementary, as exhibited in manufactured matter, are included under the letter and spirit of the statute, the application and adaptation of manufactured matter, that is, of existing substances and things, are also included. From these result the various combinations of parts and elements, whereby machines, compound substances, and constructions are produced, and the application of such machines, substances, and constructions, to produce results in a more beneficial and economical manner. For no distinction can be drawn betwixt the application and adaptation of matter

<sup>1</sup> See *ante*, p. 530.

<sup>2</sup> See *ante*, p. 531.

in its elementary state, and the application and adaptation of matter in a state next to the elementary, that is, in a manufactured state, and the statute will consequently include the new applications and adaptations of such existing substances and things.

Distinction  
between  
application  
and adapta-  
tion.

In the preceding, the terms application and adaptation have been used in connection with each other, and they are generally of the same import; but cases will occur, in which it will be necessary to distinguish between them, and to point out instances of applications which are not adaptations, in that sense of the term in which either is the subject-matter of letters-patent.<sup>1</sup>

It may, also, be convenient to distinguish between the cases in which the thing produced, or final result, presents no traces of the particular application or adaptation wherein the invention consists, and the cases in which the thing produced, or final result obtained, exhibits the particular application or adaptation. Iron, and similar manufactures, present, in the final result, no traces of the particular elementary matter which has been applied and adapted, or of the particular process pursued; but a steam-engine, and other constructions, present the particular applications and adaptations by and for which they exist.

### *Classification of Cases.*

It will be convenient to show the classifications which may be made of inventions, which have formed the subject-matter of letters-patent, more especially such of them as have given rise to legal and other proceedings. The following classifications are suggested, as distinct and comprehensive.<sup>2</sup>

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<sup>1</sup> A mere application may be sometimes described as a double use. See *post*, 24, 25.

<sup>2</sup> Most classifications, if rigidly examined, fail; but still, for practical purposes, they may be extremely useful. This is peculiarly the case with all classifications of the subject-matters of letters-patent. Under one point of view, all inventions have the same character, *ante*, 529; and, of the classes here given, the first may be considered as

I. An arrangement, combination, or composition of matter; the particular arrangement, combination, or composition being of the essence and substance of the invention.

II. An arrangement, combination, or composition of matter, with the view of carrying out into practice certain truths, laws, or principles; the particular arrangement, combination, or composition not being of the essence or substance of the invention, except as in connection with, and subsidiary to the truths, laws, or principles, which are to be so carried out into practice.

III. An application and adaptation of natural or known agents, and of known substances or things.

Under one of the preceding classes, the subject-matter of letters-patent may be readily and conveniently arranged.

I. An arrangement, combination, or composition of matter; the particular arrangement, combination, or composition being of the essence and substance of the invention. First class.

The earlier cases, as the letters-patent granted to Hastings, (9 Eliz.) in consideration that he brought in the skill of making frisadoes from abroad; to Matthey, for a knife; and to Humphrey, for a sieve or instrument for melting lead,<sup>1</sup> present instances under this class. In these and similar cases, either the thing produced, or the mode of production, may be considered as the subject-matter of the invention; but, when a thing has been produced before, the subject-matter of the invention will have reference to the mode of production; and it is sometimes convenient to consider the essence and substance of every invention, in which some particular thing is produced, as consisting in the mode of production, that is, in the mode of applying and adapting the matter which already exists. Hastings's.  
The mode of production the real subject matter.

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including the second; also several of the cases cited in illustration of the third, may be referred to the first class. But the several inventions, if their nature be considered in a practical, rather than in a theoretical point of view, will be found conveniently to group themselves in the classes here suggested; and a classification of this kind contributes very much to a clear exposition of what is a manufacture, within the meaning of the statute, and to a distinct conception of the points to be attended to, in the structure of the specification.

<sup>1</sup> See Pat. Rep. 6 & 7.

Lord Dudley's.

Lord Dudley's patent, (19 Jac. 1,) for melting of iron ewer, and making the same into cast-works, or bars, with sea coals, or pit coals, may also be referred to this class; for the iron so made would be a different composition of matter from that made with charcoal; but, inasmuch as that particular combination or composition could not be distinctly defined, or distinguished from those arrangements, combinations, or compositions of the similar elements which constituted iron as before known, it seems better to refer this invention to the third class. The invention, in this case, could only relate to the mode of production; since the iron would have apparently the same physical properties, and, for all practical purposes, would be the same substance as had been produced by the use of charcoal.<sup>1</sup>

Arkwright's.

In Arkwright's patent, (A. D. 1773,) for certain machines for preparing silk, cotton, flax, and wool, for spinning, the invention consisted in the combination of known elements of machinery, that is, in a particular arrangement of manufactured matter.

Morris's.

In Morris's patent, (A. D. 1764,) for a machine with a set of working needles, to be applied to a stocking-frame for making oilet-holes, or net-work, in silk, thread, or cotton, the invention consisted in the addition to an existing thing, the old stocking-frame, of this particular combination of known things. In an action for the infringement of this patent, it was objected, that there could be no patent for an addition, but the objection was overruled by Lord Mansfield. The plaintiff had a verdict, with 500*l.* damages.<sup>2</sup>

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<sup>1</sup> The same observations will apply to many subsequent patents, as, for instance, to Hill's, for cinder iron, and curing the defect of cold short by the addition of lime, Pat. Rep. 225; and to Crane's, for the anthracite iron. The substances so produced would be new compositions of matter, but are more conveniently described as new applications of known things; also, having the same apparent qualities as the substances known before, they may be spoken of as improvements in the mode of production. Thus, Crane's invention may be described as the mode of procuring iron, by combining the hot-blast and anthracite. See *post*.

<sup>2</sup> See Pat. Rep. 51; Bull. N. P. 76, c.

Lord Mansfield, C. J.: — "If the general question of law, namely, that there can be no patent for an addition, be with the defendant, that



Since the preceding case, an addition or an improvement generally has been held a subject-matter for letters-patent ;<sup>1</sup> and an examination of the list of patents will show by far the greater number of patents to have been granted for improvements. This old objection was subsequently raised, on a *caveat* at the Great Seal, in the particular case in which the letters-patent solicited were for an improvement on an existing patent, but the objection was overruled by Lord Eldon, L. C., who said, that a party having invented improvements on any patent, could not use that patent before the expiration of its term ; and the solicited letters-patent were granted.<sup>2</sup>

The addition or improvement, supposing it a separate and independent instrument or thing, may be a new arrangement of matter, but the real subject-matter of the invention will, in general, be the old and new instrument or thing in combination, and such combination will be a new arrangement of matter, by virtue of that very addition.<sup>3</sup> And in the same

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is open upon the record, he may move in arrest of judgment ; but that objection would go to repeal almost every patent that was granted."

<sup>1</sup> See *Boulton & Watt v. Bull*, 2 H. Bl. 489.

Buller, J. : "In later times, whenever the point has arisen, the inclination of the Court has been in favor of the patent for the improvement, and the parties have acquiesced where the objection might have been brought directly before the Court."

Also *Hornblower & Maberly v. Boulton & Watt*, 8 T. R. 104.

Grose J. : "If indeed a patent could not be granted for an addition, it would be depriving the public of one of the best benefits of the statute of James."

<sup>2</sup> *Fox, ex parte*, 1 Ves. & B. 67.

This objection was not raised in the case of Harmer's patent, (*Harmer v. Plane*, 14 Ves. Jr. 130 ; 11 East, 101,) nor Lewis's, (3 Car. & P. 502,) which were expressly for improvements on existing patents ; and several other important cases, as Huddart's and Russell's, were, in fact, improvements on existing patents.

It was urged, as an objection to Crane's patent, that the invention required the use of a subsisting patent, but the Court of Common Pleas decided such subsequent patent to be valid, though it could only be worked by license under the former patent. *Crane v. Price* and others, Pat. Rep.

<sup>3</sup> In cases of this kind, the specification must clearly distinguish in what the improvement consists. See *Harmer v. Plane*: Dav. Pat. Cas. 311. *Macfarland v. Price*, 1 Stark. 199 ; Pat. Rep. 74.

Omission  
a subject-  
matter.

manner that an addition to an existing thing constitutes a new arrangement of matter, an omission of an existing thing also constitutes a new arrangement of matter, which may be the subject-matter of letters-patent. In Whitehouse's patent (A. D. 1825, assigned to Russell,) for improvements in manufacturing tubes for gas and other purposes, the substance of the invention consisted in omitting an instrument called a maundril, which was used in the manufacture of these tubes under a previous patent, (James & Jones,) and upon which the subsequent patent was an improvement. The tubes so manufactured, (by the omission of the maundril,) were a particular arrangement or composition of matter, but the invention in this case is more properly described as the mode of producing such tubes or arrangements of matter.<sup>1</sup>

Else's.

In Else's patent for a new manufacture of lace, called French, otherwise ground lace, the substance of the invention consisted in a particular arrangement of matter, or in the mode of mixing silk and cotton thread upon the frame.<sup>2</sup>

Brunton's.

In Brunton's improvements in chain cables, the invention consisted in substituting a cast-iron stay with a broad end, so as to clasp the sides of the link for a wrought-iron stay, which pierced the links of the cable as made on Brown's method. This, as well as the other improvements included in the same patent, was a new combination or arrangement of matter.<sup>3</sup>

Galloway's

In Galloway's improvements in paddle wheels, the invention consisted in the particular arrangement according to an assigned law of the float-boards, previously used for the same purposes, but arranged in a different manner; in this invention, the particular arrangement was the essence of the invention.<sup>4</sup>

<sup>1</sup> See *Russell v. Cowley*, 1 Cr. M. & R. 864, and 1 Rep. Arts, N. S.

<sup>2</sup> See *R. v. Else*, Pat. Rep. 76.

Buller, J.: "The patent claims the exclusive liberty of making lace composed of silk and cotton thread mixed, not of any particular mode of mixing it; and, therefore, as it has been clearly proved and admitted, that silk and cotton thread were before mixed on the same frame for lace, in some mode or other, the patent is clearly void." *Ibid.*

<sup>3</sup> See *Brunton v. Hawkes*, 4 B. & A. 541; and *post*.

<sup>4</sup> See *Galloway v. Bleaden*, 15 Rep. Arts, N. S.; and Pat. Rep.

Many instances in illustration of this class may be derived from the numerous patents in which the mode of production will have reference to the laws of chemical combination, as well as of mere mechanical admixture, as in the manufacture of iron, the composition of paints, stuccos, medicines, and similar substances. In Zinck's patent for making verdigris, the invention consisted in certain proportions of granulated copper, oil of vitriol, and *aqua fortis*, boiled for a certain time in a copper of a particular construction, and afterwards strained off and mixed with a solution of potash and soda. The particular composition of matter so produced, was the essence and substance of this invention.<sup>1</sup> Chemical patents.  
Zinck's.

Many instances, in illustration of the above class, may be derived from the patents granted for new fabrics, though it may be convenient to arrange some of these under the third class. New fabrics.

In Sievier's patent for improvements in the manufacture of elastic goods, by combining in the warp covered threads of caoutchouc with non-elastic threads, and thereby forming a cloth, in which the non-elastic threads are the limit to which the elastic threads can be stretched — the essence of the invention was the particular arrangement and combination of matter. The subject-matter of this invention may also be considered as the application of a known substance, in a known manner, to a purpose known before.<sup>2</sup>

The cases already mentioned will sufficiently illustrate that class of inventions in which the result attained, or manufacture produced, consists simply in some specified arrange-

<sup>1</sup> See *Wood & others v. Zimmer*, 1 Holt, N. P. C. 58; Pat. Rep. 82.

The following well-known cases possess many points in common with the preceding:

Tennant's, for a bleaching liquid. Pat. Rep. 125.

Turner's, for a yellow color. *Turner v. Winter*, 1 T. R. 602; Pat. Rep. 77.

Liardet's, for a composition or stucco. Pat. Rep. 52.

Wheeler's patent, in which the invention was of a new coloring matter produced from malt. *R. v. Wheeler*, 2 B. & Ald. 349.

Savory's, for a seidlitz powder. *Savory v. Price*, Pat. Rep. 83.

<sup>2</sup> See per Tindal, C. J., in *Cornish v. Keene*, Pat. Rep.; 3 Bing. N. C., 570.

ment, combination, or composition of matter, frequently without regard to any very precise proportions of the constituent parts or elements, though, in such cases, the inventions will generally, with more propriety, be referred to the third class. When the invention is to be classified and distinguished, according to the mode of production, the particular means pursued will point out the appropriate class.

Second  
class.

II. An arrangement, combination, or composition of matter, with a view of carrying out into practice certain truths, laws, or principles, the particular arrangement, combination, or composition not being of the substance and essence of the invention, except as in connection with, or subsidiary to, the truths, laws, and principles, which are to be so carried out into practice.

Gamble's  
patent.

The paper machine, which was the subject of letters-patent to Gamble, in 1801 and 1803, will furnish an instructive illustration of this class of cases. The subject-matter of the invention was the making paper into sheets of great length, by means of machinery. This was effected by receiving the pulp on an endless web of wove wire, or other suitable material, passing round two cylinders, made to revolve with uniform velocity. The carrying out into practice this general idea or principle of the invention, would require arrangements and combinations of a very complex nature, and arrangements or combinations in themselves extremely different, would, when adopted in connection with, and as subsidiary or incidental to, this main idea, still be, substantially, the same invention. The invention did not consist in some particular means of applying an endless web to make sheets of paper of an indefinite length, but in the application of such endless web. The substance and essence, then, of this invention was an arrangement, combination, or composition of parts, that is, manufactured matter, whereby paper might be made by means of an endless web, in sheets of an indefinite length.

Dollond's.

In Dollond's patent (A. D. 1758,) for a new method of making the object glass of telescopes, the invention consisted in combining a convex lens of crown glass and a concave lens of flint glass, so that certain known laws of light in respect of refraction and achromatization, and the

production of an image, might be carried out into practice: The invention did not consist in any mode of making the glass, or of grinding the lenses, or in assigning any particular degrees of sphericity to their surfaces — these being known from the ordinary propositions of optics — but simply in combining two lenses of the kind described, so as to obtain a correction of color, and leave some amount of refraction.<sup>1</sup>

In Bainbridge's patent, (A. D. 1807,) for improvements on the flageolet, or English flute, the invention consisted in constructing a flute so that the physical law of the vibration of a column of air, upon which the production of a particular note depends, might be carried out in practice, in the improved instrument. Bain-  
bridge's.

In Cochrane and Galloway's patent, for removing the inconvenience of smoke and gas generated in stoves, the invention consisted in the retention of a volume of atmospheric air, in a condensed state, within a close furnace, in order to effect perfect combustion. The particular means by which the inventors proposed to carry out into practice the principles or laws of combustion, were described in the specification, which contained the following passage: —  
 “These objects may also be effected and produced by other abstract parts and combinations of machinery, not explained or described; but yet such alterations may be made, embracing the principle of our invention, that may be a different modification of them, and yet be, substantially, in their effect and principles, our invention.”<sup>2</sup> Cochrane  
and Gallo-  
way's.

<sup>1</sup> See specification of Dollond's patent; Pat. Rep. 42. It may be said that Dollond's object glass was simply a combination of matter under the first class, but the lenses were to be combined according to known theoretical laws. Ibid. 45, n.

<sup>2</sup> In an action for an infringement of this patent, (Cochrane & Galloway v. Braithwaite & Ericsson, 3 Lond. J. 42,) by an invention in which the same principles of combustion were carried out in a different manner, and, among other things, by producing the condensed state of the air by means of a contracted orifice, instead of a weighted valve —

Sir Thomas Denman, C. J., said: — “All that seemed indispensable was, that the required resistance, the necessary degree of compression, should be produced; and, if that could be obtained by narrowing the

Minter's.

In Minter's patent for an improved chair, the invention was described as consisting in the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of the chair. 'The application of self-adjusting leverage to this purpose might be effected by many different arrangements and combinations, so that the substance of this invention was not any one particular arrangement or combination of matter, but such an arrangement as was subsidiary to the carrying out into practice the principles described in the specification, that is, the well-known laws of a particular kind of compound lever.'<sup>1</sup>

Jupe's.

In Jupe's patent, for an improved expanding table, the invention consisted in making a table in sections, which might diverge from a common centre, so that the table would be enlarged or expanded, on inserting leaves or pieces in the openings or spaces caused by such divergence. The validity of this patent was contested, on the ground that a table, divided as described, did not constitute a manufacture, without reference to the mechanical means by which the divergence was effected.<sup>2</sup> If it be a manufacture, the subject-matter of these letters-patent is a particular arrangement of parts, for the purpose of effecting a certain object; but the particular arrangement described is not of the essence and substance of the invention, except as

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outlet, as well as by a weighted valve, such a mode of effecting the object must be held as being covered by the words 'any other known means of producing required resistance.'" See Law & Practice, 79.

<sup>1</sup> See the specification, and *Minter v. Wells*, Pat. Rep. 126.

<sup>2</sup> See *Jupe v. Pratt*, Pat. Rep. 151, and the specification, *Ibid*.

Alderson, Baron: — "You cannot take out a patent for a principle, but you may take out a patent for a principle coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle, but invented some mode of carrying it into effect; but then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by a jury as piracy." *Ibid*. 146.

This same important doctrine was laid down by Lord Tenterden, C. J., in *Lewis and another v. Davis*, 3 Car. & P. 502.

in connection with, and subsidiary to the expansion of the table, and the divergence of the parts from a centre.

Watt's patent, though this may be more conveniently referred to the third class, will also furnish an important illustration of the preceding. The letters-patent were for an improved method of lessening the consumption of steam and fuel in fire-engines, and the specification stated the improved method to consist in the following, among other principles, namely, in keeping the cylinder hot, in condensing the steam in a separate vessel, in withdrawing from that vessel the elastic vapor which was not condensed, so as to have as perfect a vacuum as possible; the specification also pointed out the means by which these principles were to be carried out;<sup>1</sup> and the directions and description given therein were, according to the finding of the jury, sufficient to enable a mechanic, acquainted with fire-engines previously in use, to construct fire-engines so as to lessen the consumption of steam, and, consequently, of fuel; that is, to realize and put in practice the invention of Watt. The subject-matter of this patent, if referred to this class, must be considered as a particular arrangement and composition of manufactured matter, in connection with and furtherance of the principles or rules of management pointed out in the specification.<sup>2</sup>

The preceding are some of the principal cases, in which the most important part or the merit of the invention consists in the conception of the original idea, rather than in the manner in which it is to be carried out or applied in practice. Many other cases might be mentioned, but the preceding, it is conceived, will be sufficient to illustrate this class, and to show that inventions may have a character which is totally independent of the particular means by which they are applied, so that the imitating that character may be a piracy of that invention, although the means may

Inventions may have a character independent of the means.

<sup>1</sup> See Law & Practice, 46, and *ante*, 528, note.

<sup>2</sup> The distinction here contended for is recognized in several of the judgments delivered in this case. Thus —

Eyre, C. J. : — “ Some machinery, it is true, must be employed, but the machinery is not of the essence of the invention, but incidental to it.” *Boulton & Watt v. Bull*, 2 H. Bl. 496. See, also, *ante*, 528, note.

be very different, and such as, in themselves, might constitute a distinct substantive invention.<sup>1</sup>

It will frequently be a question of some difficulty, whether the particular arrangement or composition of matter is of the essence and substance of the invention; on the determination of this will frequently depend the question, whether an invention has or has not been infringed by another invention, having the same or similar objects, and producing the same or similar results. The determination of the particular character of the invention will depend simply on the specification, that is, on the obvious and reasonable construction which can be put on the words by which the patentee describes and ascertains the nature of his invention.<sup>2</sup>

Third class. III. An application and adaptation of natural or known agents, and of known substances or things.

Lord Dudley's. Letters-patent were granted (19 Jac., A. D. 1620,) to Lord Dudley, for his "mystery, arts, way, and means of melting iron ewre, (ore,) and of making the same into cast-works or bars of iron, with sea-coals or pit-coals, in furnaces with bellows;" they recite, that the invention consisted in the use of sea or pit-coal, instead of charcoal. From the brief description contained in the letters-patent, it appears that the invention was simply the substitution of pit or sea-coal for charcoal; that is, the application of the kind of coal to the manufacture of iron.<sup>3</sup>

Neilson's. In Neilson's patent, for the improved application of air to produce heat in fires, forges, and furnaces, where bellows

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<sup>1</sup> In the recent case of *Neilson v. Harford*, it was admitted that the apparatus employed was incomparably superior in its effects to that described in the plaintiff's specification, and such an improvement as would have supported a patent; but, as it involved the principle of the plaintiff's invention, it was held an infringement. Pat. Rep. 295, and *post*.

<sup>2</sup> See important instances of this in the case of Forsyth's patent, for the application of detonating powder to the discharge of fire-arms, (*post*); and of Hall's patent, for the application of the flame of gas to improve lace, by singeing off the superfluous fibres, (*post*.)

<sup>3</sup> See this patent, and as to its exception, in the Statute of Monopolies. Pat. Rep. 14 - 16.



or other blowing apparatus are required, the invention consisted in the application of hot-air instead of cold, the air being heated in a closed vessel, and in its passage from the blast to the furnace.<sup>1</sup>

In Crane's patent, for an improvement in the manufacture of iron, the invention consisted in substituting anthracite in the blast-furnace, in the ordinary manufacture of iron by the hot-blast, for coke or bituminous coal.<sup>2</sup>

In Derosne's patent, for improvements in extracting and refining sugar and syrups, the most valuable part of the invention consisted simply in the application of animal and other charcoal, as the medium of filter. The specification described the invention in the following manner: — "Whatever sort of charcoal it may be, it must be disposed on beds very thick, on a filter of any suitable form; the filter, of itself, has nothing particular, and does not form the object of the patent, because it is already known and used for other purposes, but until now it has not been used for discoloring<sup>3</sup> syrups." In this, as in many cases, the patents for improvements in the manufacture of iron, the invention is simply the application of a known substance; if the substance produced, rather than the mode of production, be regarded, these cases would belong to the first class, since the particular composition of matter so produced would be different from that previously obtained; but such a classification is not of a practical or useful character.

In Hartley's patent, (A. D. 1773,) extended by act of parliament, (17 G. III. c. 6,) for the method of securing buildings from fire, the invention consisted in the application of plates of metal and wire to the parts of buildings

<sup>1</sup> See specification and report of proceedings on the patent. Pat. Rep. 273.

<sup>2</sup> The subject-matter of this invention may be referred to the first class, for the anthracite iron is a new article, or a new composition of matter; if it be considered as an old article, then the mode of production, by the combination of hot-blast and anthracite, or by the use of anthracite, is new. See *ante*, 12, and specification and report of proceedings on the patent. Crane v. Price, Pat. Rep. 375.

<sup>3</sup> This term is used in the sense of the French word *decolorer*, or of discharging the color. See Pat. Rep. 152 - 165.

and ships, so as to prevent the access of fire, the plates being laid over each other at the joints, and fastened in any known manner.<sup>1</sup> The essence and substance of the invention, in this case, was, the application of a known thing in a known manner, by simple contact, to obtain a known effect — protection from fire.<sup>2</sup> This case might have been arranged under the second class, as a particular arrangement or composition of matter, for the purpose of obtaining a certain result, namely, security from fire, but it seems to belong more properly to this class.

Watt's.

In Watt's patent, for his improved method of lessening the consumption of steam and fuel in fire-engines, the invention consisted, among other things, in the application of a system of external casing and clothing to the cylinder, in the adaptation to the cylinder of a separate vessel, in which the steam was to be condensed, and of the air-pump, to draw off the elastic fluid from that separate vessel. The invention included other things, and might be considered, as has been already mentioned, under the second class, as a particular composition of matter, for the purpose of carrying out certain principles, but each of these separate applications contributed essentially to the practical result, namely, the diminution of the consumption of steam, and, consequently, of fuel, and, as such, might have been the subject-matter of letters-patent.<sup>3</sup>

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<sup>1</sup> The specification of this patent was as follows: — "My invention of a particular method of securing buildings and ships against the calamity of fire, is described in the manner following, that is to say, by the application of plates of metal and wire, varnished or unvarnished, to the several parts of buildings and ships, so as to prevent the access of fire and the current of air, securing the several joints by doubling, overlapping, soldering, rivetting, or in any other manner closing them up, nailing, screwing, sewing, or in any other manner fastening the said plates of metal into and about the several parts of the buildings and ships, as the case may require." See 17 G. III. c. 6; Pat. Rep. 54.

<sup>2</sup> The validity of this patent, in respect of the subject-matter, was fully discussed by Eyre, C. J., in delivering judgment in Watt's case, and placed on the same grounds as the patents for methods of operating and manufacturing, producing no new substance, and employing no new machinery. *Boulton & Watt v. Bull*, 2 H. Bl. 493 - 4.

<sup>3</sup> As to the subject-matter of Watt's patent, see *Law & Practice*, 46, n. e. See *ante*, p. 528, n.

In Forsyth's patent, for a "method of discharging or giving fire to artillery, and all other fire-arms, mines, chambers, cavities, and places in which gunpowder, or other combustible matter, is or may be put for the purpose of explosion," the essence of the invention was the application of detonating powder, a known substance, to produce a known effect. The specification described a mode of discharging the powder, or producing the explosion, but this was not the substance of the invention, as claimed, and the patentee succeeded in an action against a party who had adopted a different mode of effecting the discharge, from any described in the specification.<sup>1</sup>

In Hall's case, for a method of improving every kind of lace or net, or any description of manufactured goods where fabric is composed of holes or interstices made from thread

A substantial part of the invention, in Huddart's patent, was the substitution of a tube, through which all the yarns were brought for a new circle, which had been used before. On this we have the following important judgment:—

Lord Ellenborough, C. J.:—"Now the tube does seem to me an important difference from the mere circle, because it keeps the yarns in a degree of confinement for a greater time, and more certainly obtains the end pointed out in Mr. Balfour's specification; the same end is to be attained, and, had the patent been taken out for that to be done by a tube, which was before done by a ring or circle, I should have thought the patent good, for that is a distinct substantive invention." *Huddart v. Grimshaw*, Pat. Rep. 95.

<sup>1</sup> See *Forsyth v. Riviere*, Pat. Rep. 97.

The specification of Forsyth's patent states:—First, the chemical plan and principles of the invention, describing generally the manner in which the known chemical compound was to be applied and discharged, but disclaiming the invention of the compound itself, in the following words:—"But it is to be observed, that I do not lay claim to the invention of any of the said compounds or matters to be used for priming; my invention, in regard thereto, being confined to the use and application thereof to the purposes of artillery and fire-arms, as aforesaid." It then proceeds, as follows:—"And, secondly, I do hereby further declare, for the better illustration of my said invention, and as auxiliary to the use thereof, in relation to the mechanical parts thereof, that I have hereunto annexed drawings or sketches, exhibiting several constructions which may be made and adopted, in conformity to the foregoing plan and principles, out of an endless variety which the subject admits of." 11 Rep. Arts, 2d Ser. 401, and Pat. Rep. 96.

or yarn, as usually manufactured, of every description, whether fabricated from flax, cotton, wool, silk, or any other vegetable, animal, or other substances whatsoever," the substance of the invention was the application of the flame of gas, to singe off the superfluous fibres about the meshes of goods of the above description. This case furnishes a good illustration of those in which the question may be raised, whether the substance of the invention as described in and claimed by the specification, was, generally, the application of the flame of gas, or some particular mode of applying it; in the latter case, it would belong to the second class. The patentee succeeded in an action for infringement, on the evidence that the defendants, having recently started in the same line of business as the plaintiff, (clear-starching lace,) had the gas laid on to the premises in a peculiar manner, of which no explanation was furnished, and used a much larger quantity of gas than could have been required for the ordinary purposes of lighting.<sup>1</sup>

Lewis's

Letters-patent were granted (A. D. 1818,) to Lewis and another, for improvements on a machine for shearing cloth,

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<sup>1</sup> See *Hall v. Jarvis & Francis Boot*. Printed case; and Pat. Rep. 100.

The specification of this patent was as follows:— "My method of improving lace or net, or such other goods as aforesaid, is by passing them through, or at a very small distance over, a body of flame or fire, produced by the combustion of inflammable gas, while the said flame, or the intense heat thereof, is urged upwards, so as to pass through the holes or meshes of the lace or net, &c., by means of a current of air, which is produced by a chimney fixed over a flame, immediately above the lace or net, &c. The action of the flame is to burn, singe, and destroy as much of the said superfluous fibres, or fur, as may be removed without injury to the lace or net, or such other goods as aforesaid." The specification then gave certain directions for the trade, proceeding as follows:— The drawing hereunto annexed, represents a system of rollers, to operate upon lace or net, or such other goods as aforesaid, by the flame of inflammable gas (describing the drawing, &c.) The above apparatus or combination of machinery is conveniently adapted for the purpose of the said invention, but I do not claim the exclusive use of any apparatus or combination of machinery, except in connection with and in aid of the application of the flame of inflammable gas to the purposes above described in this specification." Pat. Rep. 98.

for which machine Lewis had a previous patent (A. D. 1815.) The specification described various things, but the most important part of the invention was the application of a rotary cutter, to shear the cloth from list to list. In an action for the infringement of this patent, it was objected, on the part of the defendant, that, the rotary cutter being old, and having been used to shear cloth from end to end, and cloth having been sheared from list to list by shears, the application of a rotary cutter to shear from list to list, was not a subject-matter for letters-patent. But this objection was overruled by Lord Tenterden, C. J., who said : "The case stands thus ; it appears that a rotary cutter to shear from end to end was known, and that cutting from list to list by means of shears was also known ; however, if, before the plaintiffs' patent, the cutting from list to list, and the doing that by means of rotary cutters, were not combined, I am of opinion that this is such an invention by the plaintiffs as will entitle them to maintain the present action."<sup>1</sup>

In this case, then, the substance of the invention was the application of a known instrument, a rotary cutter, in a known manner — viz., to shear cloth from list to list.

In most of the cases which have hitherto been given, the means or machinery employed, if not of the substance or essence of the invention, has been of some importance ; but there are a great number of cases in which the substance and essence of the invention consist in an application, requiring no composition of matter to put it into practice. Thus, in Daniell's patent, (A. D. 1819,) for improvements Cases of simple applications.  
Daniell's.

<sup>1</sup> See *Lewis & another v. Davis*. 3 Car. & P. 502.

The patentees had a verdict, which was not disturbed ; they also had a verdict in a subsequent action. (*Lewis & another v. Marling*.)

The decision in these cases fully established the important doctrine, that an invention may be infringed by adopting the same general idea, but carrying it out by totally different means. In this case, it was admitted that the machinery of the defendant was totally different from that of the plaintiffs, and the infringement consisted in the fact of the shearing from list to list, by a rotary cutter, without any reference to the machinery by which such shearing was produced. See 2 Lond. Jour. 2d Ser. 256.

Fussell's. in dressing woollen cloth, the invention consisted in immersing a roll of cloth, manufactured in the usual manner, in hot water; and, in Fussell's patent, the cloth was subjected to a steam bath, with the same object.<sup>1</sup>

Hadden's. In Hadden's patent, (A. D. 1818) for an improvement in preparing wool, the invention consisted in the application of heat to wool, by means of iron heaters within the rollers

Lister's. through which the slivers of wool passed; and, in Lister's patent (A. D. 1823,) the rollers were heated by steam.<sup>2</sup>

Crompton's. In Crompton's patent, for an improved method of drying and finishing paper, the substance of the invention was the use of a heated cylinder, against which the paper was conducted.

Christ's. In Christ's patent, for "improvements in copper and other plate printing," the substance of the invention was in the preparation of the paper, and the particular means by which this was effected, as the damping the paper, is an application which would have been an invention sufficient to support the patent.<sup>3</sup>

In these, and many other cases, the substance and essence of the invention were the application and adaptation of a known agent, as heat, water, &c., for effecting great improvements in manufactures.

Omission of a substance. The omission of any ingredient previously used in and considered essential to any particular manufacture, would

<sup>1</sup> The latter patent was held an infringement on the former, and both were repealed by *scire facias* for want of novelty.

<sup>2</sup> The invention was held substantially the same in both these cases, and both patents were repealed for want of novelty.

<sup>3</sup> *Sturtz v. De la Rue*, 5 Russ. 322.

Lord Lyndhurst, L. C.: "The title in this case is for certain improvements in copper and other plate printing. Copperplate printing consists of processes involving a great variety of circumstances. The paper must be of a particular description; before it is used it must be damped; it must remain damp a certain time, and must be placed in a certain temperature; the plate must be duly prepared and duly applied; and various processes must be gone through, before the impression is drawn off and brought to a finished state. An improvement in any one of these circumstances, in the preparation of the paper, for instance, as in the damping it, &c., may be truly called an improvement in copperplate printing." *Ibid.*

constitute a change in the series of processes pursued, and, consequently, a new manufacture; and the subject-matter of letters-patent for such an invention would properly belong to this class, as *Campion's* patent for "a new and improved method of making and manufacturing double canvas and sail cloth with hemp and flax, or either of them, without any starch whatever;"<sup>1</sup> or a use of the same thing, for the same object, but according to a different order of processes, as in dying patents.<sup>2</sup>

The class of cases which has just been illustrated, will be the most numerous class in an advanced state of the arts and manufactures of a country. When the manufactures are in their infancy, products which never before existed, results never before obtained, and effects never before produced, will be the subject-matter of letters-patent: this will constitute, as it were, the first era of invention; but ingenuity will then be directed to improvements in the mode of producing; to the obtaining the same products or results, and to the producing the same effects, in a more economical and beneficial manner: this will constitute the next or more advanced era of invention; and it is obvious that new applications of known agents and things must lead to such a change in the series of processes as will constitute a new manufacture.<sup>3</sup>

But although, in a large and continually increasing proportion of the patents, the substance of the invention will be an application of known agents or things, it is not every application of known agents or things, it is not every ap-  
Two eras of inventions.  
Every application not a subject-matter.

<sup>1</sup> In this (as in several other of the preceding cases) the patentee failed, but it was, as in this case, in respect of want of novelty, or some defect in the specification, and not in respect of the alleged invention not being a proper subject-matter, if new and properly described in the specification. See remarks of the judges on this patent. *Campion v. Benyon*, 4 B. Moore, 71.

<sup>2</sup> In *Helliwell's* patent for water-proofing, the same substances were used, but in a different order. *Helliwell v. Dearman*, Pat. Rep. 401.

<sup>3</sup> See *ante*, 531.

The application, within the last few years, of electricity, for the transmission of signals, and copying seals and impressions, and gilding, and of light, for the purposes of photography, illustrate and confirm these remarks.

plication or every novelty which can constitute a new manufacture, and, as such, be a subject-matter of letters-patent. Many cases to which the term new applications may be applied, but which are not the subject-matter of letters-patent, have been designated by the terms double or new use ; and, in general, wherever the term adaptation cannot be employed in connection with the term application, that is, wherever the only change is of so simple a nature, or so obvious, as to exclude all idea of skill, thought, or design ; always supposing no new manufacture, as above described, to be the result — the application is not such as can be the subject-matter of letters-patent. It will, however, be necessary to consider this, or the more general question, what amount of invention is sufficient to support a patent, somewhat more in detail.

#### *Amount of Invention.*

Every  
change not  
an inven-  
tion.

The subject-matter of letters-patent must possess the incident of novelty, or the principles of the common law and the words of the statute will not be complied with ; and, further, the result to which it leads must be a new manufacture. But every novelty is not an invention which may be the subject-matter of letters-patent ; the change must be such as may have resulted from the exercise of or given scope for thought, design, or skilful ingenuity. It is not necessary that either thought, design, skill, or ingenuity should have been exercised : the invention or discovery may have resulted from guess or accident ;<sup>1</sup> and, in a great

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<sup>1</sup> This has been fully recognized.

Thus, Lord Mansfield, C. J. : "Inventions are of various kinds ; some depend on the result of figuring, others on mechanism, others depend on no reason, no theory, but a lucky discovery. Water tabbies were discovered by a man spitting on a floor-cloth, which changed its colors, whence he reasoned on the effect of mixing water with oil and colors." Bull. N. P. 76 ; Pat. Rep. 54.

Buller, J. : "The true foundation of all patents must be the manufacture itself, and so says the statute, (21 Jac. 1, c. 3,) and whether the manufacture be with or without principle, produced by accident or art, it is immaterial." 2 H. Bl. 486.



number of cases the whole invention is but the conception of the idea ; and, whatever may have been the thought or labor before the idea was conceived, or the result attained in practice, yet, inasmuch as the result itself gives no evidence of thought or labor, neither may have been exercised. This is peculiarly the case with many of the inventions which are applications of known agents and things, and described above, under the third class. In most of these cases, the practical application of the idea is easy and simple, and will suggest itself as soon as the idea ; in fact, the whole invention is realized as soon as the idea is conceived. In these cases, then, it is only necessary that the possibility of thought, design, and skilful ingenuity having been exercised, should not be excluded. The simple substitution of one material for another, as brass for copper, in any construction, may or may not be an invention or discovery which could be the subject-matter of letters-patent.<sup>1</sup> The peculiar

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J. Bell, K. C.: "It was not necessary to show that an invention was the result of long application or deep skill. He remembered that, many years ago, ladies wore flowered tabbies. The method of working the flower was discovered by mere accident; a man having spit upon the floor, placed his hot iron on it, and observed that it spread out into a kind of flower. He afterwards tried the experiment upon linen, and found it produced the same effect. He then obtained a patent, and lived to make a considerable fortune." 29 Rep. Arts, 2d Ser. 311.

Sir N. Tindal, C. J.: "In point of law, the labor of thought or experiments, and the expenditure of money, are not the essential grounds of consideration, on which the question, whether the invention is or is not the subject-matter of a patent, ought to depend. For, if the invention be new, and useful to the public, it is not material whether it be the result of long experiments and profound research, or whether by some sudden and lucky thought, or mere accidental discovery." *Crane v. Price*, Pat. Rep. 411.

<sup>1</sup> The following argument and illustration were used by an eminent counsel, (Mr. Leach, afterwards Sir John Leach, V. C.) in a case of an alleged improvement in the construction of barrels for containing gun-powder. "The making of an old machine with new mater could not be a discovery, and the plaintiff could claim no protection for an invention, the only merit of which consisted in being made of brass, instead of wood. When tea was first introduced into this country, earthen tea-pots were used, but could a person who made the first one of silver be entitled to a patent?" *Walker v. Congreve*, 29 Rep. Arts. 2d ser. 311.

Utility of  
the change  
a test.

circumstances of each case must be carefully examined, for the purpose of determining this question. The utility of the the change, and the consequences resulting therefrom, will afford the requisite tests.<sup>1</sup>

Colorable  
variations  
not *per se*  
insufficient.

Many of the supposed cases of insufficiency of invention have been cases of colorable variation from, and consequent infringement on, existing patents; this is a very different ground, and such changes might, under other circumstances, have been sufficient to support a patent. Thus, the immersion of cloth in a steam bath, with a view of damping it, was held an infringement on a previous patent for an improvement in the manufacture of cloth, by immersing it in hot water; that is, the substitution of steam for hot water was not, under the circumstances, a sufficient change or invention to support a patent. Also, the substitution of steam, as the means of heating hollow rollers through which the slivers of wool passed, was held an infringement on the practice of heating the hollow rollers by iron heaters.<sup>2</sup> If

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If the composition of matter now called a silver tea-pot had existed before the introduction of tea, and been used for making similar infusions from other ingredients, its appropriation or application to making tea could not have been the subject-matter of a patent, this being the double use of a known thing, as of a medicine celebrated for one disease to another; but, if such a composition of matter were not known, there might have been patents for a silver pot, as well as for the first earthen tea-pot. No one can say that a silver and an earthen pot are the same manufacture. See per Lord Abinger, C. B., Pat. Rep. 208.

<sup>1</sup> It was objected to Crane's patent, that the substitution of anthracite for coke or other coal, or the combination of anthracite and hot blast, was not a sufficient invention. But the Court of Common Pleas said: "We are of opinion that, if the result produced by such a combination be either a new article, or a better article, or a cheaper article to the public than that produced before by the old method, that such combination is an invention or manufacture intended by the statute, and may well become the subject of a patent." *Crane v. Price*, Pat. Rep. 409.

<sup>2</sup> In *R. v. Fussell*, and *R. v. Lister*. See *Law & Practice*, 47.

The immersion of cloth in hot water, according to Daniell's patent, is said to have improved its value one guinea per yard; had the immersion in steam, according to Russell's patent, been attended with a still further improvement, it may be presumed that such a change, by virtue of the great utility thereof, would have been held a sufficient invention. See *post*, p. 559.

a particular arrangement, combination, or composition of matter, some independent instrument or machine, as described under the first class, or in connection with the carrying out into practice certain laws or principles, as under the second class, is the substance and essence of the invention, the mere substitution of one material for another will seldom be a change in the character of the invention. It is still a particular composition of matter, and any change in the kind or species of manufactured matter produces no change in the character of the invention.

Also, if the change be immaterial or useless, that is, if the machine will do as well without it, or if some process, or series of processes, be not substantially affected thereby, so that neither a different result is obtained, nor the same result in a more economical or beneficial manner, that change will not be sufficient to support a patent.

What  
change not  
sufficient.

In Arkwright's patent, one article, the filleted cylinder, was proved to have been used, both in the manner the defendant used it, and likewise when covered with card, and Buller, J., said: "If it were in use both ways, that alone is an answer to it. If not, there is another question, whether the stripe in it makes any material alteration? For, if it appears, as some of the witnesses say, to do as well without stripes, and to answer the same purpose, if you suppose the stripes never to have been used before, that is not such an invention as will support the patent." And, again, with respect to another article, the can, "if it be so, it brings the case to a short point indeed, for, if nothing else is new, the question is, whether it is material or useful. The witnesses on the part of the prosecution say it is of no use at all. In the first place, they had that before which answered the same purpose, though not made exactly in the same form — it was open at the top, it twisted round and laid the thread precisely in the same form, and had the same effect this had — so, if it was new, it was of no use; but they say it is not new, for, though it was not precisely the same shape, in substance it was the same thing; that is not contradicted."<sup>1</sup> The preceding remarks of the learned

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<sup>1</sup> R. v. Arkwright. Printed case, 185; Dav. Pat. Cas. 137; and Pat. Rep. 73.

judge point out very distinctly what changes will not be sufficient to constitute such an invention as will support a patent ; and furnish tests readily applicable to cases of that class. The following words of the same learned judge contain a better, because more general test : " If there be any thing material and new, which is an improvement in the trade, that will support a patent."<sup>1</sup> The words, " improvement of the trade," constitute a definition of the preceding, and it may be said that will be material and new which is an improvement in the trade, so that the preceding leads obviously to the conclusion, that any change which is conducive to a more beneficial result will support a patent ; that result which is obtained more beneficially, using that term in the very wide and extended sense which it admits of, must be, in some respect or other, new. The improvement of trade, is the great end and object of patents, and whatever conduces to this, is within the spirit of the common and statute law.

A change sufficient, if an improvement in trade.

This question arises practically in actions for infringement.

The question of the sufficiency or insufficiency of an invention to support a patent does not often present itself under this distinct form, but indirectly, in actions for infringement.<sup>2</sup> The alleged piracy will, in general, contain, at the least, some colorable or formal variation, and the question will be, whether the change be colorable and formal, or substantial and essential ; that is, whether it be such as would of itself support a patent ; this question will be determined according as the jury are of opinion that the invention has or has not been infringed, or by a special finding, as that what is new is essential, or useless, and a colorable evasion. This is often a question of extreme difficulty and nicety, especially in the cases of minute additions to complicated machinery, or of the substitution of mechanical equivalents, or of one substance for another, in one of several processes, and in chemical cases ; but an analysis of the case, with a view to classifying it under one of the preceding classes, will show whether, by reason of the change, the invention has acquired a distinct character.

The analysis already given of the words of the statute,

<sup>1</sup> Ibid. ; Printed case, 182 ; Pat. Rep. 71.

<sup>2</sup> See Brunton's case, *post*.

and the definition of the term 'manufacture,' as a particular series of processes pursued, renders any extended remarks on the applicability of the preceding to the various classes of cases unnecessary.

To a large proportion of the cases, especially of those included under the first and second classes, the words of the learned judge, in Arkwright's case, would be obviously applicable, and a little consideration will show that, in all cases, the sufficiency of the invention may be examined and ascertained by the principles there laid down, although the peculiar circumstances of some of the cases might be conceived to render the preceding observations less literally applicable, there being no combination of mechanical parts. But, whatever the peculiar form of the objection to the sufficiency of the change in Arkwright's case, it must be observed that the gist and substance of the objection is, that no new manufacture was thereby produced; the change, as specified, was not such as could be said to be sufficient to constitute a new manufacture; the cotton spun after this change would be essentially the same manufacture as that spun before; the change produced no manufacture which could be said to be material and new, or an improvement of the trade. It is the effect on the result which must be looked at, and not the change in the particular means or intermediate processes which contribute to that result. The change is insufficient, not because of its own minuteness, but because it fails to constitute a new manufacture.

A new manufacture the test.

In Lord Dudley's patent, the change was simply the substitution of pit-coal for charcoal; but that change constituted a new manufacture — new, both in respect of the constitution of the iron and its mode of production.

Dudley's.

The result also, in this case, was highly beneficial, for the wood of the country was nearly exhausted, and this discovery led to a totally new source of trade.<sup>1</sup>

In Neilson's, the change was, blowing the furnace with hot instead of cold air; and, in Crane's, the substitution of anthracite as the fuel where hot blast was used. Both these

Neilson's.

Crane's.

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<sup>1</sup> *Ante*, and Pat. Rep. 14. See also Mansell's patent for substituting coal for wood in the manufacture of glass. Pat. Rep. 17.

inventions introduced into use minerals previously intractable, and were thus of great benefit to the country.<sup>1</sup>

**Derosne's.** In Derosne's patent, the invention was the application of charcoal to filter sugar. Here an entire change took place in one process, and this would constitute a new manufacture. Sugar had never been produced in this way before.<sup>2</sup>

**Hall's.** In Hall's case, the application of the flame of gas to singing off the superfluous fibre of lace, constituted a new manufacture; this final process had, till then, been done in an imperfect and inefficient manner; but the result obtained was highly beneficial, and a great improvement in the trade.<sup>3</sup>

**Daniell's.** In Daniell's case, cloth, manufactured in the usual manner, was rolled up and saturated in hot water. This additional process constituted a new manufacture, and very much increased the value of the cloth. But the subsequent patent

**Fussell's.** of Fussell, for an improved manufacture of cloth, by immersing it in steam till it became saturated, was held an infringement. This change might be said to constitute a new manufacture, but the change of means was very obvious, and the result not superior to that obtained under the previous patent of Daniell.<sup>4</sup>

Change  
small, but  
result im-  
portant.

In these, and many other cases which might be mentioned, the changes, though apparently trifling, were extremely important in their consequences, and the results to which they led were new manufactures and great improvements in the trade. It is obvious, in all these cases, that no estimate can be formed of the amount of invention, except from the importance of the result, and that, though the exercise of thought, design, and ingenuity is not excluded, and probably took place, the merit of the invention is in having conceived and realized the idea, and derived means for carrying it out into practice, so as to constitute a useful invention.

Sufficiency  
depends on  
the result.

The sufficiency of the invention, then, does not depend on the thought, labor, or skill, which has been bestowed upon it, but upon its having a distinct and independent character,

<sup>1</sup> See *ante*, and Pat. Rep. 273 and 375.

<sup>2</sup> *Ante*, and Pat. Rep. 152.

<sup>3</sup> *Ante*.

<sup>4</sup> It was generally believed that the use of steam was neither so good nor so convenient, and only a colorable evasion.

and leading to results beneficial to the manufactures of the country.<sup>1</sup>

But, though the amount of invention, and the consequent sufficiency of a change to support a patent, cannot be directly estimated or ascertained, they may be estimated and ascertained from the result; and, with this view, two things have to be considered, viz., the nature of the change and its consequences. The change may be considerable, that is, may, of itself, exhibit traces of thought, skill, and design; the consequences produced thereby may be important and considerable, or unimportant and inconsiderable; in the former case, both the means and the result may be new; in the latter, the means new and the result the same; in both cases there will be a sufficient invention. Next, the change, in itself, may be inconsiderable or minute, that is, exhibiting, of itself, no trace of thought, skill, or design; and the consequences produced thereby may be important and considerable, or unimportant and inconsiderable; in the former case both the means and the result will be new, and there will be a sufficiency of invention — in the latter, the means will be new, but the result unchanged, or there will be an insufficiency of invention. These four cases, the only cases which can occur, are all included in the following general proposition and practical test — that, whenever the change and its consequences, taken together and viewed as a sum, are considerable, there must be a sufficiency of invention to support a patent. Thus, when the change, however minute, leads to consequences and results of the greatest practical utility, as in the case of Dudley's, Crane's, Hall's, and Daniell's patents, the above condition is satisfied; but if the consequence, as in the case of Fussell's, be inconsiderable, the change also being inconsiderable, and such as would most readily suggest itself to any one, the condition is not fulfilled, and the invention is not sufficient to support a patent.<sup>2</sup>

Sufficiency may be ascertained from the result.

If the change and its consequences as a sum are considerable.

<sup>1</sup> See *ante*, p. 552, n.

<sup>2</sup> This consideration of the change and its consequences in connection, will be found sufficient, and consistent with all the cases. See *Law & Practice*, 11.

The consideration of the change alone is quite inadequate. See *post*.

The utility  
the real test.

The utility, then, of the change, as ascertained by its consequences, is the real practical test of the sufficiency of an invention ; and, since the one cannot exist without the other, the existence of one may be presumed, on proof of the existence of the other. Whenever, then, utility is proved to exist in a very great degree, a sufficiency of invention to support a patent must be presumed. And the fact of one invention having come into use to the exclusion of another of prior date, and apparently extremely similar, will lead to the presumption that there was some difference, and a sufficient difference to support a patent — the one invention having failed, and the other having come into use.<sup>1</sup>

Sufficiency  
of invention  
may be pre-  
sumed from  
great utili-  
ty.

Cannot be  
presumed  
from appa-  
rent change

The following important practical conclusion may be derived from the preceding, namely, that the sufficiency of an invention cannot be judged of or ascertained by the apparent amount of thought, design, or skill, which may or may not have been exercised in producing it. In many cases, as those in which the invention consists in the application of some known substance or thing, the result can exhibit no trace of the thought, design, or labor expended, however great it may have been ; and, in those cases in which the result itself may exhibit traces of that thought and design, as in some complicated piece of machinery, or elaborate composition of matter, that result may turn out to be useless, and so the invention, which is to all appearances most sufficient, may, in fact, be most insufficient.<sup>2</sup>

Brunton's  
case.

The difficulties in which this question is involved, and the necessity of recourse to other tests and considerations than the apparent design or amount of invention, cannot be better illustrated than by the celebrated case of Brunton's patent.<sup>3</sup> In this case, the question of the sufficiency of an invention to support a patent, was much considered, and the learned

<sup>1</sup> This was the principle of the decision in *Hullett v. Hague*. (2 B. & Ad. 370.)

There were two patents, extremely similar, for improvements in evaporating sugar ; the one had failed, but the other had come into use.

<sup>2</sup> If an invention be useless, the letters-patent will be void, whatever the skill or ingenuity which has been exercised. See *Law & Practice*, 117 and 118.

<sup>3</sup> *Brunton v. Hawkes*, 4 B. & Ald. 341.



judges drew some very minute and subtle distinctions, of great practical importance in similar cases.

The letters-patent were "for improvements in the constructing of ships' anchors and windlasses, and chain cables or moorings." The windlass was admitted to be new, and the jury found the chain cable and the anchor to be new and useful. A rule nisi was granted for a new trial, on the grounds of insufficient invention to support a patent, both in the cable and anchor; and the new trial was granted on the latter ground only.

The first chain cables (Captain Brown's) were made with twisted links, a wrought-iron stay being fixed across the middle of the opening of each link, to keep it from collapsing.

The invention in Brunton's cables consisted in making the links with straight sides and circular ends, and in substituting a cast-iron stay with broad ends, adapted to the side of the link, and embracing them. The particular form of link and the broad-ended stay were adopted, from considerations respecting the action of forces, and the nature of the strains to which cables were subjected, which were fully set forth in the specification. On this part of the invention, Abbott, C. J.: "As at present advised, I am inclined to think that the combination of a link of this particular form with the stay of the form which he uses, although the form of the link might have been known before, is so far new and beneficial as to sustain a patent for that part of the invention, if the patent had been taken out for that alone." The chain cable.

Eayley, J.: "The improvement in that respect, as it seems to me, is shortly this: so to apply the link to the force to operate on it, that that force shall operate in one place, namely, at the end; and this is produced by having a bar across, which has not the defect of the bar formerly used for similar purposes. The former bars weakened the link, and they were weak themselves and liable to break; and then, if they broke, there might be a pressure in some other part. Now, from having a broad-ended bar, instead of a conical one, and having it to lap round the link, instead of perforating it, that inconvenience would be avoided; and,

therefore, the present impression on my mind, as to this part of the case, is, that the patent might be supported."

Best, J., doubted whether the patent could be supported in respect of the chain cable, on the ground that the specification claimed the form of the link as new, and had not confined the claim to the use and introduction of the stay between the links, embracing the sides instead of entering them.

The substitution of a broad-headed for a pointed stay in the link of the cable a sufficient invention.

The above learned judges were agreed, that the substitution of the stay or bar was, under the circumstances, a sufficient invention to support the patent; and the utility of this substitution, in respect of the result, and in connection with the principles which were to be carried out by that substitution, is very prominently adverted to by all of them. The change was but small, but the principles upon which it was adopted, as set forth in the specification, exhibited traces of thought and design having been exercised about it, and the evidence at the trial proved the superiority of that chain cable above those of Captain Brown, who had himself adopted the improvement. So that the general observations of Buller, J., and the practical tests to which they lead, are applicable to, and were fully recognized in, this case.

The anchor.

The invention in respect of the anchor consisted in making the two flukes or arms in one piece, with such a thickness of metal in the middle, that a hole might be pierced through it for the insertion of the shank, instead of joining the two flukes in two distinct pieces, by welding to the shank; the hole being made conical or bell-mounted, so that no strain could separate the arms from the shank, by which means the mischief to the materials, from repeated heating, was avoided, only one heating being necessary to unite the end of the shank perfectly with the sides of the conical hole. With respect to this, Abbott, C. J.: "The mode of joining the shank to the flukes of the anchor is, to put the end of the shank, which is in the form of a solid cylinder, through the hollow and conical aperture, and it is then made to fill up the hollow, and to unite itself with it. Now, that is precisely the mode by which the shank mushroom anchor is united to the mushroom top, by which the shank of the adze anchor is united to its other parts. It is, indeed, the

mode by which the different parts of the common hammer, and the pick-axe, also, are united together. Now, a patent for a machine, each part of which was in use before, but in which the combination of the different parts is new, and a new result produced, is good; because there is a novelty in the combination. But here the case is perfectly different; formerly, three pieces were united together; the plaintiff only unites two; and, if the union of those two had been effected in a mode unknown before, as applied in any degree to similar purposes,<sup>1</sup> I should have thought it a good ground for a patent; but, unfortunately, the mode was well known, and long practised. I think that a man cannot be entitled to a patent for uniting two things instead of three, where that union is effected in a mode well known and long practised for a similar purpose. It seems to me, therefore, that there is no novelty in that part of the patent, as affects the anchor; and, if the patent had been taken out for that alone, I should have had no hesitation in declaring that it was bad.”

The simple application of a mode known and practised for a similar purpose, not a subject-matter.

Bayley, J. : — “As to the ship’s anchor, in substance, the patent is, for making in one entire piece that which formerly was made in two. The two flukes of the anchor used to consist of distinct pieces of iron, fastened to the shank by welding. In the present form, the flukes are in one piece, and, instead of welding them to the shank, a hole is made in the centre, and the shank introduced through the hole. Could there be a patent for making, in one entire piece, what before had been made in two pieces? I think not;<sup>2</sup> but if it could, I think that still this would not be new. In the mushroom and adze anchors, the shank is introduced into the anchor by a hole in the centre of the solid piece; and, in reality, the adze

The making in one piece that which had been made in two, not a subject-matter.

<sup>1</sup> The words of the chief justice, as applied in any degree to similar purposes, and the subsequent illustration, are very important; the law requiring originality of idea and conception — as in the application of explosive mixture in Forsyth’s case, of gas in Hall’s, and of charcoal in Derosne’s. See *ante*, 546 – 550.

<sup>2</sup> This dictum of the learned judge must evidently be received and applied with great caution; for many cases may occur, in which the doing this very thing would be a most important new manufacture — the avoiding a joining may be most essential and material.

anchor is an anchor with one fluke, and the double-fluke anchor is an anchor with two flukes. After having had a one-fluked anchor, could you have a patent for a double-fluked anchor? I doubt it very much. After the analogies alluded to in the argument of the hammer and pick-axe, I do not think that the mere introducing the shank of the anchor, which I may call the handle, in so similar a mode, is an invention for which a patent can be sustained. It is said, in this case, that the mushroom anchor and adze anchors are not ship's anchors, but mooring anchors. I think they are ship's anchors; they are not, indeed, such anchors as ships carry with them, for the purpose of bringing the ship up; but if the ship is required to be stationary at a particular place, then the common mode of making it stationary is by the mushroom anchor. So the mode adopted to bring a ship, containing a floating light, to an anchor, is by mooring her to one of these mushroom anchors. That is the description of an anchor for a hold-fast to the ship. The analogy between the case of the mushroom anchor and of the adze anchor is so close to that of the present anchor, that it does not appear to me that this discovery can be considered so far new, as to be the proper ground of a patent. In reality, it is nothing more than making in one piece what before was made in two, and introducing into this kind of anchor the shank, in the way a handle is introduced into a hammer or pick-axe."

Applica-  
tion of a  
known  
mode to a  
new sub-  
ject-matter.

Best, J. : — "Then, as to the anchor, the invention claimed is, that he avoids the welding; but that certainly is not new, because that has been done before, in the case of the mushroom and adze anchor, the pick-axe, and the common hammer. It is said, however, that his invention consists in the application of that which was known before to a new subject-matter, namely, that he had, for the first time, applied to the manufacturing of anchors a mode in which welding was avoided, which, however, had been long practised in other instances, to which I have before alluded; but he does not state that as the ground upon which he had applied for his patent, nor state in the specification, that, it being known that the process of welding weakens the anchor, he had first applied to an anchor a mode long practised in the manufacture of other instruments, namely, of

making the two flukes of one piece, instead of two. If he had so described his process, the question would then arise, whether that would be a good ground for a patent. I incline to think, however, that, it having been long known that welding may be avoided in instruments of a similar form; the application of that practice, for the first time, to a ship's anchor, cannot be considered a new invention, and, therefore, that it is not the ground of a patent." Application of known practice to similar purpose.

The judges were unanimous in their opinion, that the patent, in respect of the improvements in the anchor, could not be supported; that the application of a mode, well known and generally used in several of a class of cases, to one particular case of that class, did not constitute some manner of new manufacture, within the meaning of the statute. If the sufficiency be judged of only from the invention, which the results themselves, the cable and the anchor, exhibit, the substitution of a conical end to the shaft, and of a conical hole in the piece constituting the two arms, whereby the pieces were supposed to be more securely united, is as great a change as the substitution of a broad-headed for a pointed stay across a link. And yet there can be no doubt that the invention in the cable was of a much higher order than in the anchor. The improvement in the cable was the carrying out into practice certain important principles respecting the action of forces, by the substitution of the broad-headed for the pointed stay, in a link of a particular form. The improvement in the anchor was the avoiding the welding, by means well known and practised in cases extremely similar. There was originality of idea in the application of the broad-headed stay, as subsidiary to the principles for the improvement of the chain-cable, as laid down in the specification, but there was no originality of idea or of method in avoiding the welding, this being borrowed from cases which would obviously and immediately present themselves.

It should also be remarked, with the view of pointing out whatever may have contributed to the subtle distinctions which were drawn in this case, that evidence of the great superiority of the cable was given at the trial, but nothing appears to have been said respecting the anchor. And this has been confirmed by the result, for the cable is

in constant and general use, but anchors are made as before the patent.

This case is much relied on, whenever the sufficiency or insufficiency of an invention is in question, either directly or indirectly; but, in applying this, as all other decisions on patents, great care is requisite; and, unless the peculiar circumstances of each case are fully examined and comprehended, the greatest uncertainty will prevail.<sup>1</sup>

Saunders's. In Saunders's patent, for improvements in buttons, the specification stated that the improvements consisted in the substitution of a flexible material, in the place of metal shanks, on buttons, and described a mode of substituting the one for the other, by means of a collet; but the use of the collet was not claimed as part of the improvements, and a flexible shank was old. So that, in this case, the only invention claimed was the substitution of one known thing for another, a flexible for a metal shank, both having been in use before. A button was old; and any invention must, therefore, have reference to the mode of manufacture, and the mode described in the specification was not claimed as new.<sup>2</sup>

Kay's. In Kay's patent, for new and improved machinery for preparing flax, hemp, and other fibrous substances, by power, the specification declared the invention to consist in new machinery for macerating the flax, &c., and also in improved machinery for spinning the same. The inven-

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<sup>1</sup> It would be very easy to point out instances, in which decisions in one case have been applied to other cases, without any regard to the peculiar circumstance of each case; and this has mainly contributed to the opinion, so often expressed, of the obscurity and uncertainty of the Law of Patents. See Parl. Rep. A. D. 1829.

<sup>2</sup> Saunders v. Aston, 3 B. & Ad. 881.

The real invention, in this case, was the substitution of a flexible shank by the special aid of the collet, and, had this been properly claimed in the specification, the patent would have been good.

Littledale, J.: — "Neither the button nor the flexible shank was new, and they did not, by merely being put together, constitute such an invention as could support the patent. It is contended, that the operation of the collet, under the present patent, is new, but that it is not stated in the specification as the object of his invention, and it is, in fact, only one mode of carrying it into effect." *Ibid.*

tion, in respect of the latter object, consisted in placing the retaining and drawing rollers nearer to each other than was usual, and at assigned distance; but, inasmuch as the rollers were usually made capable of movement, and adjustable at variable distances, the Court of Common Pleas were of opinion, that the fixing them at an assigned distance was not a good subject-matter; or, in other words, that spinning at a particular distance did not constitute a new manufacture, it having been the practice to spin at variable distances.<sup>1</sup>

Many other cases have been already mentioned, in which the sufficiency of the invention was really in question, and the general conclusion from them is, that any change, however minute, if leading to a beneficial result in the arts and manufactures, is sufficient to support a patent.<sup>2</sup>

#### *Novelty and Non-user.*

The question of novelty has already been, in a great measure, considered, but the words of the statute not only render novelty an essential incident of the subject-matter, but also explain and qualify it, in a manner which is of great practical importance. By the statute, letters-patent are to be granted for the "sole working or making of any manner of new manufactures, which others, at the time of making such letters-patent and grant, shall not use;"<sup>3</sup> and there is a condition in the letters-patent themselves, for rendering them void if the invention be not a new invention, as to the public use and exercise thereof, within that part of the United Kingdom for which the letters-patent are granted.<sup>4</sup> Novelty defined as non-user. Thus the incident of novelty is qualified, explained, and

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<sup>1</sup> *Kay v. Marshall*, Pat. Rep.

The substance of the invention, in this case, was spinning at a much less distance than had before been done, namely, at about two and a half inches, in conjunction with maceration; but the specification did not thus describe and claim the invention. *Ibid.*

<sup>2</sup> See *ante*.

<sup>3</sup> 21 Jac. 1, c. 3, s. 6; Law & Practice, 45.

<sup>4</sup> See Law & Practice, 80, n. k.

interpreted by the incident of non-user; and that will be new, within the meaning of the words of the statute; and of the letters-patent, which is discovered then for the first time, or which is communicated to others then for the first time, whether discovered by a person's own wit and ingenuity, or learned from abroad.<sup>1</sup>

The time at which the invention must be new.

The invention must, according to the words of the statute, be new at the time of the grant of the letters-patent; and these generally bear date the day of affixing the great seal; but, by an early statute, (18 H. 6, c. 1,) they may bear date the day of the delivery of the warrant from the crown, the Privy Seal Bill, into Chancery, but not before that day; and the Chancellor will, on petition, order them to bear the date of this delivery, but he cannot order an earlier date.<sup>2</sup> This, considering the delay which may occur in the progress of the letters-patent through the different offices,<sup>3</sup> and the law that user or publication of the invention, before the date of the letters-patent, would vitiate them, has been much commented upon by practical men as a hardship, and endangering of their invention.<sup>4</sup>

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<sup>1</sup> This exception, in favor of a communication from abroad, is an essential part of the common law, and within the policy of the statute, which was intended to encourage new devices within the realm, and, whether learned by travel or by study, the country is equally benefited, provided a new manufacture be introduced. See *Edgbury v. Stephens*, Pat. Rep. 35; also, per Eyre, C. J., 2 H. Bl. 491.

<sup>2</sup> See Statute Law & Practice, 33; and *In re Cutler's Patent*, Pat. Rep. 418.

This statute was passed to prevent certain practices prevalent, in respect of grants of lands and offices, whereby letters-patent were antedated, and parties in possession unjustly deprived. But, in the case of letters-patent for inventions, it is occasionally productive of hardship, as where a party has been delayed, by circumstances over which he had no control, in passing his patent through the offices.

<sup>3</sup> From a month to six weeks. See Law & Practice, 15.

<sup>4</sup> See Parl. Rep. on Patents.

This evil is practically much less than at first sight may appear, from the caution which inventors exercise. But still, in cases where workmen must be employed, the disclosure to a rival in trade, or publication to the world, may subject the real inventor to much annoyance, though the law would ultimately render him safe and secure in his rights.



It has not yet been decided how far the publication of an invention, independent of any user, would vitiate a subsequent patent. A project or scheme may have been published as likely to succeed, but, notwithstanding such publication, may never have been tried; would this publication vitiate the patent of a person, who, without seeing this book, or receiving any suggestion, hits upon this same project, and finds it a useful invention, and introduces it into actual use and exercise? <sup>1</sup> By the words of the statute, user by others at the time of the grant, is the criterion of novelty, so that the words of the statute include all cases of re-invention. In the great fluctuations to which manufactures are subject, a process or mode of manufacture, once in constant use and exercise, may be totally lost sight of; he who brings this again into use, renders the same service to the manufactures of the country as he who invents that which was never before known. The words of the statute also include those cases in which projects have been abandoned after many experiments, and an independent inventor or successful competitor, availing himself of what has been before done, perfects the project, and brings the invention into use.<sup>2</sup>

The letters-patent contain a proviso by which the grant is voidable, "if the said invention is not a new invention as to the public use and exercise thereof," without any reference to time.<sup>3</sup>

The very difficult and important question of novelty in connection with user, was presented in the following luminous manner, by Sir N. Tindall, C. J., in a recent case: <sup>4</sup> "It will be for the jury to say whether the invention was or

<sup>1</sup> It is generally assumed that publication in any printed book would vitiate a subsequent patent, but this seems to rest on the presumption that the subsequent inventor learnt it from such book.

<sup>2</sup> See per Tindall, C. J., in *Galloway v. Bleaden*, 15 Rep. Arts, N. S.; Law & Practice, 81, and Pat. Rep.

<sup>3</sup> The Courts would probably hold the proviso to have reference to the time of the grant, so as to render it consistent with the statute.

It may be doubted whether the condition contained in this proviso, as usually inserted in the letters-patent, be legal; but it appears to be wholly unnecessary. *Brown v. Annandale*, Pat. Rep. 443.

<sup>4</sup> *Cornish v. Keene*, Pat. Rep.

was not in public use and operation at the time the patent was granted. There are certain limits to this question. A man may make experiments in his own closet — if he never communicates these experiments to the world, and lays them by, and another person has made the same experiments, and, being satisfied, takes a patent, it would be no answer to say that another person has made the same experiments; there may be several rivals starting at the same time; the first who comes and takes a patent, it not being generally known to the public, that man has a right to clothe himself with the authority of the patent, and enjoys the benefit of it. If the evidence, when properly considered, classes itself under the description of experiment only, that would be no answer. On the other hand, the use of an article might be so general as to be almost universal; then you can hardly suppose any body would take a patent. Between these two limits most cases will range themselves, and it must be for the jury to say, whether the evidence convinces their understanding that the subject of the patent was in public use and operation at the time the patent was granted.”

Public use defined.

These words were explained by Lord Abinger, C. B., as follows, in a recent case: <sup>1</sup> “What is meant by public use and exercise is this — A man is entitled to a patent for a new invention; if his invention is new and useful, he shall not be prejudiced by any other man having invented that before and not made any use of it. So that the meaning of public use is this — a man shall not, by his own private invention, which he keeps locked up in his own breast, or in his own desk, and never communicates it, take away the right that another man has to a patent for the same invention. Public use means this — that the use of it shall not be secret, but public.”<sup>2</sup>

Secret invention.

An invention practised in secret, is not such a user as will vitiate the patent of a subsequent and independent inventor; and there are many other cases of the same class — as, where an invention has been long known and practised, within the premises of the inventor, by his own workmen

<sup>1</sup> *Carpenter v. Smith*, Pat. Rep.

<sup>2</sup> See, on this subject, Pat. Rep. 44, and *Jones v. Pearce*, *ibid.* 124.

and servants. Such knowledge and practice, so far as the public are concerned, are a perfect secret. This important doctrine was fully recognized in a recent case, in which a set of paddle-wheels were made in the inventor's premises, under injunctions of secrecy; and, when finished, were taken to pieces, packed up, and sent abroad, and there used. The Court of Exchequer held, that this was not a user which would vitiate a subsequent patent; and Mr. Baron Parke, in delivering judgment, said: "The words of the statute are, that grants are to be good for the sole working or making of any manner of new manufacture within the realm, which others, at the time of making such grants, did not use; and the proviso in the patent in question, founded on the statute, is, that, if the invention be not a new invention as to the public use and exercise thereof in England, the patent should be void. The word 'manufacture,' in the statute, must be construed in one of two ways; it may mean the machine when completed, or mode of constructing the machine. If it mean the former, undoubtedly there has been no use of the machine, as the machine, in England, either by the patentee himself or any other person, nor indeed any use of the machine in a foreign country, before the date of the patent. If the term 'manufacture' be construed to mean the mode of constructing the machine, there has been no use or exercise of it in England, in any sense which can be called public. The wheels were constructed, under the direction of the inventor, by an engineer and his servants, with an injunction of secrecy, on the express ground that the inventor was about to take out a patent, and that injunction was observed; and this makes the case so far the same as if they had been constructed by the inventor's own hand, in his own private workshops."<sup>1</sup>

In this case, the workmen were under the injunction of secrecy, it being the intention of the inventor to take out a patent; so that all which was done previously was in the nature of an experiment, the patent being taken out as soon as the success of the invention was ascertained. But the principles of the preceding cases are also applicable to those

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<sup>1</sup> Morgan v. Scaward, Pat. Rep. 194.

User in premises of the inventor without publication.

cases of inventions long known and practised by the inventors, within their own premises, and by their own servants and workmen, but without any injunctions as to secrecy, or the intention of taking out a patent; and which inventions become the subject of subsequent patents to other and independent inventors. It would seem that such patents may be valid, there having been no user which can be said to be public, the grantee being an independent inventor. A user by the inventor, without letters-patent, would effectually vitiate any subsequent patent obtained by him, but the case of a subsequent inventor who had had no means of knowing of this prior invention and user, is very different; the law not recognizing any exclusive right or property in an invention not protected by letters-patent.<sup>1</sup>

### *Utility.*

The question of utility as an incident of an invention, and its importance as a practical test of the sufficiency of that invention, has already been fully considered. It remains only to point out in what manner some degree of utility is, both by statute and common law, rendered an essential incident of every invention which is the subject-matter of letters-patent. The statute, having defined the nature or class of inventions to which letters-patent may be granted, adds the words, "so as also they be not contrary to law or mischief-

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<sup>1</sup> This curious and difficult question has never yet been before the Courts; but the conclusion to which the cases lead us is of great importance. The policy of the law, if this conclusion be correct, must be sought in the consideration that the grant of letters-patent is intended rather as a benefit to the public than a reward to the inventor; and that, if he omit to inform the public of a useful invention which may become lost by reason of such neglect, he must forfeit the privileges incident to such a disclosure, to a subsequent inventor, who instructs the public, by enrolling a record of his invention, in the manner prescribed by law.

But *quære*, whether the original inventor could be restrained from continuing to use it in the same manner? The statute (21 Jac. 1, c. 3) did not alter the common law. See suggestion of Dallas, J., in *Hill v. Thompson*, Pat. Rep. 240.

ous to the state, by raising prices of commodities at home, or hurt of trade, or generally inconvenient;” and these words seem to express the old common law of the realm.<sup>1</sup> Till very recently, no precise construction has been put upon these words, but many cases have been mentioned as within their scope and meaning, as, for instance, an invention requiring or supposing a practice in contravention of some statute, or contrary to religion and public morals.<sup>2</sup> But cases, not open to objections on such grounds, may be conceived, in which the monopoly granted by letters-patent of an invention totally useless would be to the hurt of trade, and generally inconvenient, as fettering improvement in some particular branch of the arts and manufactures. Thus Parke, B., in delivering the judgment of the Court, says: “A grant of a monopoly for an invention which is altogether useless, may well be considered as mischievous to the state, to the hurt of trade, and generally inconvenient, within the meaning of the statute, which requires, as a condition of the grant, that it should not be so; for no addition or improvement to such an invention could be made by any one, during the continuance of the monopoly, without obliging the person making use of it to purchase the useless invention; and, on a review of the cases, it may be doubted whether the question of utility is any thing more than a compendious mode, introduced in comparatively modern times, of deciding the question whether the patent be void under the statute of monopolies; and the Court does not mean to intimate any doubt as to the validity of a patent for an entire machine or subject, which is, taken altogether, useful, though a part or parts may be useless, always supposing that such patent contains no false suggestion.”<sup>3</sup>

The uselessness of parts of an invention will not vitiate letters-patent, if a result, on the whole beneficial, be obtained; <sup>Uselessness of parts.</sup> nor will the uselessness of an original invention vitiate letters-patent for an improvement thereon, since the

<sup>1</sup> See 11 Co. Rep. 86 b; and Pat. Rep. 197.

<sup>2</sup> See Law and Practice, 50, note i.

<sup>3</sup> Morgan v. Seaward, Pat. Rep. 197.

<sup>4</sup> Haworth v. Hardcastle, 1 Bing. N. C. 189.

defect may be cured by this 'subsequent patent.<sup>1</sup> In all the decisions connected with this subject, the Courts have been guided by their opinion as to what would or would not tend to an improvement of the trade.

### *Review of Practical Proceedings.*

Review of  
practice.

Sugges-  
tions to  
the crown.

The speci-  
fication.

The various matters treated of in the preceding pages may be illustrated and confirmed, by a review of the practice of obtaining letters-patent. The party soliciting the letters-patent represents to the crown that he is in possession of an invention, which, as he believes, is new, and will be of great public utility.<sup>2</sup> Thus the conditions of novelty and of utility are at once introduced, as material and essential; the failure of either of them would be a ground for avoiding the letters-patent, as having been obtained on false suggestion.<sup>3</sup> Upon this representation, and on the consideration that it is entirely at the party's own hazard, whether the invention is new, or will have the desired success, and that it is reasonable for the crown to encourage all arts and inventions which may be for the public good, the law officer of the crown recommends the grant, with a proviso, requiring the inventor, within a certain time, to cause a particular description of the nature of his invention, and in what manner it is to be performed, to be enrolled in the Court of Chancery.<sup>4</sup> This proviso gives rise to the specification, upon which instrument so much depends; for, if it does not satisfy the terms of this proviso, and, further, is not a full and fair disclosure of all the inventor knows, the letters-patent will be void.<sup>5</sup>

<sup>1</sup> Per Lord Tenterden, C. J., *Lewis v. Davis*, 3 Car. & P. 502.

<sup>2</sup> See Pr. Forms, 1; Law & Practice, 65.

<sup>3</sup> The ordinary grounds of false suggestion are, the representation that he has invented more, or something different from, that which he really has invented. See Law & Practice, 77, n. d.

<sup>4</sup> See Pr. Forms, VI.; Law & Practice, 71.

<sup>5</sup> As to the form and requisites of the specification, see notes to Pr. Forms, XIV.; Law & Practice, 86. See Pat. Cases, 8, n., and 36, n. c., as to the origin of the specification.

It is of some importance to distinguish the various requi- Various sites and conditions, in respect of the subject-matter of letters-patent. The nature of the subject-matter is defined by the statute; novelty is an essential requisite, introduced by the statute, and, if the invention be altogether useless, the letters-patent will be voidable, under the statute, as prejudicial and generally inconvenient; so that the invention must possess some degree of usefulness. This incident of utility, introduced by the statute somewhat indirectly and by implication, is rendered essential, by reason of the suggestion of that incident in applying for the grant, and the adoption of that suggestion by the crown. The condition for the enrolment of the specification, introduced at the suggestion of the law officer of the crown, in comparatively recent times,<sup>1</sup> might be dispensed with under extraordinary circumstances, on the suggestion of the same authority; but the specification being intended for the benefit and protection of the public, it is highly improbable that letters-patent, without this condition, will ever again be granted.<sup>2</sup>

Such being the manner in which this clause is introduced, the form and effect of it are important to be observed. Until the specification is enrolled, the crown and the public are equally ignorant of the nature of the invention, except so far as it may be disclosed by the title of the invention contained in the letters-patent, and this, in general, conveys no information, beyond pointing out to what department of the arts and manufactures the invention relates.

The proviso recognizes a distinction between the inven- The nature of the invention distinct from the means. tion and the means by which the invention is carried into practice — the inventor is to describe and ascertain the nature of his invention, and in what manner the same is to be performed. Now, it has been already pointed out,<sup>3</sup> that an invention may have a character independent of the means by which it is carried out or reduced into practice;

<sup>1</sup> About 11 Anne; Law & Practice, 6. See Pat. Cases, 36, n. e.

<sup>2</sup> See per Lord Eldon, L. C.; Law & Practice, 71; *Ex parte Heathcote In re Lacy*, Pat. Cases, 431.

<sup>3</sup> *Ante*, p. 543.

Subsequent  
invention of  
means no  
objection.

the description of that invention must also follow the distinctions there adverted to, and, by an attentive regard to these distinctions, the specification will be such as strictly to satisfy the condition or proviso of the letters-patent. It has been raised, as a ground of objection to a patent, that parts of the apparatus described in the specification were invented subsequently to the date of the letters-patent; but this objection has been overruled, on the grounds that time is given to an inventor to prepare his specification, for the express purpose of allowing him opportunity of maturing the practical details of his invention.<sup>1</sup> This doctrine is consistent with the justice of the case; for it must be remembered that the necessity of secrecy, prior to the sealing of the letters-patent, renders proper experiments extremely difficult. Further, this doctrine is not only consistent with, but a necessary consequence of, the views advanced in the preceding pages, respecting invention. And here the question presents itself, when, consistently with the language of the petition, a person may be said to be in possession of an invention. This may be truly said to be the case, so soon as the party has satisfied himself of the applicability in practice to the peculiar requirements of the case, or the truth, or law, or property of matter proposed to be applied. A correct acquaintance with these truths, laws, and properties, combined with some experience in practical inventions, will enable a party to say, with confidence, that he is in possession of an invention, although it may never have been put into actual practice.<sup>2</sup> This view of the case is consistent with the history of invention generally, from which, so far as we can judge, it would appear that many of the greatest improvements have been the result of accident, rather than of design.<sup>3</sup>

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<sup>1</sup> See in *Crossley v. Beverley*, Pat. Cas. 112, and per Tindal, C. J., in *Jones v. Heaton*, 11 Lon. J. C. S.

<sup>2</sup> Many inventions do not admit of such a practical test in the first instance. Take the case of an improvement in the manufacture of iron, requiring a new furnace to be erected, and the expenditure of much time and money, to try a single experiment of a really practical nature. - See Pat. Cases, 402.

<sup>3</sup> The perception of what is wanted, or of the defects of an existing manufacture, is generally the real difficulty to be overcome.



It is also important to remark, that letters-patent may be considered in the light of a reward, for having found out and-introduced into public use and exercise something not before known, whereby either a new trade is brought into the realm, or fresh channels for the employment of capital and industry are opened; and there is this advantage in a reward of this nature, that it is exactly proportioned to the value of the invention to the public. If the invention be useless, it is soon lost sight of, and the patentee derives no benefit from it; but if it be of great utility, and come into general use and exercise, the patentee receives a corresponding reward.

### *The Principle of an Invention.*

The use of the term "principle," in reference to the subject-matter of letters-patent, has given rise to so much discussion, that some remarks upon it may not form an improper conclusion to this part of the subject. It is said, most truly, that there cannot be a patent for a principle; that a principle must be embodied and applied, so as to afford some result of practical utility in the arts and manufactures of the country, and that, under such circumstances, a principle may be the subject of a patent.<sup>1</sup> In a

A principle  
per se not  
the subject-  
matter of  
letters-  
patent.

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<sup>1</sup> The fair mode of looking at a patent and the specification is, to inquire what is the spirit of the invention, or the principle, and this must be embodied in some mode or method, because it is admitted, on all hands, you cannot take out a patent for a principle. But, although the law says, undoubtedly and correctly enough, that you cannot take out a patent for a principle, that is, for a barren principle, when you have clothed it with a form, and given it body and substance, in which the principle may live, and produce the benefit which you claim to result from it, why then, in many cases, (and it is a consolation to every just and honest feeling one has on the subject of invention,) although you cannot have a patent for a principle in substance, you can have a patent for the spirit of your invention; for, if any other person comes and clothes the spirit of your invention with a different body, and puts that principle in use in any other shape or fashion, it is always a question for a jury, whether, however different in appearance, in shape, in form, in method — whether the article or the practice, if it

The principle of an invention and the principle embodied distinguishable.

Truths of exact and laws of physical science.

certain sense, indeed, a principle, so embodied and applied, may be considered as the subject of a patent, but it is that embodiment and application which is, in reality, the subject-matter of the patent. The principle, so embodied and applied, and the principle of such embodiment and application, that is to say, the principle of the invention, are essentially distinct; the former being a truth of exact science, or a law of natural science, or a rule of practice; the latter, the practice founded upon such truth, law, or rule. The want of a due appreciation of this distinction was the foundation of much of the discussion which occurred in the proceedings on Watt's patent, but the distinction was fully recognized and adopted by Mr. Justice Buller, in the following passage:—“There is one short observation, arising on this part of the case, which seems to me to be unanswerable, and that is, that, if the principle alone be the foundation of the patent, it cannot possibly stand, with that knowledge and discovery which the world were in possession of before. The effect, the power, and the operation of steam, were known long before the date of this patent; all machines, which are worked by steam, are worked by the same principle. The principle was known before; and, therefore, if the principle alone be the foundation of the patent, though the addition may be a great improvement, (as it certainly is,) yet the patent must be void *ab initio*. But then it was said, that, though an idea or principle alone would not support the patent, yet that an idea reduced into practice, or a practical application of a principle, was a good foundation for a patent, and was the present case. The mere application, or mode of using a thing, was admitted, in the reply, not to be a sufficient ground; for, on the court putting the question, whether, if a man, by science, were to devise a means of making a double use of a

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be matter connected with the arts and manufactures, be or be not, substantially, an adaptation of the principle, applied with the same view, to answer the same end, and merely imitated in substance, whatever differences there may be in point of form. See per Sir F. Pollock, Pat. Cases, 145. See, also, in proceedings on Neilson's patent, *ibid.* 342.

<sup>1</sup> 2 H. Bl. 485, 486. See, also, *ante*, p. 522, n. 2.

thing known before, he could have a patent for that, it was rightly and candidly admitted that he could not.<sup>1</sup> The method and the mode of doing a thing are the same, and I think it impossible to support a patent for a method only, without having carried it into effect, and produced some new substance. But here it is necessary to inquire, what is meant by a new principle reduced into practice? It can only mean a practice founded on principle, and that practice is the thing done or made, or, in other words, the manufacture which is invented." The assertion, then, that there cannot be a patent for a principle, amounts, in effect, to nothing more than an assertion, that a truth of exact, or a law of natural science, or a rule of practice, is not any manner of manufacture; the discovery and enunciation of such truth, law, or rule, may be a valuable addition to our knowledge, but it cannot be described as the working or making of some manner of new manufacture, which alone can be the subject-matter of letters-patent.

The term "principle" admitting of the above-mentioned varieties of construction and interpretation, according to the circumstances under which it is used, it becomes important to advert to certain other distinctions, existing in the nature of the principles which are to be embodied and applied, so as to constitute invention, which may be the subject of letters-patent. Those principles which may be defined and classified as truths of exact science, or laws of natural science, are, in their nature, especially distinct from those which may be defined as rules of practice; the former having, so to speak, an independent and original existence,<sup>2</sup> the latter being derived from and originating altogether with man, and, as such, of necessity, partaking in some degree of the character of invention. Further, the truths of exact or mathematical science differ from the laws of natural science in this — that the former are founded on definition, the latter on observation and experiment — and both differ from

Principles distinguishable into classes.

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<sup>1</sup> As to the case of a new application, which may be properly described as a double use, and which cannot be the subject-matter of letters-patent, see *Pat. Cases*, 208, n.f.

<sup>2</sup> See the observations of Mr. Baron Alderson on the subject, *Pat. Cases*, 342, and *post*.

the class of principles which have been described as rules of practice.

*Instances.*  
Hadley's  
sextant.

The instrument known by the name of Hadley's quadrant, or sextant, furnishes a good illustration of the embodying and application of the truth of exact science and of a law of natural science, namely, of certain propositions of geometry for the measurement of angles, and of the laws of light when incident on and reflected by plane surfaces inclined to each other. The principle of this invention was the arranging and combining inclined reflecting surfaces, and certain radii and arcs of a circle, so as to give effect to such truths and laws for the measurement of the angular distance of objects; the principle, then, of this invention is a rule whereby these truths of exact science and laws of natural science become embodied.<sup>1</sup> In the same manner, Dollond's invention<sup>2</sup> of the achromatic object glass was founded on certain truths of exact science respecting curved surfaces, and the laws of light when refracted by those surfaces; the combining a convex lens of crown glass and a concave lens of flint glass, of proper curvatures, was the rule of practice by which these object glasses were made.

Dollond's  
object  
glasses.

Clegg's gas  
meter.

The principle of Clegg's invention of a gas meter partakes, to a certain extent, both of a law of natural science and of a rule of practice. The laws of natural science, respecting the motion of a solid immersed in a fluid, are applied in conjunction with certain rules of practice for the admission and emission of gas, and the opening and closing of certain orifices for that purpose, and the result was an apparatus for measuring the quantity of gas supplied.<sup>3</sup>

The oscillation of the pendulum takes place according to the laws of falling bodies, and the vibration of the balance according to the laws of elasticity of bodies; these principles

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<sup>1</sup> The beautiful toy called the Kaleidoscope depends, in like manner, on the laws of the reflection of light, incident on and reflected by two plane mirrors, inclined at a small angle to each other; the objects and the eye being situated between the mirrors, in such a position that each object gave a number of images on the circumference of a circle.

<sup>2</sup> See specification of this invention, Pat. Cases, 43.

<sup>3</sup> See specification and description of the invention, Pat. Cases, 103, and *post*.

are embodied in our ordinary clocks and watches. The laws of latent heat, of the rapid evaporation of liquids in vacuo, of the union of certain substances chemically, in definite proportions, and of electricity, have given rise to a great variety of useful inventions, in which these laws respectively are embodied. Such truths, laws, or principles, having an existence anterior to, and independent of, the operations of man, cannot, of themselves, be the subject of letters-patent; but, when they have been embodied or applied in practice to a particular purpose, then the invention to which they give rise is properly described as founded on those laws, and the principle of the invention is the practice whereby those laws are enabled to produce useful effects. Thus, the inventions of Watt were applications of the laws of the elasticity and of the latent heat of steam; and a great variety of other instances might be adduced, in which well known principles<sup>1</sup> are, so to speak, embodied and clothed, or connected with a material form, for some particular and specified purpose in the arts and manufactures, and so as to be in a condition to act and to produce effects.

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<sup>1</sup> It is of considerable importance that the meaning of the term principle, when applied in the strictest sense as above described, should be distinctly understood. For this purpose, it may be well to add a few illustrations of the truths of exact science, and of the laws of physical or natural science. All propositions founded on definitions, and to which, by reason of their being so founded, the term "demonstration" is applicable, are truths of exact science; as the well-known propositions of geometry, that, in a right-angled triangle, the square of the hypotenuse is equal to the sum of the squares of the opposite sides; that the angle at the centre of a circle is double the angle at the circumference; or that similar triangles are to each other in the duplicate ratio of their homologous sides. The truths or laws of natural science differ from the preceding in this, that they are not founded on definition, or capable of demonstration in the strict sense of the term; they are rules derived from observation, and describing what will take place under particular circumstances. Thus, we speak of the laws of falling bodies, that is, the rules respecting their motions; of the laws of the atmosphere, of light, of electricity, all which are merely rules derived from observation; we learn by experience that such phenomena, under certain circumstances, will present themselves, and, one state of things being supposed, we are able to anticipate and predict the following.

Such being the import of the term principle, as applied to inventions founded on the truths of exact science and laws of natural science, it remains to consider the use of that term, with reference to those cases where no truth of exact science or law of natural science is embodied, but where the arrangements and rules of practice are not referable immediately, if at all, to such truths or laws, but to certain rules of practice. The cases placed in the first and third classes will illustrate inventions founded simply on a rule of practice, in contradistinction to inventions founded on a truth of exact, or a law of natural science. Thus, the principle of Arkwright's invention was the use and arrangement of certain known things, in a particular manner, for spinning cotton.<sup>1</sup> The principle of Huddart's invention was the compressing the yarns and drawing them through a tube.<sup>2</sup> The principle of Jupe's,<sup>3</sup> for an expanding table, was the cutting the table across, and making the parts to diverge from the centre, and withdrawing the sections, and filling up the openings by leaves or suitable pieces. The principle of Galloway's improvements in machinery for propelling vessels<sup>4</sup> was the arrangement of parts for giving different positions to the float boards, during the revolution of the paddle-wheel; and the principle of the invention under his second patent<sup>5</sup> was the arrangement of float boards in a fixed position, according to an assigned law or rule. In all such cases, the principle of the invention is the particular arrangement, combination, composition, or application, according to the rule of operation and construction, by which the working or making of the manufacture, the subject of the letters-patent, is to be carried out in practice. The cases placed under the third class serve to illustrate those inventions, the principle of which may be said to be founded simply on a rule of practice, and not on any truth of exact,

Arkwright's case.

Huddart's.

Jupe's.

Galloway's two patents

<sup>1</sup> See Pat. Cases, 56.

<sup>2</sup> *Ibid.* 85.

<sup>3</sup> *Ibid.* 143.

<sup>4</sup> See in *Morgan v. Seaward*, Pat. Cases, 166; and Lord Brougham's judgment in the Privy Council on extending the patent. *Ibid.* 727.

<sup>5</sup> See in *Galloway v. Bleaden*, 15 Rep. Arts. N. S., and Pat. Cases, 521.

or law of natural, science. In many of the cases under the third class, the principle of the invention is the application or adaptation of some known property or quality of a substance; as in Forsyth's patent,<sup>1</sup> where the principle of the invention was the application of detonating powder in discharging artillery; and in Hall's, the application of the flame of gas to singing lace.<sup>2</sup> Thus, in every class of cases, the dictum of Buller, J.,<sup>3</sup> that a principle reduced to practice, and a practice founded on principle, are really the same thing, is fully supported.<sup>4</sup>

An important practical question arises with reference to many of the cases which have been placed under the second and third class,<sup>5</sup> as to the extent to which the inventor can appropriate to himself the application of the truth of exact science, or the law of natural science, or the rule of practice constituting the peculiar feature of his invention. In respect of the truths of exact science, or laws of natural science, independent of their application, no invention which is the subject of letters-patent, or special property, so to speak, can exist. The question then arises, to what extent may such truth or law, by reason of its application, be appropriated, and the answer is, to the extent of all other applications which a jury shall consider as a piracy of the former. It is impossible to lay down any general rules on this point; the subject does not admit of being so dealt with, and it should always be borne in mind, with reference to the law of patents, that each case must be judged of by its peculiar circumstances. The following observations, by Mr. Baron Alderson, in the recent proceedings on Neilson's patent,<sup>6</sup> are deserving of peculiar attention, and exhibit, in a

The 'appropriation of a principle.

<sup>1</sup> Pat. Cases, 97.

<sup>2</sup> *Ibid.* 97.

<sup>3</sup> *Ante*, 45.

<sup>4</sup> If any further observations were necessary in support of the preceding, it might be remarked that the phrases, "the principle of my invention consists in," or "my invention consists in," naturally suggest themselves in many cases indifferently, as synonymous expressions in describing an invention, thus showing that, substantially and practically, there is no difference in these phrases.

<sup>5</sup> *Ante*, pp. 535, 544.

<sup>6</sup> See report of this case, Pat. Cases, 342.

clear manner, the difficulties of the case: "I take the distinction between a patent for a principle, and a patent which can be supported, is, that you must have an embodiment of the principle, in some practical mode, described in the specification, of carrying the principle into actual effect, and then you take out your patent, not for the principle, but for the mode of carrying the principle into effect. In Watt's patent, which comes the nearest to the present of any you can suggest, the real invention of Watt was, that he discovered that, by condensing steam in a separate vessel, a great saving of fuel would be effected, by keeping the steam cylinder as hot as possible, and applying the cooling process to the separate vessel, and keeping it as cool as possible, whereas, before, the steam was condensed in the same vessel; but then Mr. Watt carried that practically into effect, by describing a mode which would effect the object. The difficulty which presses on my mind here is, that this party has taken out a patent, in substance like Watt's, for a principle — that is, the application of hot air to furnaces — but he has not described any mode of carrying it into effect. If he had, perhaps he might have covered all other modes as being a variation. It is very difficult to see what is a patent for a principle, and for a principle embodied in a machine, because a patent can only be for a principle embodied in a machine. You cannot take out a patent for a principle. I have always thought that the real test was this: that, in order to discover whether it is a good or a bad patent, you should consider that what you cannot take out a patent for must be considered to have been invented *pro bono publico* — that is to say, the principle must be considered as having had an anterior existence before the patent.<sup>1</sup> Now, supposing, in Watt's case, it had been known that to condense in a separate vessel was a mode of saving fuel, then Watt certainly would have taken out a patent for carrying into effect that

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<sup>1</sup> The following observation of the same learned judge is important with reference to this question:—"You see you do not interfere with any benefit which the inventor has, if he knows of no particular mode of carrying his principle into effect. You do not interfere with any benefit which he ever had, if he never had a practical mode of carrying it into effect." Printed case, 4to. p. 198.



principle by a particular machine ; but then his patent would have been for a machine, and, if I invented a better machine for carrying out the principle, I do not infringe his patent, unless my machine is a colorable imitation. But you must embody the principle in the machine, and you stop all possible improvements, because you infringe the principle, which you have no right to do — it is the principle of the machine. It is very difficult for a jury to distinguish that, but it is the most essential thing possible. Now, here, supposing that it had been known that hot air applied to a furnace was a great improvement on cold air, and that this person had taken out his patent, and this patent was a patent for the application of a well-known thing — the hot air to furnaces — then he takes out a patent for applying it, by means of an intermediate reservoir between the blast furnace and the bellows ; then, surely, any body else may apply the same principle, provided he does not do it by a reservoir intermediately between the blast furnace and the bellows — and the question for a jury is, whether or not a long spiral pipe is a reservoir — if it be not a reservoir, or a colorable imitation of a reservoir, it is no infringement.”

The same learned judge, in another case, the proceedings on Jupe’s patent,<sup>1</sup> remarked, with reference to Clegg’s gas meter,<sup>2</sup> as follows : — “ There never was a more instructive case than that. I remember very well the argument put by the Lord Chief Baron, who led that case for the plaintiff, and succeeded. There never were two things to the eye more different than the plaintiff’s invention, and what the defendant had done in contravention of his patent-right. The plaintiff’s invention was different in form — different in construction ; it agreed with it only in one thing — and that was, by moving in the water, a certain point was made to open, either before or after, so as to shut up another, and the gas was made to pass through this opening — passing through it, it was made to revolve it. The scientific men, all of them, said, the moment a practical scientific man has got that principle in his head, he can multiply, without end,

The appropriation of a principle.

<sup>1</sup> Jupe v. Pratt, Pat. Cases, 146.

<sup>2</sup> Pat. Cases, 103.

the forms in which that principle can be made to operate. The difficulty which will press on you, and to which your attention will be called in the present case, is this: you cannot take out a patent for a principle — you may take out a patent for a principle, coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle, but invented some mode of carrying it into effect. But then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by the jury as piracy of your original invention. But then the difficulty which will press on you here is, that, on the evidence, there does not appear to have been any mode of carrying the principle into effect at all invented by you.”

The attention of this learned judge having been called, in the recent proceedings on Neilson's patent, to his former remark, his lordship observed, that he should more correctly have said, “that you take out a patent for a mode of carrying a principle into effect.” But the peculiar circumstances of Jupe's patent do not seem to require any such qualification, nor was any such made, in speaking of the analogous case of Clegg's invention. The occasion appears fully to explain the introduction of that qualification. In the proceedings on Neilson's patent, the learned judge was speaking of those philosophical principles which are the common property of all; in the proceedings on Jupe's patent, he was speaking of the principle of the particular invention, which was the cutting a table into four segments or sections, and causing them to diverge, and filling up the intermediate spaces, so as to constitute an expanding table, and which, in its very terms, implies that which is the subject of a patent.<sup>1</sup>

Questions of this nature are difficult to deal with in the

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<sup>1</sup> See *ante*, p. 542. It was a question, in this case, whether the specification claimed any thing in respect of the means by which the divergence was to be effected — that is, anything beyond the mere cutting the table into four sections, which should be made to diverge, and filled up as above described in the text. See Pat. Cases, 56.

abstract, but the same difficulty does not present itself in the practical form in which the question generally arises — namely, in a contest between two inventors, in an action for an infringement. In such cases, the question is, whether a mode subsequently invented and adopted is a substantial and independent invention, or only a colorable variation, and borrowed from the previous invention. In the determination of this question, the character of the original invention, the merit to be attributed to its author, the means by which the principle is carried out, the object of its application and the end attained, the success and utility of the prior invention, and the comparative merits of the two inventions, are all elements for the consideration of the jury. The well-known truths of exact science, and the laws of natural science, and the properties and qualities of matter, are the common property of all; the applications or adaptations of such to the various wants of man, constitute inventions which are the subject of letters-patent. But there are general truths, laws, properties and qualities, not yet discovered; the person who discovers any such, and also applies and adapts them, is an author of a much higher order and more distinguished merit than he who applies and adapts what is already known. The property, however, which such an one can in law acquire, by reason of such discovery and application, does not differ in extent from that of the preceding class. But, in deciding the practical question of infringement by a subsequent invention, a very different estimation is necessarily made of the two; he who applies and adapts knowledge before in the common stock, is, *prima facie*, entitled to less consideration than he who brings into the common stock the knowledge which he applies.<sup>1</sup> In such cases, however, it is essential that the principle should be given to the world, and also, further, that the means should be fully described, and that the means, as described, should be sufficient for the purpose. It not unfrequently happens, that the principle is kept back, and that

Practical  
questions of  
appropriation.

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<sup>1</sup> This consideration, however, is again controlled by the benefit which may have been conferred on the public — that is, by the utility of the invention.

certain arrangements only, without any general rule, are given to the world. If this be from ignorance, the invention is merely a fortunate accident, and the merit is comparatively small, and little advantage is conferred on the public; if from design, then, though the merit may be great, the inventor does not comply with what the law requires, and, moreover, fails to secure his invention, to the extent which he otherwise might.

The discovery of truths of exact science, or of laws of natural science, is an event of rare occurrence, and within the opportunities and powers of few; but fresh applications of such truths and laws are of constant occurrence, and exercise the powers of a large class of individuals.<sup>1</sup> But the principal source of inventions consists in the application of the known qualities of known substances. With respect to many of these, the question arises, to what extent is the use or application of those substances appropriated by the inventor? This question was raised in the recent proceedings on Walton's patent<sup>2</sup> for improvements in cards. It had occurred to Mr. Walton, that the bed in which the teeth are set, requires a certain degree of elasticity and flexibility, so as to allow of the teeth yielding to any obstacle with which they meet in the operation of carding. This idea having suggested itself, the giving that elasticity and flexibility to the backs of cards, by means of caoutchouc or Indian rubber, would naturally occur to a person acquainted with the properties of that substance, and a patent was taken

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<sup>1</sup> The following illustration of the discovery of two laws of physics in recent times, and of the practical application of those laws, is mentioned by Mr. Carpmael, in his work on the Law of Patents. Dr. Faraday discovered that carbonic acid gas, under a pressure of several atmospheres, assumed a liquid form; Sir H. Davy discovered that, on the application of heat to this liquid, vapor of great expansive force was produced, which was readily condensed by contact with cold surfaces, and he was led to observe, that these properties might, probably at no very distant period, be rendered available for working machinery. Sir M. I. Brunel subsequently invented an engine, worked by the elastic force of the vapor of condensed carbonic acid gas, by alternately bringing heat and cold to act by a peculiar arrangement for this purpose.

<sup>2</sup> Walton v. Potter, 1 Scott's N. R. 90; and Pat. Cases, 604, 606 and 610.

out for improvements in the manufacture of cards, the invention consisting in giving to the backs elasticity, derived from caoutchouc or Indian rubber. The discovery of the want of the quality of elasticity in the backs of cards, must be regarded as the important feature in this case, and it was remarked by one of the learned judges, in the course of the argument, that the claim in Walton's specification was more limited than necessary; it might have been for giving the property of elasticity to the backs of cards, that not having been done before, from whatever source that elasticity is derived, and in whatever manner contributed. Such a claim, however, would, in the opinion of Mr. Baron Alderson, have amounted to a claim for a principle. In the proceedings on Neilson's case, that learned judge said — "If you claim every shape, you claim a principle. There is no difference between a principle to be carried into effect in any way you will, and claiming the principle itself. You must claim some specific mode of doing it. Then the rest is a question for the jury."<sup>1</sup>

What is a claim to a principle.

The above remark is strictly applicable to the case now under consideration; in Neilson's case, the suggested claim was of hot air to furnaces, however applied; in Walton's case, the suggested claim was of elasticity to the backs of cards, from whatever source derived. The decision of the Court of Exchequer, in Neilson's case, is an express authority that a claim of the kind last mentioned would be a claim for a principle. The court said — "It is very difficult to distinguish it from the specification of a patent for a principle, and that, at first, created, in the minds of some of the court, much difficulty; but, after full consideration, we think that the plaintiff does not merely claim a principle, but a machine embodying a principle, and a very valuable one too. We think the case must be considered as if, the principle being well known, the plaintiff had first invented a mode of applying it, by a mechanical apparatus, to furnaces; and his invention then consists in this — by interposing a receptacle for heated air between the blowing apparatus and the furnace. In this receptacle, he directs the air to be

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<sup>1</sup> See in Neilson v. Harford, Pat. Cases, 355.

heated, by the application of heat externally to the receptacle, and thus he accomplishes the object of applying the blast, which was before of cold air, in a heated state, to the furnace."<sup>1</sup> It may, however, be asked, to what does this amount, but to an illustration of the manner in which the proviso in the letters-patent is to be complied with?—namely, that the inventor shall particularly describe and ascertain the nature of his invention, and in what manner the same is to be performed. The mere announcement of the idea that a furnace should be blown with hot instead of cold air, would not, in itself, be the subject of letters-patent, nor would it be a compliance with the proviso as to the specification. And, in the course of the argument in Neilson's case, the Lord Chief Baron observed—Suppose it was a patent in these words: 'A patent for an invention by which air shall be heated, before it enters the furnace. I do not claim a patent either for the material or the shape; but the air must pass through a process of heating, before it enters the furnace.'"<sup>2</sup> And, again, "I suppose, in making the specification, he considered that it was proper to propose some mechanical illustration of his principle. But suppose he had said this—My invention consists in the application of heated air to the furnace, by means of any of the methods by which air is now heated, or any other method, allowing air so heated to pass through a tube or aperture to the furnace. Probably he apprehended that, if he stated specifically any form of heating air, he might then have infringed on some other patent; therefore, supposing he had said simply—My invention consists in the application of heated air, by making the air pass through a heating process, before it arrives at the furnace, but I do not intend to describe the form of the receptacle; I leave that to the local circumstances and judgment of the parties to deal with such matter, stating only that 'the hotter you get the air the better.'"<sup>3</sup> It is impossible to read these observations of the learned Chief Baron, except as a judgment that a claim to the application of hot air, in whatever manner applied, might be a good

What amounts to a claim to a principle.

<sup>1</sup> Neilson v. Harford, Pat. Cases, 371.

<sup>2</sup> Printed case, 4to. 181.

<sup>3</sup> *Ibid.* 185, 186.

claim. And, in connection with this, it is material to observe, that Neilson was the first to discover the advantage resulting from the use of hot air; since, so far as blast furnaces were concerned, it was generally believed that cold air was more advantageous than hot, and expensive contrivances were resorted to for keeping the blast cold, the generally observed fact of the furnaces doing better in winter than in summer, being referred to the circumstance of the air being colder; the real cause being that the air contains much less vapor in winter than in summer.

In the preceding cases of Clegg's, Jupe's, and Neilson's inventions, it must be observed that the inventor was also the discoverer of the principle, or leading feature of the invention, and this creates a material distinction between this and the other class of cases of common occurrence, in which the party is not the discoverer of the principle, but, the principle being well known, he is the inventor of its application. To a certain extent, the invention in Clegg's case comes within this class; the law of natural science on which it partly rests, namely, that of the motion of a solid, of less specific gravity than the fluid in which it rests, being well known. The principle of the invention, however, is more extensive than this, since it includes the alternate filling and discharging of the vessel of gas, as the remark of Mr. Baron Alderson, above cited, clearly shows; on the whole, therefore, in that case, the party was the discoverer of a principle, as well as the inventor of the means. But several cases have occurred, in which, the principle being well known, and the quality and use of the substance notorious, invention has existed in respect thereof. In these cases, inasmuch as no exclusive privileges can exist, in respect of the law, property, or quality, it becomes necessary to consider the object with which, the means by which, and the end for which, the application takes place.

Applica-  
tions of a  
known law  
or quality.

The proceedings on Kneller's patent<sup>1</sup> furnish an illustration of cases of this kind. The invention was an application of the well-known law of physics, that the evaporation of a liquid is promoted by a current of air; for instance,

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<sup>1</sup> Hullett v. Hague, 2 B. & Ad. 370.

that, if the air be calm, the evaporation from the surface of water goes on slowly, compared to the evaporation which takes place when the surface is acted on by a brisk breeze, the fact being, that the evaporation is obstructed according to Dalton's views, partly by the mechanical obstruction of the particles of air, but principally by the superincumbent atmosphere of vapor ; in proportion, then, as the latter is removed by the motion of the air, evaporation goes on more rapidly. The extension or modification of this general principle, by forcing air into the lower part of a liquid, for the purpose of thereby occasioning an increased evaporation, was made the subject of experiments, which were communicated to the Royal Society in 1755, and published in their Transactions.<sup>1</sup>

In 1822, a patent was granted to Knight and Kirk, for "a process for the more rapid crystallization and for the evaporation of fluids, at comparatively low temperatures, by a peculiar mechanical application of air." The specification, having stated the general inconveniences of applying heat to fluids, described the invention to consist in propelling a quantity of heated air into the lower part of the vessel containing the liquor, and causing such heated air to pass through the whole body of the liquor in finely divided streams, by the means of perforated pipes, coiled, or otherwise shaped and accommodated to the nature or form of the vessel through which the air from the blowing apparatus should be forced into the liquid. This invention was not brought into use, and appears to have failed altogether. In 1828, Kneller had a patent for "certain improvements in evaporating sugar, which improvements are also applicable to other purposes ;" the specification declared the invention to consist in forcing, by means of bellows, or other blowing apparatus, atmospheric, or any other air, either hot or cold, through the liquid or solution subjected to evaporation, by means of pipes, whose extremities reach nearly to the upper or interior area of the bottom of the pan, or boiler, containing such liquid or solution.

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<sup>1</sup> See an account of the great benefit of blowing showers of fresh air up through distilling liquors, in the Phil. Trans. vol. xlv. p. 312.



In an action for the infringement of Kneller's patent,<sup>1</sup> it was urged, on the part of the defendant, that Kneller claimed, as an original invention, that which was but an improvement on a prior patent; but Lord Tenterden, C. J., and the court, sustained the patent, being of opinion that the methods described in the two specifications were essentially distinct. In applying the above decision, it must be observed that the prior invention had failed and been abandoned; at all events, it was not in use. Had the former invention succeeded, but little doubt can be entertained that, in a contest between the two patents, the latter would have been held to be an infringement on the former; for it must be observed, that the object with which, and the end for which, the air was introduced, were the same in the two cases, and the variations in the means were such as would obviously suggest themselves to any mechanic, who set himself about devising different means of introducing the air. And, in further confirmation of this remark, it may be observed that, in Neilson's case, though the object was the same, the detail of the means by which the result was obtained was very difficult, and the result attained immeasurably superior.

The uncertainty in which the preceding decisions would appear to leave the question, to what extent a principle may be secured, is more apparent than real, and no case has occurred in which letters-patent have been held to be vitiated, by reason of the generality of the claim. Questions of this kind can only be decided on the special facts of each case. It has been suggested,<sup>2</sup> that, from the result of the cases, it would appear that the courts are guilty of the apparent absurdity of saying, "You cannot have a patent for a principle, *eo nomine*, but, if you come before us in modest guise, disclaiming any right to a principle, then, if you have really invented one, we will take care individually to protect you in the exclusive enjoyment of it." But this apparent discrepancy vanishes, if the distinction above suggested, respecting the use of the terms, be adopted. A prin-

Result of  
the cases.

<sup>1</sup> Hullett v. Hague, 2 B. & Ad. 370.

<sup>2</sup> See 6 Jur. 330. See also in the same work, p. 433, a notice of a case, (Arnott v. Perry,) which seems to illustrate and confirm some of the preceding remarks.

ciple, *eo nomine*, is but the enunciation of a proposition or fact; the principle of the invention is the embodiment of that proposition or fact in a practical form, and, as such, may, in some cases, be ensured to the inventor in its fullest extent.

#### ON THE TITLE OF THE INVENTION.

An invention, which is the subject of letters-patent, having been made, the next question is, as to the terms in which it should be described by a party, on applying for letters-patent. The party, soliciting the royal grant, represents or suggests to the crown that he has invented something, or is in possession of an invention, for some specific purpose or object.<sup>1</sup> The terms in which he describes that thing, purpose, or object, is called the title of the invention, and of the letters-patent subsequently granted. The requisites of the title are thus described by Lord Chancellor Lyndhurst:<sup>2</sup>

Requisites of the title. “The description in the patent, (that is, the title,) must, unquestionably, give some idea, and, so far as it goes, a true idea, of the alleged invention, though the specification may be brought in aid to explain it.” This doctrine has been recognized and explained in a recent case.<sup>3</sup> The title was “improvements in carriages;” the invention was improvements in fixing and adapting German shutters, in those descriptions of carriages to which such shutters were applicable. The Court of Queen’s Bench held, that the title was too large, the invention not applying to all carriages; but the Court of Exchequer Chamber reversed that decision, and held, that mere vagueness and generality in a title, without any evidence leading to an inference of fraud, was not a ground for avoiding the patent.

Ambiguity and generality. In the recent proceedings on Neilson’s patent, it was objected that the title, “an improved application of air to produce heat in fires, forges, and furnaces, where bellows or other blowing apparatus are required,” was not a proper

<sup>1</sup> *Ante*, p. 574.

<sup>2</sup> In *Sturtz v. De la Rue*, 5 Rus. 527; Law & Pr. 66.

<sup>3</sup> In *Cook v. Pearce*, 8 Jur. 499; 13 Law J. (N. S.) Q. B. 189; M. S. S.

description of an invention which had reference simply to the temperature of the air when applied, such an invention being the application of improved air, and not an improved application of air; that the invention so described might have extended to the use of a refrigerating, as well as a heating apparatus. But the Court of Exchequer held, that this title was sufficient; that, though ambiguous, it was explained and reduced to a certainty by the specification, and not at variance with it.<sup>1</sup>

The above cases will show the general requisites of the title, and to what extent it may be explained and reduced to certainty by the specification. But in order to point out to inventors, certain considerations by which they must be guided in choosing and in determining on the title of their invention, it will be necessary to advert to the principles of law applicable to this subject, and to call attention to the cases which have occurred, and to the grounds upon which they were decided.

If a party has not invented that which he represents or suggests to the crown that he has invented, and upon which representation and suggestion the letters-patent are granted, the crown has been deceived, and the consideration for the grant fails; he may have invented something else which is very useful, but it must be that for which the letters-patent are granted. And this rule is founded on public policy and justice, otherwise there would be no certainty in the grants of the crown, and great practical injustice and inconvenience would result.<sup>2</sup>

In the case of Wheeler's patent,<sup>3</sup> "for a new and improved method of drying and preparing malt," the invention was of a coloring matter to be derived from malt, and not of any improved method of drying or preparing that well-known substance. The specification described an invention which consisted in submitting malt, prepared by the ordinary process, to a high degree of temperature, and then producing a coloring substance for beer. Thus there was a false

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<sup>1</sup> See Pat. Cases, 333 and 373.

<sup>2</sup> See *post*.

<sup>3</sup> *The King v. Wheeler*, 2 B. & Ald. 349.

suggestion to the crown, and a clear inconsistency between the letters-patent and specification; the invention was of something different from what was represented.

Felton's. In the case of Felton's patent,<sup>1</sup> for a "machine for sharpening knives, scissors, and razors," the invention, as described in the specification, was inapplicable to scissors. Here there was false suggestion in law; the invention made and described in the specification was not co-extensive with that for which the letters-patent were granted. The real defect, in this case, was in the specification omitting to describe the modification of the machine requisite for sharpening scissors; there was no false suggestion in fact, the party having made the invention represented, but omitted to describe it.

Jessop's. On the same principle, letters-patent for a watch, the invention being only of a particular movement, was held void.<sup>2</sup>

Galloway's In Galloway's patent, assigned to Morgan,<sup>3</sup> "for improvements in steam-engines, and in machinery for propelling vessels, which improvements are applicable to other purposes," it appeared that one of the inventions was not an improvement in steam-engines generally. Mr. Baron Parke, in delivering the judgment of the Court of Exchequer, said: "We cannot help seeing, on the face of this patent, as set out in the record, that an improvement in steam-engines is suggested by the patentee, and is part of the consideration of the grant; and we must reluctantly hold, that the patent is void, for the falsity of that suggestion."<sup>4</sup> The above title is also open to the objection of ambiguity. The title may apply to improvements in all steam-engines, or only to improvements in steam-engines in connection with machinery for propelling vessels. On the specification being looked to, for the purpose of explaining the title and reducing it to certainty, the former appeared to be the invention intended.

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<sup>1</sup> Felton v. Greaves, 2 Car. & P. 611.

<sup>2</sup> Jessop's case, cited 2 H. Bl. 493.

<sup>3</sup> Morgan v. Scaward, Pat. Cases, 166.

<sup>4</sup> Ibid., 196.

The judgment in the preceding case recognized the decision on Brunton's patent,<sup>1</sup> for "certain improvements in the construction, making, and manufacturing of ships' anchors and windlasses, and chain cables and moorings," which was held bad, part of the invention, namely, the anchor, not being new. The decision, in that case, rested on the ground of false suggestion and failure of consideration, the novelty of the whole being the consideration of the grant, and the failure thereof in any part or degree vitiating the grant.

In the case of *Campion's* patent, for "a new and improved method of making and manufacturing double canvas and sail-cloth, with hemp and flax, or either of them, without any starch whatever," it appeared that the invention was in respect of the texture of the fabric, and not in the exclusion of starch; this patent also was held bad for false suggestion.<sup>2</sup> This title is ambiguous, but that defect would have been cured, had the specification declared nothing to be intended to be claimed, in respect of the exclusion of starch.

The above mentioned, are cases of distinct and unequivocal false suggestion, but there are other cases, in which the false suggestion, though consisting rather in an ambiguity of terms, or in a misuse of words, nevertheless has been held sufficient to vitiate the patent.

In *Cochrane's* patent, the title was "an improved method of lighting cities, towns, and villages;" the invention, as described in the specification, was an improvement on the old street lamp, by a new combination and arrangement of parts. In an action for the infringement of the patent, the plaintiff was nonsuited, on the ground of insufficiency of title.<sup>3</sup> It is not easy to suggest what were the grounds of insufficiency in this case. Letters-patent for a method in the abstract, without any means described, would be void; for it is obvious, that the only method which could be described, must be some arrangement and combination of

<sup>1</sup> *Brunton v. Hawkes*, 4 B. & Ald. 541.

<sup>2</sup> *Campion v. Benyon*, 6 B. M. 71.

<sup>3</sup> *Cochrane v. Smethurst*, 1 Stark, 205. The authority of this case is doubtful, since the decision in *Cook v. Pearce*, *ante*, p. 594. See also *Nickels v. Haslam*, 8 Scott N. R. 97, and *post*.

apparatus. But the real objection in this case would appear to have been, that the method described was not an improved method, lamps possessing the same advantages, and of a kind extremely similar, having been used before.

Metcalf's.

In the case of Metcalf's patent, for "a tapering head or hair brush," the invention was of a brush, with the bristles left of an unequal length; the bristles, instead of being cut down to a level, were left of an unequal length, so that some bristles of each cluster, were longer than the others; and Lord Ellenborough, C. J., held that, as "tapering" meant gradually converging to a point, the word was improperly used, and, unless the term had a different meaning annexed to it by the usage of the trade, the objection must prevail. The patent was accordingly repealed.<sup>1</sup> But, on the authority of the recent cases, it may be doubted whether an objection of this nature would now prevail; the title was ambiguous, but rendered sufficiently certain by the specification.<sup>2</sup> In the proceedings on Minter's patent,<sup>3</sup> Lord Denman, C. J., said: "It is quite indifferent whether the word 'self-adjusting' is the correct description of the thing. It seems to describe it so that no man can doubt what it is, namely, that one part of the body is to counterbalance the effect of the other part on the two different parts of the chair. And, in the case of Derosne's patent, Lord Abinger, C. B., said: "The gentleman who composed it (the specification) is not an Englishman, and he uses the word 'baked,' evidently, for boiling, and the word 'discoloration' for discharging from color; but all that is conceded; one would not be disposed, from any obscure word in the specification, which might be interpreted in favor of the plaintiff, taking it altogether, to deprive him of his patent."<sup>4</sup> And, in the recent proceedings on Neilson's patent, the same learned judge said: "A mere inaccurate use of words, explained by the context, will not necessarily avoid the patent."<sup>5</sup> Thus,

The incorrect use of a word, if explained, no defect.

<sup>1</sup> R. v. Metcalf, 2 Stark, 249; Pat. Cases, 141.

<sup>2</sup> The hardship of this case was referred to by the Lord Chief Baron, in the recent proceedings on Neilson's patent, Pat. Cases, 333.

<sup>3</sup> See Minter v. Mower, Pat. Cases, 141.

<sup>4</sup> Pat. Cases, 157.

<sup>5</sup> Pat. Cases, 369.

in the case of *Bloxam v. Else*,<sup>1</sup> the improper use of the word "vice" for a screw, the drawing showing what was meant, was held not to vitiate the specification.

The inaccurate use of words in the last-mentioned cases, occurred in the specification, and not in the title of the invention, that is, in the letters-patent, so that the objections, founded upon such inaccurate use, would be on the ground of insufficient description, rather than of false suggestion, between which cases a most material distinction exists, and, consequently, the cases last above cited do not strictly apply to the case of *Metcalf's* patent. But, inasmuch as the letters-patent and specification are to be taken as one instrument, the latter must be called in to explain the former, and it must depend on the peculiar circumstances of each case, whether the objection, if of a substantial character, is so by reason of the false suggestion or insufficient description. The same observations apply to those cases in which a part of the invention, as described in the specification, is useless; thus, in a recent case, the Court of Exchequer said: "And we do not mean to intimate any doubt as to the validity of a patent for an entire machine or subject, which is, taken altogether, useful, though a part or parts may be useless, always supposing that such patent contains no false suggestion."<sup>2</sup>

In the cases above referred to, the invention has been less extensive than, or so different from, the title, that there has been distinct false suggestion. But there is another class of cases remaining to be considered, namely, where the invention is more extensive than the title, but without any false suggestion. Suppose, for instance, letters-patent to be granted for an improvement in roads, and the invention disclosed in the specification is an improvement in roads and carriages; in such a case, the invention specified is more extensive and different from the invention for which the letters-patent were granted; but there has been no false suggestion. In a case of this nature, any objection to the validity of the patent would appear to be founded on the proviso in the letters-patent, as to the specification not being properly com-

Invention larger than the title.

<sup>1</sup> 1 C. & P., 367.

<sup>2</sup> In *Morgan v. Seaward*, Pat. Cases, 197.

plied with. In such a case, the party has invented that for which the letters-patent were granted, and something more ; but he can have no protection, under the letters-patent, in respect of such additional invention. The question, in such cases, would be, how far it may vitiate, as tending to encumber and confuse the specification. It would appear that such matter may be rejected as a surplusage, and, in the proceedings on Watt's patent, Eyre, C. J., said : " If there be a specification to be found in that paper which goes to the subject of the invention, the rest may be rejected as surplusage." <sup>1</sup>

Several im-  
provements  
as one im-  
provement.

Another class of cases remains to be mentioned, where, the letters-patent being for an improvement, several distinct improvements are specified, which several improvements may either together constitute one improvement, or be taken separately, as so many distinct and independent improvements, or all depending on one general principle. The objections above suggested do not apply to such a patent ; for there is no false suggestion, and the specification supports the title, the whole and each of the several improvements being accurately described in the letters-patent. Thus, in Clegg's case, the title was " for an improved gas apparatus ; " the invention, as described in the specification, <sup>2</sup> consisted of a retort, a purifier, a gas meter, and a self-acting governor, which might be used altogether or separately. No objection was made to the above patent, on this ground, in the litigation which the patent underwent. <sup>3</sup>

Clegg's pa-  
tent.

Sturtz's.

It is important to remark, with reference to cases of this kind, that a change in any one of a series of processes, or in any part of a process, whereby an improved final result is attained, and whereby a new, cheaper, or better article to the public is produced, is an improvement in the final result. Thus the Lord Chancellor Lyndhurst said : " The title in this case, is for certain improvements in copper and other plate printing. Copperplate printing consists of processes involving a great variety of circumstances. The

<sup>1</sup> 2 II. Bl. 498.

<sup>2</sup> See Pat. Cases, 103.

<sup>3</sup> In *Crossley v. Beverley*, Pat. Cases, 106.



paper must be of a particular description ; before it is used it must be damped ; it must remain damp a certain time, and must be placed in a certain temperature ; the plate must be duly prepared and duly applied ; and various processes must be gone through, before the impression is drawn off, and brought to a finished state. An improvement in any one of these circumstances, in the preparation of the paper, for instance, or in the damping of it, &c., may be truly called an improvement in copperplate printing.”<sup>1</sup>

An improvement in any one of a series of processes an improvement in the result.

On the same principle, the title “improvements in extracting sugar and syrup from cane juice, and other substances containing sugar, and in refining sugar and syrup,” was held good, notwithstanding but one distinct improvement was pointed out, on the ground that every part of the process may be treated as an improvement. On that occasion, Lord Abinger, C. B., said: “I think also the word ‘improvements,’ was relied on as being in the plural number ; but that is of no consequence, because he may mean that every part of his process is to be treated as an improvement. It is a phrase that may be reconciled to the fact, because syrup, in the proper meaning of the word, is not extracted from the cane juice, any more than sugar is ; but, in the process of what is called extracting sugar from the cane juice, it is made into syrup, and, therefore, if it is an improvement in extracting sugar, *a fortiori* it may be said to be an improvement in extracting syrup.”<sup>2</sup>

Derosne’s.

Omission of one of several processes.

On the same principle, if a result has hitherto been attained by four processes, the obtaining the same result by the omission of one process is an improvement in that result. It is much better, in such cases, for an inventor to adopt a general title of this description, than a title pointing to the nature of the invention, and the manner in which it is to be performed. But care must be taken that such general title is fully supported by the invention, otherwise the letters-patent will be void, unless amended by disclaimer.<sup>3</sup>

<sup>1</sup> In *Sturtz v. De la Rue*, 5 Russ. 322 ; Pat. Cases, 83.

<sup>2</sup> In *Derosne v. Fairie*, Pat. Cases, 162.

<sup>3</sup> It is to be feared that many inventors have been induced, in reliance on the provisions of Lord Brougham’s act, to be less careful about the title and specification, than they would have been under the old

The inventor must also take care that the title gives some, and, so far as it goes, a true, idea of the invention, or the letters-patent will be in danger, on the ground of discrepancy between the title and the qualification.

Practical  
objections  
to a general  
title.

The principle laid down by Lord Lyndhurst, and already referred to,<sup>1</sup> that the title must give some idea of the invention, is founded on public policy and justice. Great frauds have been practised on the crown, on the public, and on individuals, by means of the vague and general, or blind titles, which have been permitted to be adopted in letters-patent. The consequence is, that letters-patent are granted, without notice to parties most interested in opposing such grants, and who have done all in their power to obtain such notice.<sup>2</sup> But, besides this, a general title affords opportunities and facilities for an improper use of the interval allowed for making and enrolling the specification, as by inserting in the specification matters of subsequent discovery, or methods of carrying out the invention which may have been acquired from other sources, and which were not contemplated at the time when the petition for the letters-patent was presented.<sup>3</sup>

In a recent case, the title was, "improvements in the manufacture of gas for the purposes of illumination, and in

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state of the law. This is most unwise, since the inconveniences connected with the entry of a disclaimer, in the case of subsequent legal proceedings, are so great, that the course ought not to be resorted to, except in cases of absolute necessity.

<sup>1</sup> *Ante*.

<sup>2</sup> As by entering a caveat with the Attorney and Solicitor-General. See Law and Pr., 69, r.

<sup>3</sup> The evils here alluded to are of considerable magnitude, and various means have been suggested for their remedy. A practice has been adopted, of late years, by the law officers of the crown, of requiring (in the words of Lord Campbell) that there should be *de bene esse* a specification deposited at the time the report of the Attorney or Solicitor-General is made. See Pat. Cases, 333. This practice is, however, of but partial application, and the question naturally arises, in what way would such preliminary specification be made available in any subsequent proceedings. Must the party prejudiced bring a *scire facias*, and call the law officer of the crown as a witness? See some observations on this point, 5 Jurist, 1097.

apparatus used when transmitting and measuring gas or other fluids :” the specification recited the letters-patent as granted for “improvements in the manufacture of gas for the purposes of illumination, and in apparatus used therein, and when transmitting and measuring gas or other fluids,” and described several improvements, and, amongst others, a mode of manufacturing clay retorts by hydraulic pressure. In an action for an infringement of this patent, two objections were taken on the part of the defendant: 1. That no specification of the patent which had been granted had been enrolled. 2. That the invention described in the specification was different from that for which the patent was granted: and the learned judge decided that the defendant was entitled to a verdict, on one of the pleas founded on those objections.<sup>1</sup> In this case, there was a discrepancy between the letters-patent and the specification, and it is doubtful whether the rule, as laid down by Lord Lyndhurst, that the title must give some idea, and, so far as it goes, a true idea, of the invention, was complied with. In another case,<sup>2</sup> the title was, “improvements in the manufacture of plaited fabrics,” and the specification stated the object of the invention to be “to manufacture plaited fabrics, by the act of weaving in the loom;” and, having described the means employed, concluded with the following claim:—“But what I claim is, the mode of weaving plaited fabrics by dividing the warp into different sets or parts, to be delivered at different speeds, as the weaving with the weft proceeds.” It was objected, on the part of the defendant, that the patent could not be supported, inasmuch as one improvement only was described and claimed, and not several, as suggested by the title; but the Court of Common Pleas overruled the objection. It should be observed, that many objections of this kind are formal rather than substantial, and that, in the case last referred to, although the specification put a particular limitation on the title, it might well be that several improvements were involved in, or resulted from, the invention or mode of manufacture pointed out.

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<sup>1</sup> *Croll v. Edge*, in the C. P., *cor.* Sir T. Wilde, C. J., July, 1847.

<sup>2</sup> *Nickels v. Haslam*, 8 Scott, N. R. 57.

Objections to the title and to the specification rest on different principles.

Objections to the title of the invention, or to the validity of the letters-patent, by reason of some defect in the title and objections to the specification, rest on different and distinct principles; the former being founded on the old common-law doctrine of false suggestion and misrepresentation to the crown, the latter on the non-compliance with the express terms of a proviso or condition contained in the grant itself. The letters-patent are to be read and construed in connection with the specification, which may be brought in aid to explain and reduce to certainty the title, and the one must not be separated from the other, in considering the validity of the letters-patent, so far as that validity may depend on the sufficiency of the title and specification. Objections so founded will not unfrequently appear to be of a mixed character, and such as might have been obviated by a modification either of the title or of the specification, but the real defect will generally be found to exist in the specification, and to result from want of care in the preparation of that instrument.

#### *On the Specification.*

Proviso as to the specification.

The letters-patent, having been granted for the invention described and designated by the title, are subject to a proviso or condition, that they are to be absolutely void if the patentee shall not particularly describe and ascertain the nature of the said invention, and in what manner the same is to be performed, by an instrument in writing, under his hand and seal, and cause the same to be enrolled in the High Court of Chancery, within a certain time after the date of the letters-patent.<sup>1</sup> This, which is one of the conditions of the grant, must be strictly and fully complied with, otherwise, the letters-patent are absolutely void, and all the exclusive liberties and privileges granted by them are at an end. The instrument, to which this proviso gives rise, is called the specification, upon the particular form of which, the place of its enrolment, or the time within which the enrol-

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<sup>1</sup> See the form of proviso, Law & Practice, Pr. F. xiii.

ment must take place, it will be unnecessary here to make any observations.<sup>1</sup> The strict compliance with the proviso involves several conditions expressed in the conjunctive, but that part which requires that the patentee "shall particularly describe and ascertain the nature of the said invention, and in what manner the same is to be performed," gives rise to the most frequent questions, and requires especial consideration. The requirements of this portion of the proviso may be conveniently considered under the following heads:—

1. The patentee must particularly describe and ascertain the nature of the invention. 2. He must particularly describe and ascertain in what manner the invention is to be performed. 3. The invention so described and ascertained must be the invention for which the letters-patent were granted. Under one of these three heads, the various questions generally arising upon the sufficiency of the specification may be considered.

Before, however, entering upon the requisites of the specification, as expressed by the terms of the proviso and explained by the various decisions on the subject, it will be advisable to advert to the history and origin of the proviso in question, and the general policy upon which its introduction rests. Previous to the latter end of the reign of Queen Anne,<sup>2</sup> the letters-patent were granted in the form which had been adopted from a very early period, and without any proviso of the kind now under consideration. The brief description contained in the letters-patent, that is, the title of the invention, was the only information which the public received. The inventor was under no obligation to announce the nature or extent of his invention, or to explain to the public in what manner it was to be performed, and, as a necessary consequence of this, in the low state of the arts and manufactures of the country at that period, the grantee of letters-patent acquired exclusive privileges of a much more extensive character than can at present be ob-

Origin of  
the specifi-  
cation.

<sup>1</sup> See Law & Practice, Pr. F. xiv., for information on these points.

<sup>2</sup> The earliest letters-patent which I have met with, requiring the enrolment of a specification, are dated 1 April, 1612. No account of the peculiar circumstances which led to the introduction of the clause is extant. See Pat. Cases, 8 n. & 31, n. e.

Invention  
originally  
kept secret.

Instruction  
of the pub-  
lic.

tained.<sup>1</sup> So far indeed from its being incumbent on the inventor to give any information as to the nature of the invention, or as to the manner in which it was to be performed, it seems to have been taken for granted that the invention was to have been practised in secret; for an act of the Commonwealth, A. D. 1651, c. 2, after granting to one Jeremy Buck to use, exercise, and enjoy the art, skill, and mystery of melting down iron ore and cinders into raw iron, and of other ore and metal, with stone-coal, pit-coal, or sea-coal, without charking thereof, contains the two following remarkable provisos: —“ Provided always, that all and every person or persons may use such ways and works for melting down any iron ore, cinder, or other metals, as they now use, or heretofore have lawfully used to do, or any other way or works hereafter by them newly to be invented, so as they make not use of the said new invention of him the said J. Buck: Provided also, that the said J. Buck and his assigns, after seven years of the term hereby granted, do and shall take apprentices, and teach them the knowledge and mystery of the said new invention.”<sup>2</sup> These two provisos are remarkable as first steps towards obtaining that which is now ensured by the specification. The former of these provisos points out the kind of grievance to which parties might be subjected, by reason of the want of an express declaration by the patentee, as to the precise extent and nature of his invention; the latter shows that, at common law, there was no compulsion on the party obtaining the exclusive privileges, to instruct the public as to the means of performing, or to furnish any information respecting, his invention. The instruction of the public in

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<sup>1</sup> The forms of the early letters-patent, and the nature of the rights granted by and enjoyed under them, deserve more attention than they have usually received. See the patents of Baker, Dudley, and Mansell, Pat. Cases, 9–27. Baker, 3 Jac. 1, had the exclusive right of making smalt in England, *ante*; Dudley, 19 Jac. 1, of making iron with sea-coal, *ante*; Mansell, 98 Jac. 1, of making glass with wood, *ante*; and Buck, A. D. 1651, had exclusive privilege, under an act of the Commonwealth, for melting iron and other metals with stone coal without charking. Pat. Cases, 35.

<sup>2</sup> Pat. Cases, 35.

the new art or mystery is recognized in the early case of *Darcy v. Allin*,<sup>1</sup> where it was said, "the king may grant a monopoly patent for some reasonable time, until the subject may learn the same, in consideration of the good he doth to the commonwealth, otherwise not;" and Sir E. Coke alludes to the same subject,<sup>2</sup> of teaching by apprentices; but the means of ensuring the object were wanting; for it is obvious that, unless the party be compelled to teach others, either by taking apprentices or by enrolling such a specification as will convey to others all the information requisite for practising the invention, the inventor will have every inducement to keep the secret to himself, and the public will not be benefited, to the extent or in the manner contemplated by the policy upon which the granting of exclusive privileges of this nature is founded.

A proviso similar to the one in the act of the Commonwealth for Buck's invention, insuring to persons the free enjoyment and use of any methods previously used by them, or which they should thereafter invent, so as they used not the invention, the subject of the grant, is contained in many of the earlier patents, as well as in those of recent date; but, until the introduction of the proviso for the specification, the public were left in uncertainty as to what the patentee claimed, or from what they were debarred, and the defining these important particulars was left to parole evidence. The inconveniences of this state of things would not be seriously felt in the infancy of the arts and manufactures of the country; but, as invention progressed, and grants of letters-patent became more numerous, other means of instruction and protection were requisite.

No account has been preserved of the first introduction into the letters-patent of the proviso for the specification: it was not in consequence of any statutory enactment, but was, in all probability, introduced at the suggestion of the law officer of the crown, by virtue of the authority and direction which he receives, under the terms of the royal

Proviso introduced on the authority of the crown.

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<sup>1</sup> An. 44 El. Pat. Cases, 6.

<sup>2</sup> 3 Inst. 151. Pat. Cases, 31.

warrant, to insert in the letters-patent all such clauses and provisos as he may judge requisite.<sup>1</sup>

Letters-patent a bargain between the patentee and the public.

The granting of letters-patent has been likened to a bargain between the patentee and the public; it has been said that the patentee enjoys his limited monopoly as a reward, and in consideration of the information and benefit which the public are to derive from a full disclosure of the invention to them, and the specification has been consequently designated as the price which the patentee pays the public for his exclusive privileges. The notion of a bargain or contract between the patentee and the public having been thus introduced, the good faith of the patentee, in the disclosures made respecting his invention, becomes a principle at once applicable to the question—how far the proviso has been fully and honestly complied with? “The law,” says Lord Mansfield, “relative to patents, requires, as the price the individual should pay the people for his monopoly, that he should enrol, to the very best of his knowledge and judgment, the fullest and most sufficient description of all the particulars on which the effect depended that he was able to do.”<sup>2</sup> “The specification,” says Lord Eldon, “may be considered to be the consideration for the bargain between the public and the patentee, and must be judged on the principle of good faith.” Lord Lyndhurst says, “It is a principle of patent law, that there must be the utmost good faith in the specification.”<sup>3</sup>

Benefit to the public.

The public are benefited by the required disclosure in two ways; first, the general progress of the arts and manufactures is promoted by the addition of fresh discoveries in which all may freely participate after a limited time; secondly, the knowledge is preserved and communicated to the public, and protection is given to the ingenious inventor, while the mischiefs attendant on manufactures conducted in private, under injunctions of secrecy, are in great measure avoided. The penalty attached to a non-compliance with the requirements of the law as regards the speci-

<sup>1</sup> See the form of the warrant, Law & Practice, Pr F. viii.

<sup>2</sup> See per Lord Mansfield, C. J. Pat. Cases, 54, n. e.

<sup>3</sup> Pat. Cases, 83.



fication has not been sufficient, in all cases, to ensure a full and fair disclosure of the secret, and the exclusive privileges granted by the letters-patent have, consequently, been lost.<sup>1</sup>

Keeping in view, then, this consideration, upon which it may be presumed that the crown was advised to introduce the proviso in question, and the principles by which the sufficiency of the specification has been tested, we will proceed to the examination of the points to which the attention of patentees must be especially directed.

In the first place, then, the patentee must particularly describe and ascertain the nature of the invention. That is, he must make it distinctly appear, either by express statement or by obvious intendment, in what the invention consists; what is its peculiar character; and in what respect it differs from previous inventions; or, in other words, where the invention begins and where it ends. If these limits, so to speak, of the invention, be not thus defined, the public will not be apprised of what they are excluded from, during the subsistence of the letters-patent, and persons pursuing in the same line of invention, or engaged in a similar branch of manufacture, may be improperly excluded from practising what is perfectly open to them, or may unintentionally commit an infringement of the patent. This requisite is sometimes expressed by stating that the specification must distinguish between what is old and what is new, and the omission to do this has not unfrequently been the sole cause of a patentee failing, in an action at law, to maintain the exclusive privileges granted by the letters-patent.<sup>2</sup>

An objection, founded on a non-compliance with the rule just referred to, was taken in a recent case, and its nature was explained in the following terms by Lord *Abinger*, C.

Limits of the invention must appear.

New and old must be distinguished.

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<sup>1</sup> The temptation which exists, in the case of chemical and other patents, to keep back part of the secret, has, it is to be feared, been somewhat encouraged by a mistaken notion that such omission may be supplied, by way of memorandum of alteration, under Lord Brougham's Act.

<sup>2</sup> As in *Macfarland v. Price*. Pat. Cases, 74; 1 Stark., 199.

B.: "The objection to this specification is plain on the face of it, and it is this — it is required, as a condition of every patent, that the patentee shall set forth, in his specification, a true account and description of his patent or invention, and it is necessary, in that specification, that he should state what his invention is, what he claims to be new, and what he admits to be old; for, if the specification states simply the whole machine which he uses, and which he wishes to introduce into use, and claims the whole of that as new, and does not state that he claims either any particular part or the combination of the whole as new, why then his patent must be taken to be a patent for the whole, and for each particular part, and his patent will be void if any particular part turns out to be old, or the combination itself not new." <sup>1</sup>

Origin of formal claiming and disclaiming clauses.

The difficulty of avoiding the objections just adverted to, is greater than at first sight appears, especially in an advanced state of the arts and manufactures, when the changes which mark and constitute the progress of invention are necessarily small, and from the necessity which frequently exists, in order to comply with another requisite of the proviso in question, of describing, either partially or fully, many things or processes, in respect whereof no claim to invention is intended to be made. In order to avoid this objection, it is not unusual to introduce, at the close or other part of the specification, certain formal disclaiming and claiming clauses, but such clauses are in many cases wholly unnecessary, and not unfrequently give rise to formal objections as to their validity, and to wrong impressions as to the real spirit of the invention, in proceedings in which the patent is impeached, or when the infringement complained of does not accord, in every particular, with the precise terms of the claim.<sup>2</sup> It should be borne in mind that

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<sup>1</sup> In *Carpenter v. Smith*. Pat. Cases, 532.

<sup>2</sup> In the recent case of *The Queen v. Cutler*, an objection was taken that the invention, as expressed in two of the claims, was not the subject-matter of letters-patent, and Lord Denman, C. J., acceded, at the trial, to that view of the case. Had the claims been omitted, or differently worded, so as to embrace the real spirit of the invention, the objection would, in all probability, never have arisen.

formal disclaiming and claiming clauses, are, in point of law, wholly unnecessary, and that though, in some cases, as where the step or point of invention is small, and capable of being well defined, such clauses may be advisable and expedient, yet many cases exist in which they are inexpedient and injurious. It is impossible to lay down any general rule; each case must be regulated by its own special circumstances; but, so long as what is intended to be claimed and represented as the invention, can be gathered and ascertained from the whole instrument, the courts will overrule mere technical objections, and support the validity of the grant of the crown.<sup>1</sup>

The preparation of the specification, so as to limit and ascertain the nature of the invention, in accordance with the principles above expressed, whether effected by formal claiming and disclaiming clauses, or by the introductory statement, or by general description, though matter of form, is all important to a patentee, for, unless this be properly done, he will fail to secure protection for his invention, however valuable it may be. The importance of this cannot be too strongly insisted on, because, on a review of the cases in which patentees have failed to maintain the exclusive privileges granted by the letters-patent, it has rarely happened that some invention, sufficient to support a valid patent, has not existed; the cause of failure has generally been some formal defect in the specification.

Failure of patentee mainly due to formal defects.

The objections of vagueness, ambiguity, and uncertainty, are intimately connected with the preceding, but, in whatever form presented, their force is derived from the non-compliance with the express terms of that part of the proviso which requires that the patentee shall particularly describe and ascertain the nature of his invention.

Vagueness and uncertainty in specifications.

The second part of the condition, as above expressed, requires that the patentee shall particularly describe and ascertain in what manner the invention is to be performed.

Manner of practising the invention to be fully given.

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<sup>1</sup> See the recent case of *M'Alpine v. Mangnall* (3 C. B. 517) in the Exchequer Chamber. The inventor is referred to the specifications of the patents of Forsyth (Pat. Cases, 96); of Hall (*Ibid*, 98); of Clegg (*Ibid*, 103); of Hill (*Ibid*, 225); of Neilson (*Ibid*, 373.); and of Crane (*Ibid*, 375); in illustration of the preceding observations.

The compliance or non-compliance with this requisite, is a question of fact for the jury, on the sufficiency of the specification, to enable a competent workman, by following the directions given, to practise the invention. The compliance or non-compliance with the requisite first adverted to, is apparent on the face of the specification, and must, in general, be disposed of entirely by the Court; whereas any objection, in respect of the requisite now under consideration, generally arises as matter of evidence. Under this requisite, the question of *bonâ fide*, or of good faith, in making a full, fair, and complete disclosure, in respect of the invention, generally arises. The objections arising under this head may be conveniently classified, as in contravention of one of the three following rules:— 1. The specification must be sufficiently full, clear, and exact to enable a person, conversant with the particular department of the arts and manufactures, to practise the invention, by pursuing the directions contained in the specification, without calling upon his own inventive powers, or requiring him to possess and apply more than ordinary skill and knowledge. 2. The specification must direct how to practise the invention in the most beneficial manner known to the patentee, and it must contain the most ample disclosure of the secret which it is in his power to make. 3. The specification must be true, and not mislead.

Rules as to the specification.

Every thing contributing to the beneficial working of the invention must be disclosed.

Various cases might be cited, in illustration of each of these rules, but the following will be sufficient on the present occasion.<sup>1</sup> In the celebrated case of the paddle-wheels,<sup>2</sup> in which a question arose on the sufficiency of the specification to enable a competent workman to make the wheels, the jury were directed, by Alderson, B., in the following terms:—“Further, if a patentee is acquainted with any particular mode by which his invention may be most conveniently carried into effect, he ought to state it in his specification; that was laid down in a case before Lord Mansfield. There the question arose on a patent for steel

<sup>1</sup> See Index to Patent Cases, tit. Specification. Law & Practice, 86.

<sup>2</sup> Morgan v. Seaward, Pat. Cases, 175.

trusses ; it appeared that the patentee, in some parts of his process, used tallow, to facilitate the invention for which he had obtained a patent, and, in his specification, he made no mention of the use of the tallow. The Court held the specification to be bad, because, they said, you ought not to put people to find out that tallow is useful in carrying into effect the invention of steel trusses. You ought to tell the public so, if that is the best mode of doing it, for you are bound to make a *bonâ fide* full and candid disclosure."

In the case of the patent verdigris,<sup>1</sup> Gibbs, C. J., said : — "It is said that the method described makes verdigris, and that the specification is therefore sufficient. The law is not so ; a man who applies for a patent, and possesses a mode of carrying on that invention in the most beneficial manner, must disclose the means of producing it in equal perfection, and with as little expense and labor as it costs the inventor himself. The price that he pays for his patent is, that he will enable the public, at the expiration of his privilege, to make it in the same way, and with the same advantages. If any thing that gives an advantageous operation to the thing invented, be concealed, the specification is void. Now, though the specification would enable a person to make verdigris substantially as good without *aqua fortis* as with it, still, inasmuch as it would be made with more labor by the omission of *aqua fortis*, it is a prejudicial concealment, and a breach of the terms which the patentee makes with the public."

Also, by Abbott, C. J., in the case of the Seidlitz powders :<sup>2</sup> — "It is the duty of a patentee to specify the plainest and most easy way of producing that for which the patent is granted, and to make the public acquainted with the mode which he himself adopts. By reading this specification, we are led to suppose a laborious process necessary to the production of the ingredients, when, in fact, we might go to any chemist's shop, and buy the same things ready made. The public are misled by this specification, which tends to make people believe that an elaborate

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<sup>1</sup> Wood v. Zimmer, Pat. Cases, 83 ; 1 Holt, N. P. 60.

<sup>2</sup> Savory v. Price ; Pat. Cases, 83.

process is essential to the invention. It cannot be supported."

And, lastly, by Lord Lyndhurst, L. C. : — "It is a principle of Patent Law, that there must be the utmost good faith in the specification. It must describe the invention in such a way, that a person of ordinary skill in the trade shall be able to carry on the process. Here the specification says, that there is to be added to the size certain proportions of 'the finest and purest white lead;' a workman would naturally go to a chemist's shop, and ask for 'the finest and purest chemical white lead;' the answer which he would receive would be, that there was no substance known in the trade by that name. He would be compelled to ask for the purest and finest white lead; and, according to the evidence, the purest and finest white lead that can be procured in London will not answer the purpose. It is said that there is a substance prepared on the Continent, which is white lead, or some preparation of white lead; and that, by using it in the manner described in the specification, the desired effect is produced. If that be so, the patentee ought to have directed the attention of the public to that circumstance. He ought to have said, 'the purest white lead which can be obtained in the shops of London will not do; but there is a purer white lead, prepared on the Continent, and imported into this country, which alone must be used.' 'The purest and finest chemical white lead,' must mean the finest and purest white lead usually gotten in the general market for that commodity, unless the public be put on their guard by a statement, that what would be called very fine and pure white lead, in the ordinary sense of the trade, will not answer, but that the white lead used must be of a superlatively pure and fine quality, prepared in a particular way, and to be gotten only in a particular place. If the article is not made in this country, but may be imported, it would be necessary to mention that circumstance. It is said that the description in the specification will be sufficient, if the substance is known in the trade by the name of 'the purest and finest white lead,' or, 'the purest and finest chemical white lead.' But it does not appear that there is any substance generally known in the trade by that denomination. It is alleged that the substance can be pur-

chased at the shops in London, and two are specified. In point of fact, it has been purchased only at one of those shops, and they are not chemists', but color shops. It appears to me that this specification does not give that degree of full and precise information which the public have a right to require."

The preceding cases will sufficiently point out the kind of information required in a specification; the extent of such information, or amount of detail, will be regulated by the consideration, that the specification is addressed to artists and persons acquainted with the manufacture to which the invention relates. Upon this point, the following direction was given by Parke, B.:<sup>1</sup> — "You are not to ask yourselves whether persons of great skill would do it; the specification is supposed to be addressed to a practical workman, who brings the ordinary degree of knowledge and the ordinary degree of capacity to the subject; and, if such a person would construct an apparatus that would answer some beneficial purpose, whatever its shape was, according to the terms of this specification, then I think that this specification is good, and that the patent may be supported, so far as relates to that."

Amount of detail in description how regulated.

In the case of the paddle-wheel, already referred to, Alderson, B., says:<sup>2</sup> — "If you think that engineers of ordinary and competent skill would have to set themselves a problem to solve, and would have to solve that problem before they could do it, then the specification would be bad." And again: — "Now a workman of ordinary skill, when told to put two things together so that they should move, would, of course, by the ordinary skill and knowledge he possesses, make them of sufficient size to move. There he would have to bring to his assistance his knowledge, that the size of the parts is material to the working of the machine. That is within the ordinary knowledge of every workman. He says, 'I see this will not work, because it is too small;' and then he makes it a little larger,

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<sup>1</sup> See *Neilson v. Harford*, Pat. Cases, 314, where this question is fully considered by that learned judge.

<sup>2</sup> Pat. Cases, 174.

and finds it will work. What is required is, that the specification should be such as to enable a workman of ordinary skill to make the machine.”<sup>1</sup>

The specification addressed to artists.

To the same effect, in Watt's case, is the following observation of Eyre, C. J. : — “ Suppose a newly-invented chemical process, and the specification should direct that some particular substance should be poured upon gold in a state of fusion, it would be necessary, in order to this operation, that the gold should be put into a crucible, and should be melted in that crucible ; but it would be hardly necessary to state, in the specification, the manner in which, or the utensils with which, the operation of putting gold into a state of fusion was to be performed. They are mere incidents, with which every man acquainted with the subject is familiar.”<sup>2</sup>

Inaccurate use of words, or terms of art, will not vitiate a specification.

Lastly, the use of terms of art, or of words in an inaccurate or incorrect sense, provided that persons of ordinary skill and knowledge would not be misled, is no valid objection to a specification. Thus, Lord Abinger, C. B., says ;<sup>3</sup> “ The gentleman who composed the specification is not an Englishman, and he uses the word ‘ baked ’ evidently for boiling, and the word ‘ discoloration ’ for discharge from color ; but one would not be disposed, from an obscure word in the specification, and which might be interpreted in favor of the plaintiff, taking it altogether, to deprive him of his patent.”<sup>4</sup>

Known processes need not be described.

In concluding this part of the case, it may be laid down as a general rule, that known machinery and processes need not be described, and that technical terms of art will receive their ordinary construction, but care must be taken to make it appear that nothing is claimed in respect of such known elements.

The remaining point, to which the attention of the pa-

<sup>1</sup> See this question fully considered by that learned judge, in his direction to the jury in *Morgan v. Seaward*, Pat. Cases, 172 - 185.

<sup>2</sup> 2 H. Bl. 497.

<sup>3</sup> See *Derosne v. Fairie*, Pat. Cases, 157.

<sup>4</sup> See, on this point, observations of Lord Tenterden, C. J., in *Bloxam v. Elsee*, (1 C. & P. 558; 6 B. & C. 169); and in *Crossley v. Beverley*, Pat. Cas. 110.



tentee must be directed, is, that the invention so described and ascertained is the invention for which the letters-patent were granted. This is sometimes expressed by saying that the letters-patent and specification must support each other, for, if there be any inconsistency or material discrepancy between the invention, as described in the letters-patent, and in the specification, the terms of the condition will not have been complied with. In the case of *The King v. Wheeler*,<sup>1</sup> the title was, "a new or improved method of drying and preparing malt," and the invention, as described in the specification, consisted in heating malt to a high degree, so that it should be changed to a deep brown color. Lord Tenterden, C. J., in delivering the judgment of the Court, said — "We think the invention mentioned in this specification so entirely different from that mentioned in the patent, as that the latter, if such there be, remains wholly unsupported, and, consequently, that the issue respecting the sufficiency of the specification could not be found for the defendant." The title, in the case just referred to, was defective, and did not properly express the invention which had, in fact, been made, but the decision illustrates the rule of law now under consideration. Other cases, in which a similar question has arisen, have already been referred to,<sup>2</sup> and it should be observed, that this objection is, in most of the cases, entirely of a formal nature, and such as would never have arisen, had the specification been compared with the letters-patent, and care taken that the invention, as fully described and ascertained in the specification, should agree, substantially, with the short description in the letters-patent.

The invention in the specification must be the same as in the patent.

It is extremely doubtful whether the provisions of Lord Brougham's Act, giving the power of entering a disclaimer and memorandum of alteration, apply to cases of non-compliance with the express terms of the proviso as to the specification. If this be so, a patentee who fails to comply with that proviso, in any one of the three respects above reverted to, is without remedy, and his grant of letters-patent is altogether and absolutely void.

Amendment by disclaimer and memorandum of alteration.

<sup>1</sup> 2 B. & Ald. 345. See the case of *Croll v. Edge*, *ante*, p. 602.

<sup>2</sup> See *ante*, p. 602.

As the law stood, previous to the passing of that Act, if any one of several inventions or improvements, for which the letters-patent were granted, should prove to be old, or not an improvement, the grant was invalid, and the power of entering a disclaimer or memorandum of alteration was given, for the purpose of enabling a patentee to get rid of one of several inventions or improvements, and to make such alterations in the title and specification as the disclaiming or abandoning a part of the invention might render necessary. The power of entering a disclaimer or memorandum of alteration may be employed to render the letters-patent and specification consistent with each other, subject, however, always, to the proviso, that the exclusive right originally granted by the letters-patent is not extended ; and the words of the statute are, on one construction, sufficient to authorize alterations in the patent and specification, other than such as are of the nature of a disclaimer, as, for instance, the curing some defect in the original specification, as insufficient description, or non-compliance with some of the conditions already adverted to ; but, until such an alteration shall have been sanctioned on the highest authority, it ought not to be ventured on, except in cases of absolute necessity ; and, indeed, the entry of any disclaimer and memorandum may be so prejudicial to a patent, that it ought never to be resorted to except upon very clear grounds, and after mature consideration.

# LAWS OF THE UNITED STATES

RELATING TO

## PATENTS AND THE PATENT OFFICE.

### CONSTITUTION OF THE UNITED STATES.

#### ARTICLE 1st, SECTION 8th.

“The Congress shall have power, &c., to promote the progress of science and useful arts, by securing, for limited times, to Authors and Inventors, the exclusive right to their respective writings and discoveries.” Also, “to make all laws which shall be necessary and proper for carrying into execution the foregoing powers.”

#### CHAP. VII.—AN ACT to promote the progress of useful arts.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That, upon the petition of any person or persons to the Secretary of State, the Secretary for the Department of War, and the Attorney-General of the United States, setting forth, that he, she, or they, hath or have invented or discovered any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used, and praying that a patent may be granted therefor, it shall and may be lawful to and for the said Secretary of State, the Secretary for the Department of War, and the Attorney-General, or any two of them, if they shall deem the invention or discovery sufficiently useful and important, to cause letters-patent to be made out in the name of the United States, to bear teste by the President of the United States, reciting the allegations and suggestions of the said petition, and describing the said invention or dis-

Patents for useful discoveries, how applied for, and granted. Repealed by the Act of 21st Feb. 1793, ch. 11. The Secretary of State, the Secretary of War, and the Attorney Gen<sup>l</sup>., or any two of them, if they shall deem the invention, &c., useful and important, to cause letters-patent to be issued.

Continu-  
ance of a  
patent.

Attorney-  
General to  
certify the  
conformity  
of the pa-  
tent with  
this Act.

Patents to  
be record-  
ed.

Specifica-  
tion in writ-  
ing, with a  
draft or  
model  
thereof, to  
be delivered  
and filed in  
the office of  
the Secre-  
tary of  
State.

Certified  
copies, in  
what cases  
to be evi-  
dence.

covery, clearly, truly, and fully, and thereupon granting to such petitioner or petitioners, his, her, or their heirs, administrators, or assigns, for any term not exceeding fourteen years, the sole and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention or discovery; which letters-patent shall be delivered to the Attorney-General of the United States, to be examined, who shall, within fifteen days next after the delivery to him, if he shall find the same conformable to this Act, certify it to be so at the foot thereof, and present the letters-patent, so certified, to the President, who shall cause the seal of the United States to be thereto affixed, and the same shall be good and available to the grantee or grantees, by force of this Act, to all and every intent and purpose herein contained, and shall be recorded in a book to be kept for that purpose in the office of the Secretary of State, and delivered to the patentee or his agent, and the delivery thereof shall be entered on the record and indorsed on the patent, by the said Secretary, at the time of granting the same.

SEC. 2. *And be it further enacted,* That the grantee or grantees of each patent shall, at the time of granting the same, deliver to the Secretary of State a specification in writing, containing a description, accompanied with drafts or models, and explanations and models (if the nature of the invention or discovery will admit of a model) of the thing or things, by him or them invented or discovered, and described as aforesaid, in the said patents; which specification shall be so particular, and said models so exact, as not only to distinguish the invention or discovery from other things before known and used, but also to enable a workman or other person skilled in the art or manufacture, whereof it is a branch, or wherewith it may be nearest connected, to make, construct, or use the same, to the end that the public may have the full benefit thereof, after the expiration of the patent term; which specification shall be filed in the office of the said Secretary, and certified copies thereof shall be competent evidence in all courts, and before all jurisdictions, where any matter or thing, touching or concerning such patent, right, or privilege, shall come in question.

SEC. 3. *And be it further enacted*, That, upon the application of any person to the Secretary of State, for a copy of any such specification, and for permission to have similar model or models made, it shall be the duty of the Secretary to give such copy, and to permit the person so applying for a similar model or models, to take, or make, or cause the same to be taken or made, at the expense of such applicant.

Copies of specification and models may be taken.

SEC. 4. *And be it further enacted*, That, if any person or persons shall devise, make, construct, use, employ, or vend, within these United States, any art, manufacture, engine, machine, or device, or any invention or improvement upon, or in any art, manufacture, engine, machine, or device, the sole and exclusive right of which shall be so as aforesaid granted by patent to any person or persons, by virtue and in pursuance of this Act, without the consent of the patentee or patentees, their executors, administrators, or assigns, first had and obtained in writing, every person so offending, shall forfeit and pay to the said patentee or patentees, his, her, or their executors, administrators, or assigns, such damages as shall be assessed by a jury, and, moreover, shall forfeit to the person aggrieved the thing or things so devised, made, constructed, used, employed, or vended, contrary to the true intent of this act, which may be recovered in an action on the case, founded on this act.

Penalty for making, &c., any art, &c., for which a patent has been granted.

Damages to be assessed by a jury.

SEC. 5. *And be it further enacted*, That, upon oath or affirmation made before the judge of the District Court where the defendant resides, that any patent which shall be issued in pursuance of this act, was obtained surreptitiously by, or upon false suggestion, and motion made to the said court, within one year after issuing the said patent, but not afterwards, it shall and may be lawful to and for the judge of the said District Court, if the matter alleged shall appear to him to be sufficient, to grant a rule that the patentee or patentees, his, her, or their executors, administrators, or assigns, show cause why process should not issue against him, her, or them, to repeal such patents; and if sufficient cause shall not be shown to the contrary, the rule shall be made absolute, and thereupon the said judge shall order

Patents surreptitiously obtained.

How to be repealed.

process to be issued, as aforesaid, against such patentee or patentees, his, her, or their executors, administrators, or assigns. And in case no sufficient cause shall be shown to the contrary, or if it shall appear that the patentee was not the first and true inventor or discoverer, judgment shall be rendered by such court for the repeal of such patent or patents; and if the party, at whose complaint the process issued, shall have judgment given against him, he shall pay all such costs as the defendant shall be put to, in defending the suit, to be taxed by the court, and recovered in such manner as costs expended by defendants shall be recovered in due course of law.

In actions for penalty, patents to be deemed *prima facie* evidence of the first discovery; but special matter may be given in evidence; and to what effect.

SEC. 6. *And be it further enacted,* That, in all actions to be brought by such patentee or patentees, his, her, or their executors, administrators, or assigns, for any penalty incurred by virtue of this act, the said patents or specifications shall be *prima facie* evidence, that the said patentee or patentees was or were the first and true inventor or inventors, discoverer or discoverers, of the thing so specified, and that the same is truly specified; but that, nevertheless, the defendant or defendants may plead the general issue, and give this act, and any special matter whereof notice in writing shall have been given to the plaintiff, or his attorney, thirty days before the trial, in evidence, tending to prove that the specification filed by the plaintiff does not contain the whole of the truth concerning his invention or discovery; or that it contains more than is necessary to produce the effect described; and, if the concealment of part, or the addition of more than is necessary, shall appear to have been intended to mislead, or shall actually mislead the public, so as the effect described cannot be produced by the means specified, then, and in such cases, the verdict and judgment shall be for the defendant.

Patent fees. SEC. 7. *And be it further enacted,* That such patentee as aforesaid shall, before he receives his patent, pay the following fees, to the several officers employed in making out and perfecting the same, to wit: For receiving and filing the petition, fifty cents; for filing specifications, per copy-sheet, containing one hundred words, ten cents; for making out patent, two dollars; for affixing great seal, one dollar;

for indorsing the day of delivering the same to the patentee, including all intermediate services, twenty cents.

*Approved April 10, 1790.*

CHAP. IX. — AN ACT to promote the progress of useful arts, and to repeal the act heretofore made for that purpose.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That, when any person or persons, being a citizen or citizens of the United States, shall allege that he or they have invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter, not known or used before the application, and shall present a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the same, and praying that a patent may be granted therefor, it shall and may be lawful for the said Secretary of State to cause letters-patent to be made out, in the name of the United States, bearing teste by the President of the United States, reciting the allegations and suggestions of the said petition, and giving a short description of the said invention or discovery, and thereupon granting to such petitioner or petitioners, his, her, or their heirs, administrators, or assigns, for a term not exceeding fourteen years, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention or discovery, which letters-patent shall be delivered to the Attorney-General of the United States, to be examined; who, within fifteen days after such delivery, if he finds the same conformable to this act, shall certify accordingly, at the foot thereof, and return the same to the Secretary of State, who shall present the letters-patent, thus certified, to be signed, and shall cause the seal of the United States to be thereto affixed; and the same shall be good and available to the grantee or grantees, by force of this act, and shall be recorded in a book, to be kept for that purpose, in

Act of 1790, chap. 7.

Letters-patent, how and by whom made out. Act of April 10, 1799, ch. 33, repealed.

To bear teste by the President, and

be examined by the Attorney-General.

1800, ch. 25.

the office of the Secretary of State, and delivered to the patentee or his order.

The liberty of using an improvement defined.

Changing the form or proportions of any machine, &c., not to be a discovery.

How to proceed to obtain letters-patent.

1800, ch. 25, sec. 2.

Specification.

Specification.

SEC. 2. *Provided always, and be it further enacted,* That any person who shall have discovered an improvement in the principle of any machine, or in the process of any composition of matter, which have been patented, and shall have obtained a patent for such improvement, shall not be at liberty to make, use, or vend the original discovery, nor shall the first inventor be at liberty to use the improvement: And it is hereby enacted and declared, that simply changing the form or the proportions of any machine, or composition of matter, in any degree, shall not be deemed a discovery.

SEC. 3. *And be it further enacted,* That every inventor, before he can receive a patent, shall swear or affirm, that he does verily believe that he is the true inventor or discoverer of the art, machine, or improvement, for which he solicits a patent, which oath or affirmation may be made before any person authorized to administer oaths, and shall deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear, and exact terms, as to distinguish the same from all other things before known, and to enable any person, skilled in the art or science of which it is a branch, or with which it is most nearly connected, to make, compound, and use the same. And, in the case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions; and he shall accompany the whole with drawings and written references, where the nature of the case admits of drawings, or with specimens of the ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention is of a composition of matter; which description, signed by himself, and attested by two witnesses, shall be filed in the office of the Secretary of State, and certified copies thereof shall be competent evidence in all courts, where any matter or thing, touching such patent-right, shall come in question. And such inventor shall, moreover, deliver a model of his



machine, provided the Secretary shall deem such model to be necessary.

SEC. 4. *And be it further enacted,* That it shall be lawful for any inventor, his executor, or administrator, to assign the title and interest in the said invention, at any time, and the assignee, having recorded the said assignment in the office of the Secretary of State, shall thereafter stand in the place of the original inventor, both as to right and responsibility, and so the assignee of assigns, to any degree.

Inventors may assign their titles. Record of assignment to be made in the office of the Secretary of State.

SEC. 5. *And be it further enacted,* That, if any person shall make, devise, and use, or sell the thing so invented, the exclusive right of which shall, as aforesaid, have been secured to any person by patent, without the consent of the patentee, his executors, administrators, or assigns, first obtained in writing, every person so offending, shall forfeit and pay to the patentee a sum, that shall be at least equal to three times the price for which the patentee has usually sold or licensed to other persons, the use of the said invention; which may be recovered in an action on the case founded on this act, in the Circuit Court of the United States, or any other court having competent jurisdiction.

Forfeiture on using patented inventions without leave.

Three times the price to be the penalty. How recovered.

SEC. 6. *Provided always, and be it further enacted,* That the defendant in such action shall be permitted to plead the general issue, and give this act and any special matter, of which notice in writing may have been given to the plaintiff, or his attorney, thirty days before trial, in evidence, tending to prove that the specification, filed by the plaintiff, does not contain the whole truth relative to his discovery, or that it contains more than is necessary to produce the described effect, which concealment or addition shall fully appear to have been made for the purpose of deceiving the public, or that the thing, thus secured by patent, was not originally discovered by the patentee, but had been in use, or had been described in some public work, anterior to the supposed discovery of the patentee, or that he had surreptitiously obtained a patent for the discovery of another person: in either of which cases, judgment shall be rendered for the defendant, with costs, and the patent shall be declared void.

How defendants may give this act in evidence.

And judgment shall be given.

State rights to inventions, when to be deemed void.

SEC. 7. *And be it further enacted,* That, where any State, before its adoption of the present form of government, shall have granted an exclusive right to any invention, the party claiming that right, shall not be capable of obtaining an exclusive right under this act, but on relinquishing his right under such particular State, and of such relinquishment, his obtaining an exclusive right under this act shall be sufficient evidence.

How applications depending under former law shall be prosecuted under this act.  
1790, ch. 7.

SEC. 8. *And be it further enacted,* That the persons, whose applications for patents were, at the time of passing this act, depending before the Secretary of State, Secretary at War, and Attorney-general, according to the act, passed the second session of the first Congress, intituled "An Act to promote the progress of useful arts," on complying with the conditions of this act, and paying the fees herein required, may pursue their respective claims to a patent under the same.

Proceedings to be had on interfering applications.

SEC. 9. *And be it further enacted,* That, in case of interfering applications, the same shall be submitted to the arbitration of three persons, one of whom shall be chosen by each of the applicants, and the third person shall be appointed by the Secretary of State; and the decision or award of such arbitrators, delivered to the Secretary of State in writing, and subscribed by them or any two of them, shall be final, as far as respects the granting of the patent: And if either of the applicants shall refuse or fail to choose an arbitrator, the patent shall issue to the opposite party. And where there shall be more than two interfering applications, and the parties applying shall not all unite in appointing three arbitrators, it shall be in the power of the Secretary of State to appoint three arbitrators for the purpose.

And against persons surreptitiously obtaining patents.

SEC. 10. *And be it further enacted,* That, upon oath or affirmation being made before the judge of the district court, where the patentee, his executors, administrators, or assigns reside, that any patent, which shall be issued in pursuance of this act, was obtained surreptitiously, or upon false suggestion, and motion made to the said court, within three years after issuing the said patent, but not afterwards, it shall and may be lawful for the judge of the said district

court, if the matter alleged shall appear to him to be sufficient, to grant a rule, that the patentee, or his executor, administrator, or assign, show cause why process should not issue against him, to repeal such patent. And if sufficient cause shall not be shown to the contrary, the rule shall be made absolute, and thereupon the said judge shall order process to be issued against such patentee, or his executors, administrators, or assigns, with costs of suit. And in case no sufficient cause shall be shown to the contrary, or if it shall appear that the patentee was not the true inventor or discoverer, judgment shall be rendered by such court for the repeal of such patent; and if the party, at whose complaint the process issued, shall have judgment given against him, he shall pay all such costs as the defendant shall be put to in defending the suit, to be taxed by the court, and recovered in due course of law.

Repeal of a patent illegally obtained.

SEC. 11. *And be it further enacted*, That every inventor, before he presents his invention to the Secretary of State, signifying his desire of obtaining a patent, shall pay into the treasury thirty dollars, for which he shall take duplicate receipts; one of which receipts he shall deliver to the Secretary of State, when he presents his petition; and the money thus paid shall be in full for the sundry services to be performed in the office of the Secretary of State, consequent on such petition, and shall pass to the account of clerk-hire in that office. *Provided, nevertheless*, That, for every copy, which may be required at the said office, of any paper respecting any patent that has been granted, the person obtaining such copy shall pay, at the rate of twenty cents for every copy-sheet of one hundred words, and for every copy of a drawing, the party obtaining the same shall pay two dollars; of which payments an account shall be rendered, annually, to the treasury of the United States, and they shall also pass to the account of clerk-hire in the office of the Secretary of State.

Inventor, before presenting petition, to pay \$30 into the treasury.

Copying fees.

SEC. 12. *And be it further enacted*, That the act, passed the tenth day of April, in the year one thousand seven hundred and ninety, entitled "An Act to promote the progress of useful arts," be, and the same is hereby repealed. *Provided always*, That nothing contained in this act shall be

Act of April 10, 1790, ch. 7, repealed. Proviso.

construed to invalidate any patent that may have been granted under the authority of the said act; and all patentees under the said act, their executors, administrators, and assigns, shall be considered within the purview of this act, in respect to the violation of their rights; provided, such violations shall be committed after the passing of this act.

*Approved February 21, 1793.*

CHAP. LVIII.—AN ACT supplementary to the act, intituled “An Act to promote the progress of useful arts.”  
(Obsolete.)

Suits, &c.,  
had under  
certain act  
revived.

Act of Feb.  
21, 1793,  
ch. 11.  
Act of  
April 10,  
1790, ch. 7.

In what  
manner.

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That all suits, actions, process and proceedings, heretofore had in any district court of the United States, under an act passed the tenth day of April, in the year one thousand seven hundred and ninety, intituled “An Act to promote the progress of useful arts,” which may have been set aside, suspended, or abated, by reason of the repeal of the said act, may be restored, at the instance of the plaintiff or defendant, within one year from and after the passing of this act, in the said courts, to the same situation, in which they may have been when they were so set aside, suspended, or abated; and that the parties to the said suits, actions, process, or proceedings, be, and are hereby intituled to proceed in such cases, as if no such repeal of the act aforesaid had taken place. *Provided always,* That before any order or proceeding, other than that for continuing the same suits, after the reinstating thereof, shall be entered or had, the defendant or plaintiff, as the case may be, against whom the same may have been reinstated, shall be brought into court by summons, attachment, or such other proceeding as is used in other cases for compelling the appearance of a party.

*Approved June 7, 1794.*

CHAP. XXV. — AN ACT to extend the privilege of obtaining patents for useful discoveries and inventions, to certain persons there- (Repealed) in mentioned, and to enlarge and define the penalties for violating the rights of patentees.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That all and singular the rights and privileges given, intended, or provided to citizens of the United States, respecting patents for new inventions, discoveries, and improvements, by the act intituled "An Act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," shall be, and hereby are extended and given to all aliens, who, at the time of petitioning in the manner prescribed by the said act, shall have resided for two years within the United States, which privileges shall be obtained, used and enjoyed, by such persons, in as full and ample manner, and under the same conditions, limitations and restrictions as by the said act is provided and directed in the case of citizens of the United States. *Provided always,* That every person petitioning for a patent for any invention, art, or discovery, pursuant to this act, shall make oath or affirmation, before some person duly authorized to administer oaths, before such patent shall be granted, that such invention, art, or discovery hath not, to the best of his or her knowledge or belief, been known or used, either in this or any foreign country, and that every patent which shall be obtained pursuant to this act, for any invention, art, or discovery which it shall afterwards appear had been known or used previous to such application for a patent, shall be utterly void.

SEC. 2. *And be it further enacted,* That, where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might, by virtue of this or the above-mentioned Act, be granted to such person, and shall die before any patent shall be granted therefor, the right of applying for and obtaining such patent shall devolve on the legal representatives of such person, in trust for the heirs at law of the deceased, in case he shall have died intestate; but if otherwise, then in

Aliens having resided two years within the U. States, entitled to the benefit of the former act.

Act of Feb. 21, 1793, ch. 11.

Oath to be taken by such resident, that the invention or discovery hath not been used.

The legal representatives of a deceased inventor may obtain a patent.

trust for his devisees, in as full and ample manner, and under the same conditions, limitations and restrictions as the same was held, or might have been claimed or enjoyed, by such person, in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath or affirmation, provided in the third section of the before-mentioned act, shall be so varied as to be applicable to them.

Damages for breach of patent-right.

SEC. 3. *And be it further enacted*, That, where any patent shall be, or shall have been granted, pursuant to this or the above-mentioned act, and any person, without the consent of the patentee, his or her executors, administrators or assigns, first obtained in writing, shall make, devise, use, or sell the thing whereof the exclusive right is secured to the said patentee by such patent, such person, so offending, shall forfeit and pay to the said patentee, his executors, administrators, or assigns, a sum equal to three times the actual damage sustained by such patentee, his executors, administrators, or assigns, from, or by reason of such offence, which sum shall and may be recovered, by action on the case, founded on this and the above-mentioned act, in the Circuit Court of the United States having jurisdiction thereof.

To be recovered by action on the case in the Circuit Court.

Repeal of part of the former act. Act of Feb. 21, 1793, ch. 11.

SEC. 4. *And be it further enacted*, That the fifth section of the above-mentioned act, intituled, "An Act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," shall be and hereby is repealed.

*Approved April 17, 1800.*

CHAP. XIX.—AN ACT to extend the jurisdiction of the Circuit Courts of the United States to cases arising under the law relating to patents.

The Circuit Courts to have original cognizance in equity and at law, in controversies respecting the right to inventions and writings.

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled*, That the Circuit Courts of the United States shall have original cognizance, as well in equity as at law, of all actions, suits, controversies and cases, arising under any law of the United States, granting or confirming to authors or inven-

tors the exclusive right to their respective writings, inventions, and discoveries ; and, upon any bill in equity, filed by any party aggrieved in any such cases, shall have authority to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any authors or inventors, secured to them by any laws of the United States, on such terms and conditions as the said Courts may deem fit and reasonable : *Provided, however,* That from all judgments and decrees of any Circuit Courts, rendered in the premises, a writ of error or appeal, as the case may require, shall lie to the Supreme Court of the United States, in the same manner, and under the same circumstances, as is now provided by law in other judgments and decrees of such Circuit Courts.

*Approved February 15, 1819.*

CHAP. CLXII.—AN ACT concerning patents for useful inventions.

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That it shall be the duty of the Secretary of State, annually, in the month of January, to report to Congress, and to publish in two of the newspapers printed in the city of Washington, a list of all the patents for discoveries, inventions, and improvements, which shall have expired within the year immediately preceding, with the names of the patentees, alphabetically arranged.

SEC. 2. *And be it further enacted,* That application to Congress to prolong or renew the term of a patent, shall be made before its expiration, and shall be notified at least once a month, for three months before its presentation, in two newspapers printed in the city of Washington, and in one of the newspapers in which the laws of the United States shall be published, in the State or territory in which the patentee shall reside. The petition shall set forth particularly the grounds of the application. It shall be verified by oath; the evidence in its support may be taken before any judge or justice of the peace ; it shall be accompanied by a statement of the ascertained value of the discovery, invention, or improvement, and of the receipts and expenditures of the patentee, so as to exhibit the profit or loss arising therefrom.

Act of Feb. 21, 1793, ch. 11.

Act of May 31, 1790, ch. 15.

Proviso.

Act of July 4, 1836, ch. 357.

List of expired patents to be annually reported to Congress.

Form of application to prolong or renew patent.

Patent to be invalid in case of inventor not having complied with the terms, &c. 1793, ch. 11.

Secretary of State, upon surrender, &c., to grant a new patent.

In case of death, &c., right to vest, in executors, &c. Proviso.

SEC. 3. *And be it further enacted*, That, wherever any patent which has been heretofore, or shall be hereafter, granted to any inventor, in pursuance of the Act of Congress intituled "An Act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," passed on the twenty-first day of February, in the year of our Lord one thousand seven hundred and ninety-three, or any of the acts supplementary thereto, shall be invalid or inoperative, by reason that any of the terms or conditions prescribed in the third section of the said first mentioned act, have not, by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, been complied with on the part of the said inventor, it shall be lawful for the Secretary of State, upon the surrender to him of such patent, to cause a new patent to be granted to the said inventor, for the same invention, for the residue of the period then unexpired, for which the original patent was granted, upon his compliance with the terms and conditions prescribed in the said third section of the said act. And, in case of his death, or any assignment by him made of the same patent, the like right shall vest in his executors and administrators, or assignee or assignees: *Provided, however*, That such new patent, so granted, shall, in all respects, be liable to the same matters of objection and defence as any original patent, granted under the said first mentioned act. But no public use or privilege of the invention so patented, derived from or after the grant of the original patent, either under any special license of the inventor, or without the consent of the patentee that there shall be a free public use thereof, shall, in any manner, prejudice his right of recovery for any use or violation of his invention, after the grant of such new patent as aforesaid.

*Approved July 3, 1832.*

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CHAP. CCIII. — AN ACT concerning the issuing of patents to aliens, for useful discoveries and inventions.

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled*, That the privileges granted to the aliens described in the



first section of the act, to extend the privilege of obtaining patents for useful discoveries and inventions to certain persons therein mentioned, and to enlarge and define the penalties for violating the rights of patentees, approved April seventeenth, eighteen hundred, be extended, in like manner, to every alien, who, at the time of petitioning for a patent, shall be resident in the United States, and shall have declared his intention, according to law, to become a citizen thereof: *Provided*, That every patent granted by virtue of this act, and the privileges thereto appertaining, shall cease and determine, and become absolutely void, without resort to any legal process to annul and cancel the same, in case of a failure on the part of any patentee, for the space of one year from the issuing thereof, to introduce into public use, in the United States, the invention or improvement for which the patent shall be issued; or in case the same, for any period of six months after such introduction, shall not continue to be publicly used and applied in the United States, or in case of failure to become a citizen of the United States, agreeably to notice given at the earliest period within which he shall be entitled to become a citizen of the United States.

The privileges granted to aliens extended.

Act of April 17, 1800, ch. 25.

Proviso.

*Approved July 13, 1832.*

CHAP. CCCLVII. — AN ACT to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose.

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That there shall be established and attached to the Department of State an office to be denominated the Patent Office, the chief officer of which shall be called the Commissioner of Patents, to be appointed by the President, by and with the advice and consent of the Senate, whose duty it shall be, under the direction of the Secretary of State, to superintend, execute, and perform all such acts and things, touching and respecting the granting and issuing of patents for new and useful discoveries, inventions, and improvements, as are herein provided for, or shall hereafter be, by law, directed to

March 3, 1837, ch. 43.

Commissioner of Patents to be appointed, and his duties.

August 29, 1842, ch. 263.

be done and performed, and shall have the charge and custody of all the books, records, papers, models, machines, and all other things belonging to said office. And said Commissioner shall receive the same compensation as is allowed by law to the Commissioner of the Indian Department, and shall be entitled to send and receive letters and packages by mail, relating to the business of the office, free of postage.

Chief clerk. SEC. 2. *And be it further enacted,* That there shall be in said office an inferior officer, to be appointed by the said principal officer, with the approval of the Secretary of State, to receive an annual salary of seventeen hundred dollars, and to be called the chief clerk of the Patent Office, who, in all cases during the necessary absence of the Commissioner, or when the said principal office shall become vacant, shall have the charge and custody of the seal, and of the records, books, papers, machines, models, and all other things, belonging to the said office, and shall perform the duties of Commissioner during such vacancy. And the said Commissioner may also, with like approval, appoint an examining clerk, at an annual salary of fifteen hundred dollars; two other clerks, at twelve hundred dollars each, one of whom shall be a competent draughtsman; one other clerk, at one thousand dollars; a machinist, at twelve hundred and fifty dollars; and a messenger, at seven hundred dollars. And said Commissioner, clerks, and every other person appointed and employed in said office, shall be disqualified and interdicted from acquiring or taking, except by inheritance, during the period for which they shall hold their appointments, respectively, any right or interest, directly or indirectly, in any patent for an invention or discovery which has been, or may hereafter be, granted.

Examining  
clerk, and  
other  
officers.

Officers to  
make oath  
&c.

SEC. 3. *And be it further enacted,* That the said principal officer, and every other person to be appointed in the said office, shall, before he enters upon the duties of his office or appointment, make oath or affirmation truly and faithfully to execute the trust committed to him. And the said Commissioner and the chief clerk shall also, before entering upon their duties, severally give bonds,

with sureties, to the Treasurer of the United States, the former in the sum of ten thousand dollars, and the latter in the sum of five thousand dollars, with condition to render a true and faithful account to him or his successor in office, quarterly, of all moneys which shall be by them respectively received for duties on patents, and for copies of records and drawings, and all other moneys received by virtue of said office.

SEC. 4. *And be it further enacted,* That the said Commissioner shall cause a seal to be made and provided for the said office, with such device as the President of the United States shall approve; and copies of any records, books, papers, or drawings, belonging to the said office, under the signature of the said Commissioner, or, when the office shall be vacant, under the signature of the chief clerk, with the said seal affixed, shall be competent evidence, in all cases in which the original records, books, papers, or drawings, could be evidence. And any person making application therefor, may have certified copies of the records, drawings, and other papers deposited in said office, on paying, for the written copies, the sum of ten cents for every page of one hundred words; and for copies of drawings, the reasonable expense of making the same.

SEC. 5. *And be it further enacted,* That all patents issued from said office shall be issued in the name of the United States, and under the seal of said office, and be signed by the Secretary of State, and countersigned by the Commissioner of the said office, and shall be recorded, together with the descriptions, specifications, and drawings, in the said office, in books to be kept for that purpose. Every such patent shall contain a short description or title of the invention or discovery, correctly indicating its nature and design, and, in its terms, grant to the applicant or applicants, his or their heirs, administrators, executors, or assigns, for a term not exceeding fourteen years, the full and exclusive right and liberty of making, using, and vending to others to be used, the said invention or discovery, referring to the specifications for the particulars thereof, a copy of which shall be annexed to the patent, speci-

A seal to  
be provid-  
ed.

Patents to  
be signed  
by the Se-  
cretary of  
State and  
by the  
Commis-  
sioner.

fying what the patentee claims as his invention or discovery.

Applica-  
tions, how  
made.

SEC. 6. *And be it further enacted,* That any person or persons, having discovered or invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvements on any art, machine, manufacture, or composition of matter, not known or used by others before his or their discovery or invention thereof, and not, at the time of his application for a patent, in public use or on sale, with his consent or allowance, as the inventor or discoverer, and shall desire to obtain an exclusive property therein, may make application in writing, to the Commissioner of Patents, expressing such desire, and the Commissioner, on due proceedings had, may grant a patent therefor. But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using, and compounding the same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and, in case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery.

Specifica-  
tion.

Drawings,  
&c.

He shall, furthermore, accompany the whole with a drawing or drawings, and written references, where the nature of the case admits of drawings; or with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter; which descriptions and drawings, signed by the inventor, and attested by two witnesses, shall be filed in the Patent Office; and he shall, moreover, furnish a model of his invention, in all cases which admit of a representation by model, of a convenient size to exhibit advantageously its several parts.

Models.

Oath or  
affirmation.

The applicant shall also make oath, or affirmation, that he

does verily believe that he is the original and first inventor or discoverer of the art, machine, composition, or improvement, for which he solicits a patent; and that he does not know or believe that the same was ever before known or used; and also of what country he is a citizen; which oath or affirmation may be made before any person authorized by law to administer oaths.

SEC. 7. *And be it further enacted*, That, on the filing of any such application, description, and specification, and the payment of the duty hereinafter provided, the Commissioner shall make, or cause to be made, an examination of the alleged new invention or discovery; and if, on any such examination, it shall not appear to the Commissioner that the same had been invented or discovered by any other person in this country, prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication, in this or any foreign country, or had been in public use or on sale, with the applicant's consent or allowance, prior to the application, if the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor. But whenever, on such examination, it shall appear to the Commissioner that the applicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented or discovered, or patented, or described in any printed publication, in this or any foreign country, as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him briefly such information and reference as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new. In every such case, if the applicant shall elect to withdraw his application, relinquishing his claim to the model, he shall be entitled to receive back twenty dollars, part of the duty required by this act, on filing a notice in writing of such election in the Patent Office; a copy of which, certified by the Commissioner, shall be a sufficient warrant to the treasurer for paying back to the said applicant the said sum of twenty dollars. But if the applicant,

Examination of invention, to be made, and proceedings thereon, should it not be deemed new.

in such case, shall persist in his claims for a patent, with or without any alteration of his specification, he shall be required to make oath or affirmation anew, in manner as aforesaid; and if the specification and claim shall not have been so modified as, in the opinion of the Commissioner, shall entitle the applicant to a patent, he may, on appeal, and upon request in writing, have the decision of a board of examiners, to be composed of three disinterested persons, who shall be appointed for that purpose by the Secretary of State, one of whom, at least, to be selected, if practicable and convenient, for his knowledge and skill in the particular art, manufacture, or branch of science to which the alleged invention appertains; who shall be under oath or affirmation for the faithful and impartial performance of the duty imposed upon them by said appointment. Said board shall be furnished with a certificate in writing of the opinion and decision of the Commissioner, stating the particular grounds of his objection, and the part or parts of the invention which he considers as not entitled to be patented. And the said board shall give reasonable notice to the applicant, as well as to the Commissioner, of the time and place of their meeting, that they may have an opportunity of furnishing them with such facts and evidence as they may deem necessary to a just decision; and it shall be the duty of the Commissioner to furnish to the board of examiners such information as he may possess, relative to the matter under their consideration. And on an examination and consideration of the matter by such board, it shall be in their power, or of a majority of them, to reverse the decision of the Commissioner, either in whole or in part; and, their opinion being certified to the Commissioner, he shall be governed thereby in the further proceedings to be had on such application: *Provided however*, That, before a board shall be instituted in any such case, the applicant shall pay to the credit of the treasury, as provided in the ninth section of this act, the sum of twenty-five dollars; and each of said persons, so appointed, shall be entitled to receive, for his services, in each case, a sum not exceeding ten dollars, to be determined and paid by the Commissioner, out of any moneys in his hands, which shall be in full compensation to the

Proviso.

persons who may be so appointed, for their examination and certificate as aforesaid.

SEC. 8. *And be it further enacted*, That, whenever an application shall be made for a patent, which, in the opinion of the Commissioner, would interfere with any other patent for which an application may be pending, or with any unexpired patent which shall have been granted, it shall be the duty of the Commissioner to give notice thereof to such applicants, or patentees, as the case may be; and if either shall be dissatisfied with the decision of the Commissioner on the question of priority of right or invention, on a hearing thereof, he may appeal from such decision, on the like terms and conditions as are provided in the preceding section of this act, and the like proceedings shall be had to determine which, or whether either, of the applicants is entitled to receive a patent as prayed for. But nothing in this act contained shall be construed to deprive an 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. And, whenever the applicant shall request it, the patent shall take date from the time of filing of the specifications and drawings, not, however, exceeding six months prior to the actual issuing of the patent; and, on like request, and the payment of the duty herein required, by any applicant, his specification and drawings shall be filed in the secret archives of the office, until he shall furnish the model and the patent be issued, not exceeding the term of one year, the applicant being entitled to notice of interfering applications.

Interfering  
applica-  
tions.

SEC. 9. *And be it further enacted*, That, before any application for a patent shall be considered by the Commissioner as aforesaid, the applicant shall pay into the Treasury of the United States, or into the Patent Office, or into any of the deposit banks, to the credit of the treasury, if he be a citizen of the United States, or an alien, and shall have been resident in the United States for one year next preceding, and shall have made oath of his intention to become a citizen thereof, the sum of thirty dollars; if a subject of

Thirty dol-  
lars to be  
paid to the  
credit of  
the United  
States trea-  
surer by a  
citizen, or,  
&c.

Five hundred dollars by a subject of Great Britain, and three hundred by other persons. the King of Great Britain, the sum of five hundred dollars; and all other persons the sum of three hundred dollars; for which payment duplicate receipts shall be taken, one of which to be filed in the office of the treasurer. And the moneys received into the treasury under this act shall constitute a fund for the payment of the salaries of the officers and clerks herein provided for, and all other expenses of the Patent Office, and to be called the patent fund.

Inventors dying without taking a patent, their executors, &c., may, &c. SEC. 10. *And be it further enacted,* That, where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might by virtue of this act be granted, and such person shall die before any patent shall be granted therefor, the right of applying for and obtaining such patent shall devolve on the executor or administrator of such person, in trust for the heirs at law of the deceased, in case he shall have died intestate; but if otherwise, then in trust for his devisees, in as full and ample manner, and under the same conditions, limitations, and restrictions as the same was held, or might have been claimed or enjoyed by such person in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath or affirmation provided in the sixth section of this act shall be so varied as to be applicable to them.

Assignment of a patent, and record thereof. SEC. 11. *And be it further enacted,* That every patent shall be assignable in law, either as to the whole interest, or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of the exclusive right under any patent, to make and use, and to grant to others to make and use, the thing patented, within and throughout any specified part or portion of the United States, shall be recorded in the Patent Office within three months from the execution thereof, for which the assignee or grantee shall pay to the Commissioner the sum of three dollars.

Caveat may be entered. SEC. 12. *And be it further enacted,* That any citizen of the United States, or alien, who shall have been a resident of the United States one year next preceding, and shall have made oath of his intention to become a citizen thereof, who shall have invented any new art, machine, or improve-



ment thereof, and shall desire further time to mature the same, may, on paying to the credit of the treasury, in manner as provided in the ninth section of this act, the sum of twenty dollars, file in the Patent Office a caveat, setting forth the design and purpose thereof, and its principal and distinguishing characteristics, and praying protection of his right, till he shall have matured his invention; which sum of twenty dollars, in case the person filing such caveat shall afterwards take out a patent for the invention therein mentioned, shall be considered a part of the sum herein required for the same. And such caveat shall be filed in the confidential archives of the office, and preserved in secrecy. And if application shall be made by any other person, within one year from the time of filing such caveat, for a patent of any invention with which it may in any respect interfere, it shall be the duty of the Commissioner to deposit the description, specifications, drawings and model, in the confidential archives of the office, and to give notice (by mail) to the person filing the caveat of such application, who shall, within three months after receiving the notice, if he would avail himself of the benefit of his caveat, file his description, specification, drawings and model; and if, in the opinion of the Commissioner, the specifications of claim interfere with each other, like proceedings may be had in all respects as are in this act provided in the case of interfering applications. *Provided, however,* That no opinion or decision of Proviso. any board of examiners, under the provisions of this act, shall preclude any person interested in favor of or against the validity of any patent which has been or may hereafter be granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question.

... SEC. 13. *And be it further enacted,* That, whenever any patent, which has heretofore been granted, or which shall hereafter be granted, shall be inoperative or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification, as his own invention, more than he had or shall have a right to claim as new, if the error has or shall have arisen by inadvertency, accident, or mistake, and without any fraudulent Patents invalid from defective specifications may be surrendered, and new patents may be issued in certain cases.

or deceptive intention, it shall be lawful for the Commissioner, upon the surrender to him of such patent, and the payment of the further duty of fifteen dollars, to cause a new patent to be issued to the said inventor, for the same invention, for the residue of the period then unexpired, for which the original patent was granted, in accordance with the patentee's corrected description and specification. And in case of his death, or any assignment by him made of the original patent, a similar right shall vest in his executors, administrators, or assignees. And the patent so reissued, together with the corrected description and specifications, shall have the same effect and operation in law, on the trial of all actions hereafter commenced for causes subsequently accruing, as though the same had been originally filed in such corrected form, before the issuing of the original patent. And whenever the original patentee shall be desirous of adding the description and specification of any new improvement of the original invention or discovery, which shall have been invented or discovered by him subsequent to the date of his patent, he may, like proceedings being had in all respects as in the case of original applications, and on the payment of fifteen dollars, as hereinbefore provided, have the same annexed to the original description and specification; and the Commissioner shall certify, on the margin of such annexed description and specification, the time of its being annexed and recorded; and the same shall thereafter have the same effect in law, to all intents and purposes, as though it had been embraced in the original description and specification.

Patentee  
may make  
additions to  
his patent.

Courts may  
render  
judgment  
for a sum  
not exceed-  
ing three  
times the  
amount of  
actual  
damages.

SEC. 14. *And be it further enacted,* That whenever, in any action for damages [for] making, using, or selling the thing whereof the exclusive right is secured by any patent heretofore granted, or by any patent which may hereafter be granted, a verdict shall be rendered for the plaintiff in such action, it shall be in the power of the Court to render judgment of any sum above the amount found by such verdict as the actual damages sustained by the plaintiff, not exceeding three times the amount thereof, according to the circumstances of the case, with costs; and such damages may be recovered by action on the case, in any court of

competent jurisdiction, to be brought in the name or names of the person or persons interested, whether as patentee, assignees, or as grantees of the exclusive right within and throughout a specified part of the United States.

SEC. 15. *And be it further enacted,* That the defendant <sup>Defendant</sup> in any such action shall be permitted to plead the general <sup>may plead</sup> issue, and to give this act and any special matter in evi- <sup>the general</sup> <sup>issue, &c.</sup> dence, of which notice in writing may have been given to the plaintiff or his attorney, thirty days before trial, tending to prove that the description and specification filed by the plaintiff, does not contain the whole truth relative to his invention or discovery, or that it contains more than is necessary to produce the described effect, which concealment or addition shall fully appear to have been made for the purpose of deceiving the public; or that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new; or that it had been described in some public work, anterior to the supposed discovery thereof by the patentee, or had been in public use, or on sale, with the consent and allowance of the patentee, before his application for a patent; or that he had surreptitiously or unjustly obtained the patent for that which was, in fact, invented or discovered by another, who was using reasonable diligence in adapting and perfecting the same; or 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 or discovery for which the patent issued; and whenever the defendant relies in his defence on the fact of a previous invention, knowledge, or use of the thing patented, he shall state, in his notice of special matter, the names and places of residence of those whom he intends to prove to have possessed a prior knowledge of the thing, and where the same had been used; in either of which cases, judgment shall be rendered for the defendant, with costs: *Provided, however,* That, whenever it shall satisfactorily <sup>Proviso.</sup> appear that the patentee, at the time of making his application for the patent, believed himself to be the first inventor or discoverer of the thing patented, the same shall not be

void on account of the invention or discovery, or any part thereof, having been before known or used in any foreign country ; it not appearing that the same, or any substantial part thereof, had before been patented or described in any printed publication ; *And provided, also,* That, whenever the plaintiff shall fail to sustain his action, on the ground that in his specification or claim is embraced more than that of which he was the first inventor, if it shall appear that the defendant had used or violated any part of the invention justly and truly specified and claimed as new, it shall be in the power of the Court to adjudge and award, as to costs, as may appear to be just and equitable.

Interfering  
patents,  
&c.

SEC. 16. *And be it further enacted,* That, whenever there shall be two interfering patents, or whenever a patent or application shall have been refused on an adverse decision of a board of examiners, on the ground that the patent applied for would interfere with an unexpired patent previously granted, any person interested in any such patent, either by assignment or otherwise, in the one case, and any such applicant, in the other case, may have remedy by bill in equity ; and the Court having cognizance thereof, on notice to adverse parties, and other due proceedings had, may adjudge and declare either the patents void in the whole or in part, or inoperative and invalid in any particular part or portion of the United States, according to the interest which the parties to such suit may possess in the patent or the inventions patented, and may also adjudge that such applicant is entitled, according to the principles and provisions of this act, to have and receive a patent for his invention, as specified in his claim, or for any part thereof, as the fact of priority of right or invention shall, in any such case, be made to appear. And such adjudication, if it be in favor of the right of such applicant, shall authorize the Commissioner to issue such patent, on his filing a copy of the adjudication, and otherwise complying with the requisitions of this act : *Provided, however,* that no such judgment or adjudication shall affect the rights of any person, except the parties to the action, and those deriving title from or under them subsequent to the rendition of such judgment.

Proviso.

SEC. 17. *And be it further enacted,* That all actions,

suits, controversies and cases, arising under any law of the United States, granting or confirming to inventors the exclusive right to their inventions or discoveries, shall be originally cognizable, as well in equity as at law, by the Circuit Courts of the United States, or any District Court having the powers and jurisdiction of a Circuit Court; which Courts shall have power, upon a bill in equity filed by any party aggrieved, in any such case, to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any inventor, as secured to him by any law of the United States, on such terms and conditions as said courts may deem reasonable: *Provided, however,* That, from all judgments and decrees from any such court rendered in the premises, a writ of error or appeal, as the case may require, shall lie to the Supreme Court of the United States, in the same manner and under the same circumstances as is now provided by law in other judgments and decrees of Circuit Courts, and in all other cases in which the Court shall deem it reasonable to allow the same.

SEC. 18. *And be it further enacted,* That, whenever any patentee of an invention or discovery shall desire an extension of his patent beyond the term of its limitation, he may make application therefor, in writing, to the Commissioner of the Patent Office, setting forth the grounds thereof; and the Commissioner shall, on the applicant's paying the sum of forty dollars to the credit of the treasury, as in the case of an original application for a patent, cause to be published in one or more of the principal newspapers in the city of Washington, and in such other paper or papers as he may deem proper, published in the section of country most interested adversely to the extension of the patent, a notice of such application, and of the time and place when and where the same will be considered, that any person may appear and show cause why the extension should not be granted. And the Secretary of State, the Commissioner of the Patent Office, and the Solicitor of the Treasury, shall constitute a board to hear and decide upon the evidence produced before them, both for and against the extension, and shall sit, for that purpose, at the time and place designated in the pub-

Actions  
cognizable  
in Circuit  
Courts of  
the U. S.,  
&c.

Proviso.

Patents  
may be ex-  
tended  
seven years  
in certain  
cases.

lished notice thereof. The patentee shall furnish to said board a statement in writing, under oath, of the ascertained value of the invention, and of his receipts and expenditures, sufficiently in detail to exhibit a true and faithful account of loss and profit in any manner accruing to him from and by reason of said invention. And if, upon a hearing of the matter, it shall appear to the full and entire satisfaction of said board, having due regard to the public interest therein, that it is just and proper that the term of the patent should be extended, by reason of the patentee, without neglect or fault on his part, having failed to obtain, from the use and sale of his invention, a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use, it shall be the duty of the Commissioner to renew and extend the patent, by making a certificate thereon of such extension, for the term of seven years from and after the expiration of the first term; which certificate, with a certificate of said board of their judgment and opinion as aforesaid, shall be entered on record in the Patent Office; and thereupon the said patent shall have the same effect in law as though it had been originally granted for the term of twenty-one years; and the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein: *Provided, however,* That no extension of a patent shall be granted after the expiration of the term for which it was originally issued.

Proviso.

Library of  
Patent  
Office.

SEC. 19. *And be it further enacted,* That there shall be provided, for the use of the said office, a library of scientific works and periodical publications, both foreign and American, calculated to facilitate the discharge of the duties hereby required of the chief officers therein, to be purchased under the direction of the Committee of the Library of Congress. And the sum of fifteen hundred dollars is hereby appropriated for that purpose, to be paid out of the Patent Fund.

Models to  
be classi-  
fied and  
arranged.

SEC. 20. *And be it further enacted,* That it shall be the duty of the Commissioner to cause to be classified and arranged, in such rooms or galleries as may be provided for that purpose, in suitable cases, when necessary for their

preservation, and in such manner as shall be conducive to a beneficial and favorable display thereof, the models and specimens of compositions and of fabrics, and other manufactures and works of art, patented or unpatented, which have been, or shall hereafter be deposited in said office. And said rooms or galleries shall be kept open during suitable hours, for public inspection.

SEC. 21. *And be it further enacted*, That all acts and parts of acts heretofore passed on this subject be, and the same are hereby repealed: *Provided, however*, That all actions and processes in law or equity, sued out prior to the passage of this act, may be prosecuted to final judgment and execution, in the same manner as though this act had not been passed, excepting and saving the application to any such action of the provisions of the fourteenth and fifteenth sections of this act, so far as they may be applicable thereto: *And provided, also*, That all applications for petitions for patents, pending at the time of the passage of this act, in cases where the duty has been paid, shall be proceeded with and acted on in the same manner as though filed after the passage thereof.

JAMES K. POLK,

*Speaker of the House of Representatives.*

W. R. KING,

*President of the Senate, pro tempore.*

*Approved July 4, 1836.*

ANDREW JACKSON.

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CHAP. XLV. — AN ACT in addition to the act to promote the progress of science and useful arts.

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled*, That any person who may be in possession of, or in any way interested in, any patent for an invention, discovery, or improvement, issued prior to the fifteenth day of December, in the year of our Lord one thousand eight hundred and thirty-six, or in an assignment of any patent, or interest

Patents issued and assignments executed and recorded prior to 15th December, 1836, may be recorded anew, &c.

therein, executed and recorded prior to the said fifteenth day of December, may, without charge, on presentation or transmission thereof to the Commissioner of Patents, have the same recorded anew in the Patent Office, together with the descriptions, specifications of claim, and drawings annexed or belonging to the same; and it shall be the duty of the Commissioner to cause the same, or any authenticated copy of the original record, specification, or drawing, which he may obtain, to be transcribed and copied into books of record, to be kept for that purpose; and, wherever a drawing was not originally annexed to the patent, and referred to in the specification, any drawing produced as a delineation of the invention, being verified by oath in such manner as the Commissioner shall require, may be transmitted and placed on file, or copied as aforesaid, together with certificate of the oath; or such drawings may be made in the office, under the direction of the Commissioner, in conformity with the specification. And it shall be the duty of the Commissioner to take such measures as may be advised and determined by the Board of Commissioners, provided for in the fourth section of this act, to obtain the patents, specifications, and copies aforesaid, for the purpose of being so transcribed and recorded. And it shall be the duty of each of the several clerks of the judicial courts of the United States to transmit, as soon as may be, to the Commissioner of the Patent Office, a statement of all the authenticated copies of patents, descriptions, specifications and drawings of inventions and discoveries, made and executed prior to the aforesaid fifteenth day of December, which may be found on the files of his office; and also to make out and transmit to said Commissioner, for record as aforesaid, a certified copy of every such patent, description, specification, or drawing, which shall be specially required by said Commissioner.

Measures to be taken to obtain patents, &c., to be recorded, &c.

Clerks of the judicial courts of U. States to transmit statements of authenticated copies of patents, &c., prior to 15th December, 1836, &c.

Certified copies of such record, &c., to be evidence in any judicial court of U. S. &c.

SEC 2. *And be it further enacted,* That copies of such record and drawings, certified by the Commissioner, or, in his absence, by the chief clerk, shall be *primâ facie* evidence of the particulars of the invention, and of the patent granted therefor, in any Judicial Court of the United States, in all cases where copies of the original record or specifica-



tion and drawings would be evidence, without proof of the loss of such originals; and no patent issued prior to the aforesaid fifteenth day of December shall, after the first day of June next, be received in evidence, in any of the said courts, in behalf of the patentee, or other person who shall be in possession of the same, unless it shall have been so recorded anew, and a drawing of the invention, if separate from the patent, verified as aforesaid, deposited in the Patent Office; nor shall any written assignment of any such patent, executed and recorded prior to the said fifteenth day of December, be received in evidence in any of the said courts, in behalf of the assignee, or other person in possession thereof, until it shall have been so recorded anew.

No patent, &c., issued &c., prior to December 15, 1836, to be received in evidence in said courts, after 1st June next, unless re-recorded anew.

SEC. 3. *And be it further enacted,* That, whenever it shall appear to the Commissioner that any patent was destroyed by the burning of the Patent Office building, on the aforesaid fifteenth day of December, or was otherwise lost prior thereto, it shall be his duty, on application therefor by the patentee, or other person interested therein, to issue a new patent for the same invention or discovery, bearing the date of the original patent, with his certificate thereon, that it was made and issued pursuant to the provisions of the third section of this act, and shall enter the same of record: *Provided, however,* That, before such patent shall be issued, the applicant therefor shall deposit in the Patent Office a duplicate, as near as may be, of the original model, drawings, and descriptions, with specifications of the invention or discovery, verified by oath, as shall be required by the Commissioner; and such patent and copies of such drawings and descriptions, duly certified, shall be admissible as evidence in any Judicial Court of the United States, and shall protect the rights of the patentee, his administrators, heirs, and assigns, to the extent only in which they would have been protected by the original patent and specification.

New patents to be issued for those lost or destroyed on or before December 15, 1836.

Proviso.

SEC. 4. *And be it further enacted,* That it shall be the duty of the Commissioner to procure a duplicate of such of the models destroyed by fire on the aforesaid fifteenth day of December, as were most valuable and interesting, and

Duplicates of certain models to be procured.

whose preservation would be important to the public ; and such as would be necessary to facilitate the just discharge of the duties imposed by law on the Commissioner in issuing patents, and to protect the rights of the public and of patentees in patented inventions and improvements : *Provided*, That a duplicate of such models may be obtained at a reasonable expense : *And provided, also*, That the whole amount of expenditure for this purpose shall not exceed the sum of one hundred thousand dollars. And there shall be a temporary board of Commissioners, to be composed of the Commissioner of the Patent Office and two other persons to be appointed by the President, whose duty it shall be to consider and determine upon the best and most judicious mode of obtaining models of suitable construction ; and, also, to consider and determine what models may be procured in pursuance of, and in accordance with, the provisions and limitations in this section contained. And said Commissioners may make and establish all such regulations, terms, and conditions, not inconsistent with law, as in their opinion may be proper and necessary to carry the provisions of this section into effect, according to its true intent.

Proviso.

Further proviso.

A temporary board of commissioners to be appointed; their duties.

Patents returned for correction, &c., under the 13th section of the act to which this is additional, &c. Act of 1838, ch. 857. Proviso.

No addition &c., to be made to any patent heretofore granted, &c., until a verified duplicate model, &c., is deposited, &c.

SEC. 5. *And be it further enacted*, That, whenever a patent shall be returned for correction and reissue, under the thirteenth section of the act to which this is additional, and the patentee shall desire several patents to be issued for distinct and separate parts of the thing patented, he shall first pay, in manner and in addition to the sum provided by that act, the sum of thirty dollars for each additional patent so to be issued : *Provided, however*, That no patent made prior to the aforesaid fifteenth day of December, shall be corrected and reissued, until a duplicate of the model and drawing of the thing, as originally invented, verified by oath as shall be required by the Commissioner, shall be deposited in the Patent Office. Nor shall any addition of an improvement be made to any patent heretofore granted, nor any new patent be issued for an improvement made in any machine, manufacture, or process, to the original inventor, assignee, or possessor of a patent therefor, nor any disclaimer be admitted to record, until a duplicate model and drawing of the thing originally invented, verified as afore-

said, shall have been deposited in the Patent Office, if the Commissioner shall require the same; nor shall any patent be granted for an invention, improvement, or discovery, the model or drawing of which shall have been lost, until another model and drawing, if required by the Commissioner, shall, in like manner, be deposited in the Patent Office.

And in all such cases, as well as in those which may arise under the third section of this act, the question of compensation for such models and drawing, shall be subject to the judgment and decision of the Commissioners provided for in the fourth section, under the same limitations and restrictions as are therein prescribed. Compensation for models, &c

SEC. 6. *And be it further enacted,* That any patent hereafter to be issued. may be made and issued to the assignee or assignees of the inventor or discoverer, the assignment thereof being first entered of record, and the application therefor being duly made, and the specification duly sworn to by the inventor. And in all cases hereafter, the applicant for a patent shall be held to furnish duplicate drawings, whenever the case admits of drawings, one of which to be deposited in the office, and the other to be annexed to the patent, and considered a part of the specification. Patents hereafter to be issued.

SEC. 7. *And be it further enacted,* That, whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification of claim too broad, claiming more than that of which he was the original or first inventor, some material and substantial part of the thing patented being truly and justly his own, any such patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest therein, may make disclaimer of such parts of the thing patented as the disclaimant shall not claim to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent; which disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office, on payment by the person disclaiming, in manner as other patent duties are required by law to be paid, of the sum of ten dollars. And such disclaimer shall thereafter be taken and considered as part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured Whenever any patentee shall, through inadvertence, &c., make his specification too broad, &c., he, &c., may make disclaimer, &c.

thereby, by the disclaimant, and by those claiming by or under him, subsequent to the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same.

Applica-  
tions for  
additions  
to newly  
discovered  
improve-  
ments to be  
made to ex-  
isting pa-  
tents, &c.

SEC. 8. *And be it further enacted*, That, whenever application shall be made to the Commissioner for any addition of a newly discovered improvement to be made to an existing patent, or whenever a patent shall be returned for correction and reissue, the specification of claim annexed to every such patent shall be subject to revision and restriction, in the same manner as are original applications for patents; the Commissioner shall not add any such improvement to the patent in the one case, nor grant the reissue in the other case, until the applicant shall have entered a disclaimer, or altered his specification of claim, in accordance with the decision of the Commissioner; and in all such cases, the applicant, if dissatisfied with such decision, shall have the same remedy, and be entitled to the benefit of the same privileges and proceedings, as are provided by law in the case of original applications for patents.

When, by  
mistake,  
&c., any  
patentee  
claims to  
be the ori-  
ginal inven-  
tor of part  
of the thing  
patented, of  
which he  
was not,  
&c.

SEC. 9. *And be it further enacted*, (any thing in the fifteenth section of the act, to which this is additional, to the contrary notwithstanding,) That whenever, by mistake, accident, or inadvertence, and without any wilful default or intent to defraud or mislead the public, any patentee shall have, in his specification, claimed to be the original and first inventor or discoverer of any material or substantial part of the thing patented, of which he was not the first and original inventor, and shall have no legal or just right to claim the same, in every such case the patent shall be deemed good and valid for so much of the invention or discovery as shall be truly and *bonâ fide* his own: *Provided*, It shall be a material and substantial part of the thing patented, and be definitively distinguishable from the other parts so claimed without right as aforesaid. And every such patentee, his executors, administrators, and assigns, whether of a whole or of a sectional interest therein, shall be entitled to maintain a suit at law or in equity, on such patent, for any infringement of such part of the invention or discovery as

Proviso.

shall be *bond fide* his own, as aforesaid, notwithstanding the specification may embrace more than he shall have a legal right to claim. But in every such case, in which a judgment or verdict shall be rendered for the plaintiff, he shall not be entitled to recover costs against the defendant, unless he shall have entered at the Patent Office, prior to the commencement of the suit, a disclaimer to all that part of the thing patented which was so claimed without right: *Provided, however,* That no person bringing any such suit shall be entitled to the benefits of the provisions contained in this section, who shall have unreasonably neglected or delayed enter at the Patent Office a disclaimer, as aforesaid. Further proviso.

SEC. 10. *And be it further enacted,* That the Commissioner is hereby authorized and empowered to appoint agents in not exceeding twenty of the principal cities or towns in the United States, as may best accommodate the different sections of the country, for the purpose of receiving and forwarding to the Patent Office all such models, specimens of ingredients and manufactures, as shall be intended to be patented or deposited therein, the transportation of the same to be chargeable to the patent fund. Agents to be appointed to receive and forward models, &c.

SEC. 11. *And be it further enacted,* That, instead of one examining clerk, as provided by the second section of the act to which this is additional, there shall be appointed, in manner therein provided, two examining clerks, each to receive an annual salary of fifteen hundred dollars, and, also, an additional copying clerk, at an annual salary of eight hundred dollars. And the Commissioner is also authorized to employ, from time to time, as many temporary clerks as may be necessary to execute the copying and draughting required by the first section of this act, and to examine and compare the records with the originals, who shall receive not exceeding seven cents for every page of one hundred words, and for drawings and comparison of records with originals, such reasonable compensation as shall be agreed upon or prescribed by the Commissioner. Two examining and one copying clerk to be appointed.  
Temporary clerks may be employed

SEC. 12. *And be it further enacted,* That, whenever the application of any foreigner for a patent shall be rejected and withdrawn, for want of novelty in the invention, pursuant to the seventh section of the act to which this is additional. Certificate of the Commissioner to be sufficient warrant to the Treasurer.

tional, the certificate thereof of the Commissioner shall be a sufficient warrant to the Treasurer to pay back to such applicant two thirds of the duty he shall have paid into the Treasury on account of such application.

Affirmation may be substituted for an oath.

SEC. 13. *And be it further enacted*, That, in all cases in which an oath is required by this act, or by the act to which this is additional, if the person of whom it is required shall be conscientiously scrupulous of taking an oath, affirmation may be substituted therefor.

Moneys paid into the treasury for patents, &c., prior to passage of the act to which this is additional, to be carried to credit of patent fund created by said act; and said fund appropriated for salaries, &c. Commissioner authorized to draw upon the same, &c.; and lay before Congress annually a statement of expenditures, &c., and, also, a list of patents, &c.

SEC. 14. *And be it further enacted*, That all moneys paid into the Treasury of the United States for patents, and for fees for copies furnished by the Superintendent of the Patent Office, prior to the passage of the act of which this is additional, shall be carried to the credit of the patent fund created by said act; and the moneys constituting said fund shall be, and the same are hereby, appropriated for the payment of the salaries of the officers and clerks provided by said act, and all other expenses of the Patent Office, including all the expenditures provided for by this act; and, also, for such other purposes as are or may be hereafter specially provided for by law. And the Commissioner is hereby authorized to draw upon said fund, from time to time, for such sums as shall be necessary to carry into effect the provisions of this act, governed, however, by the several limitations herein contained. And it shall be his duty to lay before Congress, in the month of January, annually, a detailed statement of the expenditures and payments by him made from said fund. And it shall also be his duty to lay before Congress, in the month of January, annually, a list of all patents which shall have been granted during the preceding year, designating, under proper heads, the subjects of such patents, and furnishing an alphabetical list of the patentees, with their places of residence; and he shall also furnish a list of all patents which shall have become public property during the same period; together with such other information of the state and condition of the Patent Office as may be useful to Congress or the public.

*Approved, March 3d, 1837.*

CHAP. LXXXVIII. — AN ACT in addition to an "Act to promote the progress of the useful arts."

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* Act of July, 4, 1836, ch. 357.  
That there shall be appointed, in manner provided in the second section of the act to which this is additional, two Act of Aug. 29, 1842, ch. 268. assistant examiners, each to receive an annual salary of twelve hundred and fifty dollars. Two assistant examiners to be appointed; how; their salaries. Temporary clerks. Proviso.

SEC. 2. *And be it further enacted,* That the Commissioner be authorized to employ temporary clerks to do any necessary transcribing, whenever the current business of the office requires it; *Provided, however,* That, instead of salary, a compensation shall be allowed, at a rate not greater than is charged for copies now furnished by the office.

SEC. 3. *And be it further enacted,* That the Commissioner is hereby authorized to publish a classified and alphabetical list of all patents granted by the Patent Office, previous to said publication, and retain one hundred copies for the Patent Office, and nine hundred copies to be deposited in the library of Congress, for such distribution as may be hereafter directed; and that one thousand dollars, if necessary, be appropriated, out of the patent fund, to defray the expense of the same. List of patents to be published.

SEC. 4. *And be it further enacted,* That the sum of three thousand six hundred and fifty-nine dollars and twenty-two cents be, and is hereby, appropriated from the patent fund, to pay for the use and occupation of rooms in the City Hall by the Patent Office. Pay for use of rooms in City Hall.

SEC. 5. *And be it further enacted,* That the sum of one thousand dollars be appropriated from the patent fund, to be expended under the direction of the Commissioner, for the purchase of necessary books for the library of the Patent Office. Purchase of books.

SEC. 6. *And be it further enacted,* That no person shall be debarred from receiving a patent for any invention or discovery, as provided in the act approved on the fourth day of July, one thousand eight hundred and thirty-six, to which this is additional, by reason of the same having been patented in a foreign country more than six months prior to No person to be debarred from receiving a patent, &c.

Proviso. his application : *Provided*, That the same shall not have been introduced into public and common use in the United States prior to the application for such patent : *And provided, also*, That, in all cases, every such patent shall be limited to the term of fourteen years from the date or publication of such foreign letters-patent.

Persons, &c., having purchased or constructed any newly invented machine, &c. SEC. 7. *And be it further enacted*, That every person or corporation who has, or shall have, purchased or constructed any newly invented machine, manufacture, or composition of matter, prior to the application by the inventor or discoverer for a patent, shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture, or composition of matter, so made or purchased, without liability therefor to the inventor, or any other person interested in such invention ; and no patent shall be held to be invalid by reason of such purchase, sale, or use, prior to the application for a patent as aforesaid, except on proof of abandonment of such invention to the public, or that such purchase, sale, or prior use, has been for more than two years prior to such application for a patent.

So much of 11th sec. act July 4, 1832, chap. 357, as requires payment for recording assignments, repealed. SEC. 8. *And be it further enacted*, That so much of the eleventh section of the above recited act as requires the payment of three dollars to the Commissioner of Patents, for recording any assignment, grant, or conveyances of the whole or any part of the interest or right under any patent, be, and the same is hereby repealed ; and all such assignments, grants, and conveyance shall, in future, be recorded without any change whatever.

Agricultural statistics, &c. SEC. 9. *And be it further enacted*, That a sum of money, not exceeding one thousand dollars, be, and the same is hereby, appropriated out of the patent fund, to be expended by the Commissioner of Patents in the collection of agricultural statistics, and for other agricultural purposes ; for which the said Commissioner shall account in his next annual report.

Provisions 16th sec. act July 4, 1836, chap. 357, extended. SEC. 10. *And be it further enacted*, That the provisions of the sixteenth section of the before recited act shall extend to all cases where patents are refused for any reason whatever, either by the Commissioner of Patents or by the Chief Justice of the District of Columbia, upon appeals from the



decision of said Commissioner, as well as where the same shall have been refused on account of, or by reason of, interference with a previously existing patent; and, in all cases where there is no opposing party, a copy of the bill shall be served upon the Commissioner of Patents, when the whole of the expenses of the proceeding shall be paid by the applicant, whether the final decision shall be in his favor or otherwise.

SEC. 11. *And be it further enacted,* That, in cases where Appeals. an appeal is now allowed by law from the decision of the Commissioner of Patents to a board of examiners, provided for in the seventh section of the act to which this is additional, the party, instead thereof, shall have a right to appeal to the Chief Justice of the district court of the United States for the District of Columbia, by giving notice thereof to the Commissioner, and filing in the Patent Office, within such time as the Commissioner shall appoint, his reasons of appeal, specifically set forth in writing, and also paying into the Patent Office, to the credit of the patent fund, the sum of twenty-five dollars. And it shall be the duty of said Chief Justice, on petition, to hear and determine all such appeals, and to revise such decisions in a summary way, on the evidence produced before the Commissioner, at such early and convenient time as he may appoint, first notifying the Commissioner of the time and place of hearing, whose duty it shall be to give notice thereof to all parties who appear to be interested therein, in such manner as said judge shall prescribe. The Commissioner shall also lay before the said judge all the original papers and evidence in the case, together with the grounds of his decision, fully set forth in writing, touching all the points involved by the reasons of appeal, to which the revision shall be confined. And, at the request of any party interested, or at the desire of the judge, the Commissioner and the examiners in the Patent Office may be examined under oath, in explanation of the principles of the machine or other thing for which a patent, in such case, is prayed for. And it shall be the duty of the said judge, after a hearing of any such case, to return all the papers to the Commissioner, with a certificate of his proceedings and decision, which shall be entered of record in the Patent Office; and such decision, so certified, shall govern the

Proviso. further proceedings of the Commissioner in such case: *Provided, however,* That no opinion or decision of the judge, in any such case, shall preclude any person interested in favor or against the validity of any patent which has been, or may hereafter be, granted, from the right to contest the same in any judicial court, in any action in which its validity may come in question.

Commissioner may make regulations respecting contested cases. SEC. 12. *And be it further enacted,* That the Commissioner of Patents shall have power to make all such regulations, in respect to the taking of evidence to be used in contested cases before him, as may be just and reasonable. And so much of the act to which this is additional, as provides for a board of examiners, is hereby repealed.

Compensation of the Chief Justice. SEC. 13. *And be it further enacted,* That there be paid annually, out of the patent fund, to the said Chief Justice, in consideration of the duties herein imposed, the sum of one hundred dollars.

*Approved March 3, 1839.*

CHAP. CCLXIII. — AN ACT in addition to an "Act to promote the progress of the useful arts," and to repeal all acts and parts of acts heretofore made for that purpose.

Act of July 4, 1836, chap. 357.

Act of Mar. 3, 1837, chap. 45.

Act of Mar. 3, 1839, chap. 87.

Treasurer authorized to pay back out of the patent fund certain money paid as fees.

Sec. 3, Act of Mar. 3, 1837, chap. 48, extended to patents granted prior to 15th Dec'r. 1836, though lost subsequently. Proviso.

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That the Treasurer of the United States be, and he hereby is, authorized to pay back, out of the patent fund, any sums of money, to any person who shall have paid the same into the Treasury, or to any receiver or depositary to the credit of the Treasurer, as for fees accruing at the Patent Office through mistake, and which are not provided to be paid by existing laws, certificate thereof being made to said Treasurer by the Commissioner of Patents.

SEC. 2. *And be it further enacted,* That the third section of the act of March, eighteen hundred and thirty-seven, which authorizes the renewing of patents lost prior to the fifteenth of December, eighteen hundred and thirty-six, is extended to patents granted prior to said fifteenth day of December, though they may have been lost subsequently: *Provided, however,* The same shall not have been recorded anew under the provisions of said act.

SEC. 3. *And be it further enacted*, That any citizen or citizens, or alien or aliens, having resided one year in the United States, and taken the oath of his or their intention to become a citizen or citizens, who, by his, her, or their own industry, genius, efforts, and expense, may have invented or produced any new and original design for a manufacture, whether of metal, or other material or materials, or any new and original design for the printing of woollen, silk, cotton, or other fabrics, or any new and original design for a bust, statue, or bas relief or composition in alto or basso relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new and useful pattern, or print, or picture, to be either worked into or worked on, or printed or painted, or cast, or otherwise fixed on, any article of manufacture, or any new and original shape or configuration of any article of manufacture, not known or used by others, before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefor, and who shall desire to obtain an exclusive property or right therein to make, use, and sell, and vend the same, or copies of the same, to others, by them to be made, used, and sold, may make application, in writing, to the Commissioner of Patents, expressing such desire, and the Commissioner, on due proceeding had, may grant a patent therefor, as in the case now of application for a patent: *Provided*, Citizens, &c., may obtain a patent; now. *Proviso.* That the fee in such cases, which, by the now existing laws, would be required of the particular applicant, shall be one half the sum, and that the duration of said patent shall be seven years, and that all the regulations and provisions which now apply to the obtaining or protection of patents, not inconsistent with the provisions of this act, shall apply to applications under this section.

SEC. 4. *And be it further enacted*, That the oath required for applicants for patents, may be taken, when the applicant is not, for the time being, residing in the United States, before any minister, plenipotentiary, chargé d'affaires, consul, or commercial agent, holding commission under the government of the United States, or before any Oath may be taken before U. S. ministers, &c.

notary public of the foreign country in which such applicant may be.

Penalty for infringing the rights of a patentee, &c., by marking.

SEC. 5. *And be it further enacted,* That, if any person or persons shall paint or print, or mould, cast, carve, or engrave, or stamp, upon any thing made, used, or sold by him, for the sole making or selling which he hath not, or shall not have obtained letters-patent, the name, or any imitation of the name, of any other person who hath or shall have obtained letters-patent for the sole making and vending of such thing, without consent of such patentee, or his assigns or legal representatives; or if any person, upon any such thing not having been purchased from the patentee, or some person who purchased it from or under such patentee, or not having the license or consent of such patentee, or his assigns or legal representatives, shall write, paint, print, mould, cast, carve, engrave, stamp, or otherwise make or affix the word "patent," or the words "letters-patent," or the word "patentee," or any word or words of like kind, meaning, or import, with the view or intent of imitating or counterfeiting the stamp, mark, or other device of the patentee, or shall affix the same, or any word, stamp, or device of like import, on any unpatented article, for the purpose of deceiving the public, he, she, or they, so offending, shall be liable, for such offence, to a penalty of not less than one hundred dollars, with costs, to be recovered, by action, in any of the Circuit Courts of the United States, or in any of the District Courts of the United States, having the powers and jurisdiction of a Circuit Court; one half of which penalty, as recovered, shall be paid to the Patent Fund, and the other half to any person or persons who shall sue for the same.

How recoverable, &c.

Patentees, &c., required to mark articles offered for sale.

Penalty for neglect.

SEC. 6. *And be it further enacted,* That all patentees and assignees of patents hereafter granted, are hereby required to stamp, engrave, or cause to be stamped or engraved, on each article vended or offered for sale, the date of the patent; and if any person or persons, patentees or assignees, shall neglect to do so, he, she, or they shall be liable to the same penalty, to be recovered and disposed of in the manner specified in the foregoing fifth section of this act.

*Approved August 29, 1842.*

CHAP. XLVII.—AN ACT to provide additional examiners in the Patent Office, and for other purposes.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That there shall be appointed, in the manner provided in the second section of the act entitled "An Act to promote the progress of Useful Arts, and to repeal all acts and parts of acts heretofore made for that purpose," approved July fourth, eighteen hundred and thirty-six, two principal examiners, and two assistant examiners, in addition to the number of examiners now employed in the Patent Office; and that, hereafter, each of the principal examiners employed in the Patent Office shall receive an annual salary of twenty-five hundred dollars, and each of the assistant examiners an annual salary of fifteen hundred dollars: *Provided,* That the power to extend patents, now vested in the board composed of the Secretary of State, Commissioner of Patents, and Solicitor of the Treasury, by the eighteenth section of the act approved July fourth, eighteen hundred and thirty-six, respecting the Patent Office, shall hereafter be vested solely in the Commissioner of Patents; and, when an application is made to him for the extension of a patent, according to said eighteenth section; and sixty days' notice given thereof, he shall refer the case to the principal examiner having charge of the class of inventions to which said case belongs, who shall make a full report to said Commissioner of the said case, and particularly whether the invention or improvement secured in the patent was new and patentable when patented; and, thereupon, the said Commissioner shall grant or refuse the extension of said patent, upon the same principles and rules that have governed said board; but no patent shall be extended for a longer term than seven years.

SEC. 2. *And be it further enacted,* That, hereafter, the Commissioner of Patents shall require a fee of one dollar, for recording any assignment, grant, or conveyance of the whole or any part of the interest in letters-patent, or power

May 28,  
1848.

1836, ch.  
357. Addi-  
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Salaries.

Extension  
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Fee for  
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patents.

of attorney, or license to make or use the things patented, when such instrument shall not exceed three hundred words; the sum of two dollars, when it shall exceed three hundred, and shall not exceed one thousand words; and the sum of three dollars, when it shall exceed one thousand words; which fees shall, in all cases, be paid in advance.

Two copying and recording clerks authorized.

SEC. 3. *And be it further enacted,* That there shall be appointed, in manner aforesaid, two clerks, to be employed in copying and recording, and in other services in the Patent Office, who shall be paid a salary of one thousand two hundred dollars per annum.

Franking privilege of Commissioner of Patents.

SEC. 4. *And be it further enacted,* That the Commissioner of Patents is hereby authorized to send by mail, free of postage, the annual reports of the Patent Office, in the same manner in which he is empowered to send letters and packages relating to the business of the Patent Office.

*Approved May 27, 1848.*

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