

§ 122. The specification, under our law, occupies a relation to the patent somewhat different from the rule in England. In England, the specification does not form part of the patent, so as to control its construction; but the rights of the inventor are made to depend on the description of his invention, inserted in the title of the patent, and cannot be helped by the specification, the office of which is to describe the mode of constructing, using, or compounding the invention mentioned in the patent.¹ But in the United States, the specification is drawn up and filed before the patent is granted, and is referred to in the patent itself, a copy being annexed. It is therefore the settled rule in this country that the patent and the specification are to be construed together, in order to ascertain the subject-matter of the invention, and that the specification may control the generality of the terms of the patent, of which it forms a part.² In like manner drawings annexed to a specification, in compliance with the statute, are held to form a part of it, and are to be regarded in the construction of the whole instrument.³ Where the term patent, therefore, is used, in the following discussion of the rules of construction, it will be understood to include the specification and drawings annexed to it.⁴

¹ Phillips on Patents, p. 223; Godson on Patents, p. 108, 117; *Hogg v. Emerson*, 6 Howard 437, 479.

² *Whittemore v. Cutter*, 1 Gallis. 429, 437; *Barrett v. Hall*, 1 Mas. 447, 477; *Pitts v. Whitman*, 2 Story's R. 609, 621. So too the specification may enlarge the recitals of the invention in the letters. *Hogg v. Emerson ut supra*.

³ *Earle v. Sawyer*, 4 Mas. 9. It seems, too, that drawings not referred to in the specification, may be used to explain it. *Washburn v. Gould*, 3 Story's R. 122, 133; *Brooks v. Bicknell*, 3 M'Lean's R. 250, 261. But they must be drawings accompanying the specification, otherwise they do not form a part of it.

⁴ The 5th section of the Act of 1836 declares that "every patent shall contain a short description or title of the invention or discovery, correctly indicating its nature and design," and "referring to the specification for the particulars thereof, a copy of which shall be annexed to the patent, specifying what the patentee claims as his invention or discovery." The Supreme Court of the United States, in a very recent case, have held that wherever

§ 123. In construing patents, it is the province of the court to determine what it is that is intended to be patented, and whether the patent is valid in point of law. Whether the invention itself be specifically described with reasonable certainty is a question of law upon the construction of the terms of the patent; so that it is for the court to determine whether the invention is so vague and incomprehensible as in point of law not to be patentable, whether it is a claim for an improved machine, for a combination, or a single invention; and in short, to determine what the subject-matter is, upon the whole face of the specification and the accompanying drawings.¹ It is therefore the duty of the jury to take the construction of the patent from the court, absolutely, where there are no terms of art made use of which require to be explained by evidence, and no surrounding circumstances to be ascertained as matter of fact, before a construction can be put upon the instrument. But where terms of art requiring explanation are made use of, or where the surrounding circumstances affect the meaning of the specification, these terms and circumstances are necessarily referred to the jury, who must take the construction from the court, conditionally, and determine it according as they find the facts thus put to them.²

this form, of letters with a specification annexed and referred to, has been adopted, either before or since the Act of 1836, the specification is to be considered as part of the letters, in construing them. *Hogg v. Emerson*, 6 Howard 437, 482.

¹ *Davis v. Palmer*, 2 Brock. 298; *Lowell v. Lewis*, 1 Mas. 189; *Carver v. Braintree Manf. Co.* 2 Story, 434, 437, 441; *Washburn v. Gould*, 3 Story, 122, 130, 137, 138, 140, 141; *Davoll v. Brown*, 1 Woodbury & Minot, 53, 56.

² *Washburn v. Gould*, *ut supra*. In *Neilson v. Harford*, Webs. Pat. Cas. 370, in the Exchequer, Parke B. delivering the judgment of the court said, "Then we come to the question itself, which depends on the proper construction to be put on the specification itself. It was contended, that of this construction the jury were to judge. We are clearly of a different opinion. The construction of all written instruments belongs to the court alone, whose duty it is to construe all written instruments, as soon as the true meaning of the words in which they are couched, and the surrounding circumstances, if any,

§ 124. It is, on the other hand, the province of the jury to decide, on the evidence of experts, whether the invention is described in such full, clear, and exact terms, as to enable a skilful person to put it in practice, from the specification itself.¹ As specifications are drawn by persons more conversant with the subject than juries, who are selected indiscriminately from the public, and as they are addressed to competent workmen, familiar with the science or branch of industry to which the subject belongs, the evidence of those persons must be resorted to, who are able to tell the jury that they see enough on the face of the specification to enable them to make the article, or reproduce the subject of the patent, without difficulty.²

§ 125. The rule of our law that the specification may control the generality of the terms of the patent must be subject to this qualification. If there is a clear repugnancy between the description of the invention as given in the specification, and the invention stated in the letters-patent, the patent will be void; for if the letters are issued for an invention that is not described in the specification, the statute is not complied with. The rule which allows the letters-patent to be controlled by the speci-

have been ascertained by the jury; and it is the duty of the jury to take the construction from the court, either absolutely, if there be no words to be construed as words of art, or phrases used in commerce, and the surrounding circumstances to be ascertained, or conditionally, where those words or circumstances are necessarily referred to them. Unless this were so, there would be no certainty in the law, for a misconstruction by the court is the proper subject, by means of a bill of exceptions, of redress in a court of error, but a misconstruction by the jury cannot be set right at all effectually. Then, taking the construction of this specification upon ourselves, as we are bound to do, it becomes necessary to examine what the nature of the invention is which the plaintiff has disclosed by this instrument.”

¹ *Davis v. Palmer*, 2 Brock. 298; *Lowell v. Lewis*, 1 Mas. 182, 190; *Carver v. Braintree Manf. Co.* 2 Story's R. 432, 437, 441; *Washburn v. Gould*, 3 Story's R. 122, 138; *Davoll v. Brown*, 1 Woodbury & Minot, 53, 57; *Walton v. Potter*, Webs. Pat. Cas. 585, 595.

² *Walton v. Potter*, Webs. Pat. Cas. 585, 595.

cation cannot extend to a case where the terms of the former are inconsistent with those of the latter.¹

§ 126. The general rule for the construction of patents, in this country, is, that they are to be construed liberally, and not to be subjected to a rigid interpretation. The nature and extent of the invention claimed by the patentee is the thing to be ascertained; and this is to be arrived at, through the fair sense of the words which he has employed to describe his invention.²

¹ The case of *The King v. Wheeler*, 4 B. & Ald. 345, presents an instance of the invention stated in the patent remaining wholly undescribed by the specification, which described something else.

² *Ames v. Howard*, 1 Sumner, 482, 485; Mr. Justice Story said, "Patents for inventions are not to be treated as mere monopolies odious in the eyes of the law, and therefore not to be favored; nor are they to be construed with the utmost rigor, as *strictissimi juris*. The Constitution of the United States, in giving authority to Congress to grant such patents for a limited period, declares the object to be to promote the progress of science and useful arts, an object as truly national, and meritorious, and well founded in public policy as any which can possibly be within the scope of national protection. Hence, it has always been the course of the American Courts, (and it has latterly become that of the English Courts also,) to construe these patents fairly and liberally, and not to subject them to any over-nice and critical refinements. The object is to ascertain, what, from the fair sense of the words of the specification, is the nature and extent of the invention claimed by the party; and when the nature and extent of that claim are apparent, not to fritter away his rights upon formal or subtle objections of a purely technical character."

In *Blanchard v. Sprague*, 3 Sumner, 535, 539, the same learned Judge said, "Formerly, in England, courts of law were disposed to indulge in a very close and strict construction of the specifications, accompanying patents, and expressing the nature and extent of the invention. This construction seems to have been adopted upon the notion, that patent rights were in the nature of monopolies, and, therefore, were to be narrowly watched, and construed with a rigid adherence to their terms, as being in derogation of the general rights of the community. At present a far more liberal and expanded view of the subject is taken. Patents for inventions are now treated as a just reward for ingenious men, and as highly beneficial to the public, not only by holding out suitable encouragements to genius and talents and enterprise; but as ultimately securing to the whole community great advantages

§ 127. But, at the same time, it is to be observed, that the statute prescribes certain requisites for this description of an invention, which are of long standing; and the decisions of the courts, explaining and enforcing these requisites, have established certain rules of construction, intended to guard the public against defective or insufficient descriptions, on the one hand, and to guard inventors, on the other hand, against the acuteness and ingenuity and captious objections of rivals and pirates. The foundation of all these rules of construction is to be found in the object of the specification, which may be thus stated, in the language of the Supreme Court of the United States.

§ 128. The specification has two objects: one is to make known the manner of constructing the machine (if the invention is of a machine) so as to enable artisans to make and use it, and thus to give the public the full benefit of the discovery after the expiration of the patent. The other object of the specification is, to put the public in possession of what the party claims as his own invention, so as to ascertain if he claim anything that is in common use, or is already known, and to guard against prejudice or injury from the use of an invention which the

from the free communication of secrets, and processes, and machinery, which may be most important to all the great interests of society, to agriculture, to commerce, and to manufactures, as well as to the cause of science and art. In America this liberal view of the subject has always been taken; and indeed it is a natural, if not a necessary result, from the very language and intent of the power given to Congress by the Constitution, on this subject. Congress (says the Constitution) shall have power to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right of their respective writings and discoveries." Patents then are clearly entitled to a liberal construction, since they are not granted as restrictions upon the rights of the community, but are granted "to promote science and useful arts."

See also *Ryan v. Goodwin*, 3 Sumner, 514, where it is said that if the court can perceive, on the whole instrument, the exact nature and extent of the claim made by the inventor, it is bound to adopt that interpretation, and to give it full effect. See also *Wyeth v. Stone*, 1 Story's R. 270, 286; *Davoll v. Brown*, 1 Woodbury & Minot, 53, 57.

party may otherwise innocently suppose not to be patented. It is, therefore, for the purpose of warning an innocent purchaser or other person using a machine, of his infringement of the patent; and at the same time of taking from the inventor the means of practising upon the credulity or the fears of other persons, by pretending that his invention is more than what it really is, or different from its ostensible objects, that the patentee is required to distinguish his invention in his specification.¹

§ 129. It has been justly remarked, by a learned writer, that the statute requisites for a good specification run so much into each other, in their nature and character, and are so blended together, that it is difficult to treat of them separately.² But the leading purposes of the whole of the statute directions are two; *first*, to inform the public what the thing is of which the patentee claims to be the inventor, and therefore the exclusive proprietor during the existence of his patent; *second*, to enable the public, from the specification itself, to practise the invention thus described, after the expiration of the patent. The principles of construction, and the authorities from which they are drawn may therefore be discussed with reference to these two objects.

§ 130. I. The first rule for preparing a specification is,
To describe the subject-matter, or what the patentee claims to have invented, so as to enable the public to know what his claim is.

Whether the patentee has done this, in a given case, is, as we have seen, generally a question of law for the court, on the construction of the patent. It is not necessary that the language employed should be technical, or scientifically accurate, although at the same time it must not mislead. If the terms

¹ *Evans v. Eaton*, 7 Wheaton, 356, 433.

² *Phillips on Patents*, p. 237.

made use of will enable the court to ascertain clearly, by fair interpretation, what the party intends to claim, an inaccuracy or imperfection in the language will not vitiate the specification.¹ But it must appear with reasonable certainty what the party intends to claim; for it is not to be left to minute references and conjectures, as to what was previously known or unknown; since the question is not, what was before known, but what the patentee claims as new.² If the patentee has left it wholly ambiguous and uncertain, so loosely defined, and so inaccurately expressed, that the court cannot, upon fair interpretation of the words, and without resorting to mere vague conjecture of intention, gather what the invention is, then the patent is void for this defect. But if the court can clearly see, what is the nature and extent of the claim, by a reasonable use of the means of interpretation of the language used, then, it is said, the patentee is entitled to the benefit of it, however imperfectly and inartificially he may have expressed himself. For this purpose, phrases standing alone are not to be singled out, but the whole is to be taken in connexion.³

¹ *Wyeth v. Stone*, 1 Story's R. 271, 286; *Carver v. The Braintree Manf. Co.* 2 Story's R. 408, 446; *Neilson v. Harford*, Webs. Pat. Cas. 331, 369; *Bloxam v. Elsee*, 1 Car. & P. 558.

² *Lowell v. Lewis*, 1 Mas. 182, 188. A general statement that the patented machine is, in all material respects (without stating what respects,) an improvement on an old machine, is no specification at all. *Ib.* See also *Kneass v. The Schuylkill Bank*, 4 Wash. 9. If the patent be for an improved machine, or for an improvement of a machine (the meaning of the terms is the same) it must state in what the improvement specifically consists, and it must be limited to such improvement. If, therefore, the terms be so obscure or doubtful, that the court cannot say which is the particular improvement which the patentee claims, and to what it is limited, the patent is void for ambiguity; and if it covers more than the improvement, it is void, because it is broader than the invention. *Barrett v. Hall*, 1 Mas. 447.

³ *Ames v. Howard*, 1 Sumner, 482, 485. The drawings are to be taken in connection with the words, and if by a comparison of the words and the drawings, the one would explain the other sufficiently to enable a skilful mechanic to perform the work, the specification is sufficient. *Bloxam v. Elsee*, 1 Car. & P. 558.

§ 131. The statute requires the patentee to give "a written description of his invention or discovery." This involves the necessity, in all cases where the patentee makes use of what is old, of distinguishing between what is old and what is new. He is required to point out in what his invention or discovery consists; and if he includes in his description what has been invented before, without showing that he does not claim to have invented that, his patent will be broader than his invention, and therefore void.¹ Whatever appears to be covered by the claim of the

¹ *Dixon v. Moyer*, 4 Wash. 68, 73. In this case, Mr. Justice Washington said, "It was insisted by the plaintiff's counsel, that this specification is perfectly intelligible to an artist, who could experience no difficulty in making such a saddle as is there described; and that if it be not so, still the defendant cannot avail himself of the defect, unless he had stated it in his notice, and also proved at the trial an intention in the plaintiff to deceive the public. But these observations are all wide of the objection, which is not that the specification does not contain the whole truth relative to the discovery, or that it contains more than is necessary. It is admitted that the specification does not offend in either of these particulars. But the objection is, that throughout the whole of a very intelligible description of the mode of making the saddle, the patentee has not distinguished what was new, from what was old and before in use, nor pointed out in what particulars his improvement consisted." See also *Carpenter v. Smith*, Webs. Pat. Cas. 530, 532, where Lord Abinger, C. B., said, "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 machinery 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." See also *Davis v. Palmer*, 2 Brock. 298; *Wyeth v. Stone*, 1 Story's R. 73; *Lowell v. Lewis*, 1 Mas. 188, where Mr. Justice Story said, "The patentee is clearly not entitled to include in his patent the exclusive use of any machinery already known; and if he does, his patent will be broader than his invention, and consequently void. If, therefore, the description in the patent mixes up the old and the new, and does not distinctly ascertain for which, in particular, the patent is

patentee, as his own invention, must be taken as part of the claim, for courts of law are not at liberty to reject any part of the claim ; and therefore if it turns out that anything claimed is not new, the patent is void, however small or unimportant such asserted invention may be.¹

claimed, it must be void ; since if it covers the whole, it covers too much, and if not intended to cover the whole, it is impossible for the court to say what, in particular, is covered as the new invention."

¹ *Moody v. Fisk*, 2 Mas. 112, 118. In this case, Mr. Justice Story said, "Where the patentee claims anything as his own invention, in his specification, courts of law cannot reject the claim ; and if included in the patent, and found not to be new, the patent is void."

In the case of *Campion v. Benyon*, 3 Brod. & B. 5, the patent was taken out for "an improved method of making sail cloth, without any starch whatever." The real improvement consisted in a new mode of texture, and not in the exclusion of starch, the advantage of excluding that substance having been discovered and made public before. Park, J., said, "In the patentee's process he tells us that the necessity of using starch is superseded, and mildew thereby entirely prevented ; but if he meant to claim as his own an improved method of texture or twisting the thread to be applied to the making of unstarched cloth, he might have guarded himself against ambiguity, *by disclaiming* as his own discovery the advantage of excluding starch." In this case, the specification itself furnished no means by which the generality of its expressions could be restrained. But there is a case where the literal meaning of terms which would have covered too much ground, was limited by other phrases used in the context. The specification stated the invention to be an improved apparatus for "extracting inflammable gas by heat, from pit-coal, tar, or *any other substance* from which gas or gases, capable of being employed, for illumination, can be extracted by heat." Lord Tenterden held that the words "any other substance" must mean other substances *ejusdem generis* ; and therefore that it was not a fatal defect that the apparatus would not extract gas from oil ; and that oil was not meant to be included, it being at that time considered too expensive for the making of gas for purposes of illumination, though it was known to be capable of being so used. *Crossley v. Beverly*, 3 Car. & P. 513 ; *Webs. Pat. Cas.* 106. Upon this distinction, Mr. Webster remarks that "the true principle would appear to be the intention of the party at the time, first, as expressed distinctly on the face of the specification ; and secondly, as may be inferred therefrom, according to the state of knowledge at the time, and other circumstances." *Webs. Pat. Cases*, 110, note. — Where the patentee in his specification claimed "an improvement in the construction of the axles or bearings of railway or *other wheeled carriages*," and it appeared that the improvement,

§ 132. But there is a very important rule to be attended to, in this connection, which has been laid down by the Court of Common Pleas in England : viz., that a specification should be so construed, as, consistently with the fair import of language, will make the claim co-extensive with the actual discovery. So that, a patentee, unless his language necessarily imports a claim of things in use, will be presumed not to intend to claim things which he must know to be in use.¹

§ 133. The object of the distinction between what is new and

though it had never before been applied to railway carriages, was well known as applied to other carriages, it was held that the patent was not good. *Winans v. Providence R. Road Company*, 2 Story's R. 412.

¹ *Haworth v. Hardcastle*, Webs. Pat. Cas. 480, 484. In this case, Sir N. C. Tindall, C. J. said, "As to the second ground upon which the motion for a nonsuit proceeded, we think, upon the fair construction of the specification itself, the patentee does not claim as part of his invention, either the rails or staves over which the calicoes and other cloths are to be hung, or the placing them at the upper part of the building. The use of rails and staves for this purpose was proved to have been so general before the granting of this patent, that it would be almost impossible *à priori* to suppose that the patentee intended to claim what he could not but know would have avoided his patent, and the express statement that he makes, 'that he constructs the stove or drying house in a manner nearly similar to those which are at present in use, and that he arranges the rails or staves on which the cloth or fabric is intended to be hung or suspended, near to the upper part of the said stove or drying house,' shows clearly that he is speaking of those rails or staves as of things then known and in common use, for he begins with describing the drying house as nearly similar to those in common use ; he gives no dimensions of the rails or staves, no exact position of them, nor any particular description by reference, as he invariably does when he comes to that part of the machinery which is peculiarly his own invention. There can be no rule of law which requires the court to make any forced construction of the specification, so as to extend the claim of the patentee : *a wider range than the facts would warrant ; on the contrary, such construction ought to be made as will, consistently with the fair import of the language used, make the claim of invention coëxtensive with the new discovery of the grantee of the patent. And we see no reason to believe that he intended under this specification to claim either the staves, or the position of the staves as to their height in the drying house, as a part of his own invention.*"

what is old is to show distinctly what the patentee claims as his invention. But it has been said, that the mere discrimination between what is old and what is new will not, in all cases, show this, for perhaps the patentee does not claim all that is new.¹ But the meaning of the authorities, as well as the purpose of the statute, shows that the object of the specification is, to state distinctly what the patentee claims as the subject-matter of his invention or discovery ; and the discrimination commonly made between what is new and what is old, is one of the means necessary to present clearly the subject-matter of the invention or discovery.² In order to make this discrimination, the patentee is not confined to any precise form of words.³ The more usual form is to state affirmatively what the patentee claims as new, and if he makes use of anything old, to state negatively that he does not claim that thing.⁴ It is not enough that the thing

¹ Phillips on Patents, 270.

² See *Barrett v. Hall*, 1 Mas. 475 ; *Woodcock v. Parker*, 1 Gallis. 438 ; *Whittemore v. Cutter*, Ib. 478 ; *Odiorne v. Winkley*, 2 Gallis. 51 ; *Evans v. Eaton*, 3 Wheat. 534 ; 7 Ib. 356 ; *Wyeth v. Stone*, 1 Story's R. 273 ; *Ames v. Howard*, 1 Sumner, 482.

³ *Wyeth v. Stone*, 1 Story's R. 73.

⁴ If a specification truly sums up and distinguishes the invention of the patentee, it will not be open to the objection of being too broad, although it describes with unnecessary minuteness, a process well known to those conversant with the art. *Kneass v. The Schuylkill Bank*, 4 Wash. 9, 14. See also *Ames v. Howard*, 1 Sumner, 482, 485. Mr. Godson gives the following directions for drawing specifications : " That the new parts of the subject may be more clearly seen and easily known, the patentee must not only claim neither more nor less than his own invention, but he must *not appear* even unintentionally to appropriate to himself any part which is old, or has been used in other manufactures. (*Huddart v. Grimshaw*, Dav. Pat. Cas. 295.) Those parts that are old and immaterial, or are not of the essence of the invention, should either not be mentioned, or should be named only to be designated as old. The patentee is not required to say that a screw or bobbin, or anything in common use, is not part of his discovery ; yet he must not adopt the invention of another person, however insignificant it may appear to be, without a remark. If any parts are described as essential without a protest against any novelty being attached to them, it will seem, though they are old, that they are claimed as new. *Bovill v. Moore*, Dav.

designed to be embraced by the patent, should be made apparent on the trial, by a comparison of the new with the old machine. The specification must distinguish the new from the old, so as to point out in what the improvement consists.¹

§ 134. In describing what is old, it is not always necessary to enter into detail. Things generally known, or in common use, may be referred to in general terms, provided they create no ambiguity or uncertainty, and provided such reference is accompanied by an intelligible description of what is new.² In describing an improvement of a machine, or what is the same thing, an improved machine, great care must be taken not to describe the whole in such a way as to make it appear to be claimed as the invention of the patentee. The former machine, or other thing, should be set forth in the patent sufficiently to make known, according to the nature of the case, what it is that the patentee engrafts his improvement upon; he should then disclaim the invention of the thing thus referred to or described, and state distinctly his improvement as the thing which he claims to have invented.³ One of the most common defects in a specification,

Pat. Cas. 404; *Manton v. Parker*, Dav. Pat. Cas. 329.) The construction will be against the patentee that he seeks to monopolize more than he has invented, or that, by dwelling in his description on things that are immaterial or known, he endeavors to deceive the public, who are not to be deterred from using anything that is old by its appearing in the specification as newly invented. They are to be warned against infringing on the rights of the patentee, but are not to be deprived of a manufacture which they before possessed. (Dav. Pat. Cas. 279, and 3 Meriv. 629.) It seems, therefore, to be the safest way in the specification to describe the whole subject, and then to point out all the parts which are old and well known." *Godson on Patents*, 128.

¹ *Dixon v. Moyer*, 4 Wash. R. 68.

² *Davis v. Palmer*, 2 Brock. 298.

³ In *Hill v. Thompson*, 8 Taunt. 375, Lord Ch. J. Dallas said, "This, like every other patent, must undoubtedly stand on the ground of improvement or discovery. If of improvement, it must stand on the ground of improvement invented; if of discovery, it must stand on the ground of the discovery of something altogether new; and the patent must distinguish and adapt itself accordingly." See also *Bovill v. Moore*, Dav. Pat. Cas. 398.

consists in that sort of vagueness and ambiguity in the manner of describing the invention, which makes it difficult or impossible to determine what the invention is. This is an objection distinct from an ambiguity in the terms made use of. Thus, where the directions contained in a specification were "to take any quantity of lead and calcine it, or minium, or red lead," the objection was that it was uncertain whether the minium and red lead were to be calcined, or only the lead.¹ So too, if it be stated that a whole class of substances may be used to produce a given effect, when, in fact, only one is capable of being so used successfully, an ambiguity is at once produced, and the public are misled;² but if the patentee states the substances which he makes use of himself, and there are still other substances which will produce the effect, and he claims them by a generic description, as comprehended within his invention, his claim will not be void for ambiguity, or too broad for his invention, provided the combination is new in respect to all the substances thus referred to.³

¹ *Turner v. Winter*, Webs. Pat. Cas. 80. Another objection taken, was, as to the white lead, which the patent professed to make by the same process by which it made something else; to which it was answered, that the invention did not profess to make common white lead. Ashurst, J., said, "But that is no answer; for if the patentee had intended to produce something only like white lead, or answering some of the purposes of common white lead, it should have been so expressed in the specification. But in truth, the patent is for making white lead and two other things by one process. Therefore, if the process, as directed by the specification, does not produce that which the patent professes to do, the patent itself is void."

² *Bickford v. Skewes*, Webs. Pat. Cas. 218. If more parts be inserted than are necessary, as ten, where four are sufficient, the specification is void. *The King v. Arkwright*, Webs. Pat. Cases, 70.

³ *Ryan v. Goodwin*, 3 Sumner, 514, 519. In this case, Mr. Justice Story said, "Then as to the third point. This turns upon the supposed vagueness, and ambiguity, and uncertainty of the specification and claim of the invention thereby. The specification, after adverting to the fact, that the *loco-foco* matches, so called, are a compound of phosphorus, chlorate of potash, sulphuret of antimony, and gum arabic or glue, proceeds to state that the compound which he, (Phillips) uses, 'consists simply of phosphorus, chalk,

§ 135. In like manner, where a particular effect or purpose in machinery is a part of the invention, and that effect may be pro-

and glue ;' and he then states the mode of preparing the compound, and the proportions of the ingredients ; so that as here stated, the essential difference between his own matches and those called *loco-foco*, consists in the omission of chlorate of potash and sulphuret of antimony, and using in lieu thereof chalk. He then goes on to state, that ' the proportions of the ingredients may be varied, and that gum arabic, or other gum, may be substituted for glue ; and other absorbent earths or materials may be used instead of carbonate of lime.' He afterwards sums up his invention in the following terms : ' What I claim as my invention is the using of a paste or composition to ignite by friction, consisting of phosphorus, and [an] earthy material, and a glutinous substance only, without the addition of chlorate of potash, or of any other highly combustible material, such as sulphuret of antimony, in addition to the phosphorus. I also claim the mode herein described, of putting up the matches in paper, so as to secure them from accidental friction.' Upon this last claim I need say nothing, as it is not in controversy, as a part of the infringement of the patent, upon the present trial. Now, I take it to be the clear rule of our law in favor of inventors, and to carry into effect the obvious object of the constitution and laws in granting patents, ' to promote the progress of science and useful arts,' to give a liberal construction to the language of all patents, and specifications (*ut res magis valeat, quam pereat*) so as to protect ; and not to destroy the rights of real inventors. If, therefore, there be any ambiguity or uncertainty in any part of the specification ; yet, if taking the whole together, the court can perceive the exact nature and extent of the claim made by the inventor, it is bound to adopt that interpretation, and to give it full effect. I confess, that I do not perceive any ground for real doubt in the present specification. The inventor claims as his invention the combination of phosphorus with chalk or any other absorbent earth, or earthy material, and glue, or any other glutinous substance in making matches, using the ingredients in the proportions, substantially as set forth in the specification. Now, the question is, whether such a claim is good, or whether it is void, as being too broad and comprehensive. The argument seems to be, that the inventor has not confined his claim to the use of chalk, but has extended it to the use of any other absorbent earths or earthy materials, which is too general. So, he has not confined it to the use of glue, or even of gum arabic, but has extended it also to any other gum or glutinous substance, which is also too general. Now, it is observable, that the patent act of 1793, c. 55, does not limit the inventor to one single mode, or one single set of ingredients, to carry into effect his invention. He may claim as many modes, as he pleases, provided always, that the claim is limited to such, as he has invented, and as are substantially

duced in several modes, it is sufficient for the patentee to state the modes which he contemplates as best, and his claim will not be void, as too vague or comprehensive, although he claims

new. Indeed, in one section (§ 3,) the act requires, in the case of a machine, that the inventor 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. The same enactment exists in the patent act of 1836, c. 357, § 6. I do not know of any principle of law, which declares, that, if a man makes a new compound, wholly unknown before for a useful and valuable purpose, he is limited to the use of the same precise ingredients in making that compound; and that, if the same purpose can be accomplished by him by the substitution in part of other ingredients in the composition, he is not at liberty to extend his patent so as to embrace them also. It is true, that in such a case he runs the risk of having his patent avoided, if either of the combinations, the original, or the substituted, have been known or used before in the like combination. But, if all the various combinations are equally new, I do not perceive, how his claim can be said to be too broad. It is not more broad than his invention. There is no proof in the present case, that the ingredients enumerated in this specification, whether chalk, or any other absorbent earth, or earthy substance were ever before combined with phosphorus, and glue, or any gum or other glutinous substance, to produce a compound for matches. The objection, so far as it here applies, is not, that these gums or earths have been before so combined with phosphorus, but that the inventor extends his claim, so as to include all such combinations. There is no pretence to say, upon the evidence, that the specification was intended to deceive the public, or that it included other earthy materials than chalk, or other glutinous substances than glue, for the very purpose of misleading the public. The party has stated frankly, what he deems the best materials, phosphorus, chalk, and glue, and the proportions and mode of combining them. But, because he says, that there may be substitutes of the same general character, which may serve the same purpose, thereby to exclude other persons from evading his patent, and depriving him of his invention, by using one or more of the substitutes, if the patent had been confined to the combination solely of phosphorus, chalk, and glue, I cannot hold that his claim is too broad, or that it is void. My present impression is, that the objection is not well founded. Suppose the invention had been of a machine, and the inventor had said, I use a wheel in a certain part of the machine for a certain purpose, but the same effect may be produced by a crank, or a lever, or a toggle joint, and therefore I claim these modes also; it would hardly be contended, that such a claim would avoid his patent. I do not know, that it has ever been

the variations from those modes as being equally his invention, without describing the manner of producing those variations.¹

§ 136. This kind of ambiguity is also distinguishable from the

decided, that, if the claim of an inventor for an invention of a compound states the ingredients truly, which the inventor uses to produce the intended effect, the suggestion, that other ingredients of a kindred nature may be substituted for some part of them, has been held to avoid the patent *in toto*, so as to make it bad, for what is specifically stated. In the present case it is not necessary to consider that point. My opinion is, that the specification is not, in point of law, void, from its vagueness, or generality, or uncertainty.”

¹ *Carver v. Braintree Manf. Co.* 2 Story's R. 432, 440. “Another objection is, that the plaintiff, in his claim, has stated, that the desired distance or space between the upper and the lower surfaces of the rib, whether it ‘be done by making the ribs thicker at that part, or by a fork or division of the rib, or by any other variation of the particular form,’ is a part of his invention. It is said, that the modes of forking and dividing are not specified, nor the variations of the particular form given. ‘This is true; but then the patent act requires the patentee to specify the several modes, ‘in which he has contemplated the application of the distinguishing principle or character of his invention.’ (Act of 1836, ch. 357, § 6.) Now, we all know that a mere difference of form will not entitle a party to a patent. What the patentee here says in effect is: One important part of my invention consists in the space or distance between the upper and lower surfaces of the ribs, and whether this is obtained by making the rib solid, or by a fork, or division of the rib, or by any other variation of the form of the rib, I equally claim it as my invention. The end to be obtained is the space or distance equal to the fibre of the cotton to be ginned; and you may make the rib solid, or fork it, or divide it, or vary its form in any other manner, so as that the purpose is obtained. The patentee, therefore, guards himself against the suggestion, that his invention consists solely in a particular form, solid, or forked, or divided; and claims the invention to be his, whether the exact form is preserved, or not, if its proportions are kept so as to be adapted to the fibre of the cotton which is to be ginned. In all this I can perceive no want of accuracy or sufficiency of description, at least so far as it is a matter of law, nor any claim, broader than the invention, which is either so vague or so comprehensive, as, in point of law, not to be patentable. It was not incumbent upon the patentee to suggest all the possible modes by which the rib might be varied, and yet the effect produced. It is sufficient for him to state the modes which he contemplates to be best, and to add, that other mere formal variations from these modes he does not deem to be unprotected by his patent.”

want of clear or specific directions, which will enable a mechanic to make the thing described. A specification may be perfectly sufficient, as to the point of stating what the invention is, and yet the directions for making the thing may be so vague and indefinite, as not to enable a skilful mechanic to accomplish the object.¹ It is for this reason, as we have seen, that the question, whether the specification discloses what the invention is, is a question for the court on construction of the patent; while the question, whether it sufficiently describes the mode of carrying the invention into practice, is a question for the jury.²

¹ It may not, perhaps, be easy to draw a precise line of distinction between a specification so uncertain, as to claim no particular improvement, and a specification so uncertain as not to enable a skilful workman to understand the improvement, and to construct it. Yet, we think the distinction exists. If it does, it is within the province of the jury to decide, whether a skilful workman can carry into execution the plan of the inventor. In deciding this question, the jury will give a liberal common sense construction to the directions of the specification." Per Marshall, C. J., in *Davis v. Palmer*, 2 Brock. 298, 308.

² Thus, in the case of a patent for "a new and useful improvement in the ribs of the cotton gin," Mr. Justice Story said "It is true, that the plain'tiff in his specification, in describing the thickness of the rib in his machine, declares, that it should be so thick, that the distance or depth between the upper and the lower surface should be 'so great as to be equal to the length of the fibre to be ginned,' which, it is said, is too ambiguous and indefinite a description to enable a mechanic to make it, because it is notorious, that not only the fibres of different kinds of cotton are of different lengths, long staple and short staple; but that the different fibres in the same kind of cotton are of unequal lengths. And it is asked, what then is to be the distance or depth or thickness of the rib? Whether a skilful mechanic could from this description make a proper rib for any particular kind of cotton, is a matter of fact, which those only, who are acquainted with the structure of cotton gins, can properly answer. If they could, then the description is sufficient, although it may require some niceties in adjusting the different thicknesses to the different kinds of cotton. If they could not, then the specification is obviously defective. But I should suppose, that the inequalities of the different fibres of the same kind of cotton would not necessarily present an insurmountable difficulty. It may be, that the adjustment should be to be made according to the average length of the fibres, or varied in some other way. But this is for a practical mechanic to say, and not for the Court.

§ 137. The ambiguity produced by a too great fulness of detail in the specification is likely to mislead both in determining what the invention claimed is, and in determining whether it is described with such accuracy as will enable a competent workman to put it in practice. We shall have occasion hereafter to state the rule, that the patentee is bound to disclose the most advantageous mode known to him ; and any circumstance conducive to the advantageous operation of his invention ; and it is a correlative of this rule, that if things wholly useless and unnecessary are introduced into the specification, as if they were essential, although the terms are perfectly intelligible, and every necessary description has been introduced, and the parts claimed are all newly invented, the patent may be declared void. The presumption, in such cases, according to the English authorities, is, that the useless and unnecessary descriptions were introduced for the purpose of overloading the subject and clouding the description, in order to mislead the public and conceal the real invention.¹

What I mean, therefore, to say on this point is, that, as a matter of law, I cannot say, that this description is so ambiguous, that the patent is upon its face void. It may be less perfect and complete than would be desirable, but still it may be sufficient to enable a skilful mechanic to attain the end. In point of fact, is it not actually attained by the mechanics employed by Carver, without the application of any new inventive power, or experiments? If so, then the objection could be answered as a matter of fact or a practical result." *Carver v. The Braintree Manufacturing Company*, 2 Story's R. 432, 437.

¹ In *Arkwright's* case, several things were introduced into the specification, of which he did not make use. Buller, J., said, "Wood put No. 4, 5, 6, and 7, together, and that machine he has worked ever since ; he don't recollect that the defendant used anything else. If that be true, it will blow up the patent at once ; he says he believes nobody that ever practised would find anything necessary upon this paper but the No. 4, 5, 6, and 7 ; he should look after no others. Now if four things only were necessary instead of ten, the specification does not contain a good account of the invention." *The King v. Arkwright*, Webs. Pat. Cas. 70.

In *Turner's* patent for producing a yellow color, minium was directed to be used among other things, but it appeared that it would not produce the

§ 138. There is one case where it seems to have been held that an improved mode of working his machine by the patentee, different from the specification of his patent, casts upon him the burthen of showing that he made the improvement subsequently to the issuing of his patent, otherwise it will be presumed that he did not disclose in his specification the best method known to him.¹ But where a patentee of an improved machine claimed as his invention a part of it which turned out to be useless, it was held that this did not vitiate the patent, the specification not describing it as essential to the machine.² At the same time, it is necessary that the specification should be full and explicit enough to prevent the public from infringing the right of the patentee. An infringement will not have taken place, unless the invention can be practised completely by following the specification; otherwise, it has been said, it would be an infringement to do that perfectly, which, according to the specification, requires something else to be done to make it perfect. An infringement is a copy made after and agreeing with the principle laid down in the patent;³ and if the patent does not fully describe everything essential to the making or doing of the thing patented, there will be no infringement by the fresh

desired effect. The same learned judge said, "Now in this case no evidence was offered by the plaintiff to show that he had ever made use of the several different ingredients mentioned in the specification, as for instance minium, which he had nevertheless inserted in the patent; nor did he give any evidence to show *how* the yellow color was produced. If he could make it with two or three of the ingredients specified, and he has inserted others which will not answer the purpose, that will avoid the patent. So if he makes the article, for which the patent is granted, with cheaper materials than those which he has enumerated, although the latter will answer the purpose equally well, the patent is void, because he does not put the public in possession of his invention, or enable them to derive the same benefit which he himself does." *Turner v. Winter*, 1 T. R. 602, 607. See also *Savory v. Price*, R. & M. 1.

¹ *Bovill v. Moore*, Dav. Pat. Cas. 361, 401.

² *Lewis v. Marling*, 10 B. & Cress. 22.

³ Per Sir N. Tindal, C. J., in *Galloway v. Bleaden*, Webs. Pat. Cas. 523.

invention of processes which the patentee has withheld from the public.¹

¹ This doctrine was very clearly laid down by Alderson, B., in *Morgan v. Seaward*, Webs. Pat. Cas. 167, 181. "Then Henry Mornay, a young gentleman in Mr. Morgan's employment, where he has been apparently studying the construction of engines, speaks of a circumstance which does appear to me to be material. He says, Mr. Morgan in practice makes his rods of different lengths. He must necessarily do so, in order that the floats may follow at the same angle as that at which the driving float enters the water. The problem which Mr. Park solved is a problem applying to three floats only: but it appears that the other floats will not follow in the same order, unless some adjustment of the rods is made. Now, suppose it was to be desired that the floats should all enter the water at the given or required angle, if one should go in at one angle, and one at another, the operation of the machine would not be uniform; and the specification means that the party constructing a wheel, should be able to make a wheel, the floats of which shall all enter at the same angle, and all go out at the same angle. Now in order in practice to carry that into effect, if there are more than three floats, something more than Mr. Park's problem would be required; and Mr. Mornay says actually, that Mr. Morgan in practice makes his rods of different lengths, and he must necessarily do that in order that the floats may follow at the same angle as the driving float enters the water. If so, he should have said in his specification, 'I make my rods of different lengths, in order that the rest of my floats may enter at the same angle; and the way to do that is so and so.' Or he might have said, 'it may be determined so and so.' But the specification is totally silent on the subject; therefore, a person reading the specification would never dream that the other floats must be governed by rods of unequal length; and least of all could he ascertain what their lengths should be, until he had made experiments. Therefore it is contended that the specification does not state as it should have stated, the proper manner of doing it. He says, if they are made of equal lengths, though the governing rod would be vertical at the time of entering, and three would be so when they arrived at the same spot, by reason of the operation Mr. Park suggests, yet the fourth would not come vertical at the proper point, nor would the fifth, sixth, or seventh. Then they would not accomplish that advantage which professes to be acquired. The patentee ought to state in his specification the precise way of doing it. If it cannot completely be done by following the specification, then a person will not infringe the patent by doing it. If this were an infringement, it would be an infringement to do that perfectly, which, according to the specification, requires something else to be done to make it perfect. If that be correct, you would prevent a man

§ 139. The ambiguity produced by a misuse of terms, so as to render the specification unintelligible, will be as fatal as any other defect. Thus, where the directions were to use "sea-salt, or sal-gem, or fossil-salt, or any marine-salt," and it appeared that "sal-gem" was the only thing that could be used, and that "fossil-salt" was a generic term, including "sal-gem," as well as other species of salt, it was held that the use of the term "fossil-salt" could only tend to mislead and to create unnecessary experiments, and therefore that the specification was in that respect defective.¹ In like manner where the specification directed the use of "the finest and purest chemical white-lead," and it appeared that no such substance was known in the trade by that name, but that white-lead only was known, the specification was held defective.² But a mere mistake of one word for another in writing or printing, if explained by other parts of the patent and specification, as the use of the word "painting" for "printing," is immaterial.³

from having a perfect engine. He says, practically speaking, the difference in the length of the rods would not be very material, the difference being small. But the whole question is small, therefore it ought to have been specified; and if it could not be ascertained fully, it should have been so stated. Now this is the part to which I was referring, when in the preliminary observations I addressed to you, I cited the case before Lord Mansfield, on the subject of the introduction of tallow to enable the machine to work more smoothly. There it was held that the use of tallow ought to have been stated in the specification. This small adjustment of these different lengths may have been made for the purpose of making the machine work more smoothly; if so, it is just as much necessary that it should be so stated in the specification, as it was that the tallow should be mentioned. 'The true criterion is this, has the specification substantially complied with that which the public has a right to require? Has the patentee communicated to the public the manner of carrying his invention into effect? If he has, and if he has given to the public all the knowledge he had himself, he has done that which he ought to have done, and which the public has a right to require from him.'

¹ *Turner v. Winter*, 1 T. R. 606.

² *Sturz v. De La Rue*, Webs. Pat. Cas. 83.

³ *Kneass v. The Schuylkill Bank*, 4 Wash. 9.

§ 140. The description of an improvement, when an improvement is the real subject-matter of the patent, should be made in such a manner as will clearly show that the improvement only is claimed by the patentee. If a machine substantially existed before, and the patentee makes an improvement therein, his patent should not comprehend the whole machine in its improved state, but should be confined to his improvement;¹ and this is true, although the invention of the patentee consists of an addition to the old machine, by which the same effects are to be produced in a better manner, or some new combinations are added, in order to produce new effects.² But if well-known effects are produced by machinery which in all its combinations is entirely new, the subject-matter will be a new machine, and of course the patent will cover the whole machine.³

§ 141. If the invention be an improvement, and be claimed as such, but nothing is said of any previous use, of which the use proposed is averred to be an improvement, the patent may incur the risk of being construed as a claim of entire and original discovery. Hence arises the necessity for reciting what had formerly been done, and describing a different mode as the improvement claimed.⁴

¹ *Woodcock v. Parker*, 1 Gallis. 438; *Odiorne v. Winkley*, 2 Gallis. 51; *Barrett v. Hall*, 1 Mas. 447, 476.

² *Whittemore v. Cutter*, 1 Gallis. 478.

³ *Ibid.*

⁴ In *Hill v. Thompson*, Webs. Pat. Cas. 226, 228, 229, the specification contained among other things the following claim: "And that my said improvements do further consist in the use and application of lime to iron, subsequently to the operations of the blast-furnace, whereby that quality in iron from which the iron is called "cold short," howsoever and from whatever substance such iron be obtained, is sufficiently prevented or remedied, and by which such iron is rendered more tough when cold." "And I do further declare, that I have discovered that the addition of lime or limestone, or other substances consisting chiefly of lime, and free or nearly free from any ingredient known to be hurtful to the quality of iron, will sufficiently prevent or remedy that quality in iron from which the iron is called "cold short," and

§ 142. But in describing the improvement of a machine in use and well known, it is not necessary to state in detail the structure of the entire and improved machine. It is only neces-

will render such iron more tough when cold; and I do, for this purpose, if the iron, howsoever and from whatever substance the same may have been obtained, be expected to prove "cold short," add a portion of lime or limestone, or of the other said substances, of which the quantity must be regulated by the quality of the iron to be operated upon, and by the quality of the iron wished to be produced; and further, that the said lime or limestone, or other aforesaid substances, may be added to the iron at any time subsequently to the reduction thereof, in the blast furnace, and prior to the iron becoming clotted, or coming into nature, whether the same be added to the iron while it is in the refining or in the puddling furnace, or in both of them, or previous to the said iron being put into either of the said furnaces." It appeared that "cold short" had been prevented by the use of lime before; and Dallas, J. said, "The purpose is to render bar iron more tough, by preventing that brittleness which is called "cold short," and which renders bar iron less valuable; the means of prevention stated, are the application of lime. In what way, then, is lime mentioned in the patent? The first part of the specification, in terms, alleges certain improvements in the smelting and working of iron, during the operations of the blast furnace; and then, introducing the mention of lime, it states, that the application of it to iron, subsequently to the operation of the blast furnace, will prevent the quality called "cold short."

So far, therefore, the application of lime is, in terms claimed as an improvement, and nothing is said of any previous use, of which the use proposed is averred to be an improvement; it is, therefore, in substance, a claim of entire and original discovery. The recital should have stated, supposing a previous use to be proved in the case, that, "whereas lime has been in part, but improperly, made use of, &c. and then a different mode of application and use should have been suggested as the improvement claimed. But the whole of the patent must be taken together, and this objection will appear to be stronger as we proceed. And here again, looking through the patent, in a subsequent part of the specification, the word "discovery" first occurs, and I will state the terms made use of in this respect. "And I do further declare, that I have discovered that the addition of lime will prevent that quality in iron from which the iron is called "cold short," and will render such iron more tough when cold; and that for this purpose, I do add a a portion of lime or limestone, to be regulated by the quantity of iron to be operated upon, and by the quality of the iron to be produced, to be added at any time subsequently to the reduction in the blast furnace, and this from

sary to describe the improvement, by showing the parts of which it consists, and the effects which it produces.¹ In the case of machinery there is a particular requisition in the statute, designed to ensure fulness and clearness in the specification. "And in case of any machine, he (the patentee) 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."² By the principle of a machine, as used in this clause of the statute, is to be understood the peculiar structure and mode of operation of such machine;³ or, as the statute itself explains it, the character by which it may be distinguished from other inventions. By explaining "the several modes in which he has contemplated the application of that principle," the statute is presumed to direct the patentee to point out all the modes of applying the principle, which he claims to be his own invention, and which he means to have covered by his patent, whether they are those which he deems the best, or are mere formal variations from the modes which he prefers. In other words, he is to state not only the peculiar device or construction which he deems the best for producing the new effect exhibited in his machine, but also all the other modes of producing the same effect, which he

whatever substance the iron may be produced, if expected to prove "cold short." Now this appears to be nothing short of a claim of discovery, in the most extensive sense, of the effect of lime applied to iron to prevent brittleness, not qualified and restrained by what follows, as to the preferable mode of applying it under various circumstances, and, therefore, rendering the patent void, if lime had been made use of for this purpose before, subject to the qualification only of applying it subsequently to the operations in the blast furnace."

¹ Brooks v. Bicknell, 3 M'Lean's R. 250, 261.

² Act of July 4, 1836, § 6.

³ Whittemore v. Cutter, 1 Gallis. 478, 480; Barrett v. Hall, 1 Mas. 447, 470.

means to claim as being substantially applications of the same principle. But in doing this, it is not, as we have seen, necessary for him to enter into a minute description of the mode of producing those variations of structure which he thus claims, in addition to the structure which he prefers. It is sufficient, if he indicates what variations of the application of the principle he claims beyond those which he deems the best.¹

§ 143. The duty of determining what the claim of the patentee is involves the necessity of determining whether the description in the specification discloses a patentable subject. The real invention may be a patentable subject; but at the same time it may be claimed in such a way as to appear to be a mere function, or abstract principle, which it will be the duty of the Court to declare is not patentable; whereas, if it had been described differently, it would have been seen to be a claim for a principle or function embodied in a particular organization of matter for a particular purpose, which is patentable. The patentee may have been engaged in investigations into the principles of science or the laws of nature. He may have attained a result, which constitutes a most important and valuable discovery, and he may desire to protect that discovery by a patent; but he cannot do so by merely stating his discovery in a specification. He must give it a practical application to some useful purpose, to attain a result in arts or manufactures not before attained, and his specification must show the application of the principle to such a special purpose, by its incorporation with matter in such a way as to be in a condition to produce a practical result.² Care should be taken, therefore, in drawing spe-

¹ See the observations of Mr. Justice Story, cited *ante*, from the case of *Carver v. The Braintree Manuf. Company*, 2 Story's R. 432, 440.

² In the *Househill Company v. Neilson*, Webs. Pat. Cas. 673, 683, Lord Justice Clerk Hope, in the Court of Sessions, made the following clear observations to the jury: "It is quite true that a patent cannot be taken out solely for an abstract philosophical principle — for instance, for any law of

cifications, not to describe the invention as a mode or device for producing an effect, detached from machinery, or from the particular combination or use of matter, by which the effect is produced.¹ The danger in such cases is, that the claim will appear to be a claim for an abstract principle, or for all possible modes

nature, or any property of matter, apart from any mode of turning it to account in the practical operations of manufacture, or the business, and arts, and utilities of life. The mere discovery of such a principle is not an invention, in the patent law sense of the term. Stating such a principle in a patent may be a prolongation of the principle, but it is no application of the principle to any practical purpose. And without that application of the principle to a practical object and end, and without the application of it to human industry, or to the purposes of human enjoyment, a person cannot in the abstract appropriate a principle to himself. But a patent will be good, though the subject of the patent consists in the discovery of a great, general, and most comprehensive principle in science or law of nature, if that principle is by the specification applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained.

The main merit, the most important part of the invention, may consist in the conception of the original idea—in the discovery of the principle in science, or of the law of nature, stated in the patent, and little or no pains may have been taken in working out the best manner and mode of the application of the principle to the purpose set forth in the patent. But still, if the principle is stated to be applicable to any special purpose, so as to produce any result previously unknown, in the way and for the objects described, the patent is good. It is no longer an abstract principle. It comes to be a principle turned to account, to a practical object, and applied to a special result. It becomes, then, not an abstract principle, which means a principle considered apart from any special purpose or practical operation, but the discovery and statement of a principle for a special purpose; that is, a practical invention, a mode of carrying a principle into effect. That such is the law, if a well known principle is applied for the first time to produce a practical result for a special purpose, has never been disputed. It would be very strange and unjust to refuse the same legal effect, when the inventor has the additional merit of discovering the principle as well as its application to a practical object. The instant that the principle, although discovered for the first time, is stated, in actual application to, and as the agent of, producing a certain specified effect, it is no longer an abstract principle, it is then clothed with the language of practical application, and receives the impress of tangible direction to the actual business of human life.”

¹ *Barrett v. Hall*, 1 Mas. 476.

of producing the effect in question, instead of being, what alone it should be, a claim for the particular application of the principle which the patentee professes to have made.

§ 144. This is well illustrated by several cases. In one, the invention claimed, was “the communication of motion from the reed to the yarn-beam, in the connection of the one with the other, which is produced as follows,” describing the mode. The patent was sustained, only by construing it as a claim for the specific machinery invented by the patentee for the communication of motion from the reed to the yarn-beam, specially described in the specification. As a claim for all possible modes of communicating the motion, &c., it would have been utterly void.¹ In another case, a patent “for an improvement in the art of making nails, by means of a machine which cuts and heads the nails at one operation,” was seen at once not to be a grant of an abstract principle, but of a combination of mechanical contrivances operating to produce a new effect, and constituting an improvement in the art of making nails.² So too, where the patentee, in a patent for a machine for turning irregular forms, claimed “the method or mode of operation in the abstract explained in the second article, whereby the infinite variety of forms, described in general terms in this article may be turned or wrought,” and the second article in his specification explained the structure of a machine, by which that mode of operation was carried into effect, and the mode of constructing such a machine so as to effect the different objects to be accomplished, it was held that the specification did not claim an abstract principle or function, but a machine.³ So also, it has

¹ *Stone v. Sprague*, 1 Story's R. 270.

² *Gray v. James*, Peters's Circ. C. R. 394.

³ *Blanchard v. Sprague*, 2 Story's R. 164, 170. In this case, Mr. Justice Story said, “Looking at the present specification, and construing all its terms together, I am clearly of opinion, that it is not a patent claimed for a mere function; but it is claimed for the machine specially described in the specification; that is, for a function as embodied in a particular machine,

been held that the making of wheels on a particular principle which is described in the specification, is the subject of a patent ;¹ and where the plaintiff claimed as his invention "the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counter-balance to the pressure against the back of such chair, as above described," it was held not to be a claim to a principle, but to an application to a certain purpose, and by certain means.²

whose mode of operation and general structure are pointed out. In the close of his specification, the Patentee explicitly states that his "invention is described and explained in the second article of his specification, to which reference is made for information of that, which constitutes the principal or character of his machine or invention, and distinguishes it, as he verily believes, from all other machines, discoveries or inventions known or used before." Now, when we turn to the second article, we find there described not a mere function, but a machine of a particular structure, whose modes of operation are pointed out, to accomplish a particular purpose, function, or end. This seems to me, sufficiently expressive to define and ascertain what his invention is. It is a particular machine, constituted in the way pointed out, for the accomplishment of a particular end or object. The patent is for a machine, and not for a principle or function detached from machinery."

¹ Jones v. Pearce, Webs. Pat. Cas. 123.

² Minter v. Williams, Webs. Pat. Cas. 134. "Godson, in pursuance of leave reserved, moved for a nonsuit, on the ground that the specification is for a principle, the plaintiff having summed up the whole of his patent in his claim to the principle, and not to any particular means. Either the plaintiff claims a principle, or he does not; to the former he is not entitled; and as to the latter, the defendant has not used the mechanical means of the plaintiff." [Lord Lyndhurst, C. B.: He says, "What I claim as my invention is 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 such chair, as above described." This is what he claims, a self-adjusting leverage acting in that way. Then he points out the particular mode in which that is effected. The question, therefore, is, whether you have infringed that particular method.] [Alderson, B.: All the witnesses proved that there never had been a self-adjusting leverage in a chair before.] That I admit, and contend that this case is nearly the same as K. v. Cutler, (1 Stark. 354; Webs. Pat. Cas. 76, n.) [Lord Lyndhurst, C. B.: He says, "I claim the application of a self-adjusting leverage to the back and seat of a chair," so as to produce such an effect.] Yes, my lord,

§ 145. But on the other hand, a claim to a principle, to be carried into effect by any means, without describing an applica-

that effect being nothing more than the motion of a lever backwards and forwards, producing such an effect. [Lord *Lyndhurst*, C. B. : It is the application of a self-adjusting leverage to the back and seat of a chair, he having described what that self-adjusting leverage was before. Any application of a self-adjusting leverage to the back and seat of a chair producing this effect, that the one acts as a counterbalance to the pressure against the other, would be an infringement of this patent, but nothing short of that.] [Alderson, B. : The difference between this chair and all others, as it appeared in evidence, was very well described by Mr. Brunton ; he says, this chair acts, (looking at the one you produced,) this chair acts, but not by a self-adjusting leverage. By pressing on the back the seat rises, and *vice versa*, by pressing on the seat the back rises ; that is what he calls a self-adjusting leverage. In the other case, you might sit forever, and the back would never rise.] The plaintiff, by his specification, has appropriated to himself a first principle in mechanics, viz., the lever, and therefore nobody else may use it. [Lord *Lyndhurst*, C. B. : It is not a leverage only, but the application of a self-adjusting leverage ; and it is not a self-adjusting leverage only, but it is a self-adjusting leverage producing a particular effect, by the means of which the weight on the seat counterbalances the pressure against the back.] This is nothing more than one of the first principles of mechanics. [Parke, B. : But that, not being in combination before, can that not be patented? It is only for the application of a self-adjusting leverage to a chair — cannot he patent that? He claims the combination of the two, no matter in what shapes or way you combine them ; but if you combine the self-adjusting leverage, which he thus applies to the subject of a chair, that is an infringement of his patent.] What is the combination? [Lord *Lyndhurst*, C. B. : Why the application of a self-adjusting leverage producing a particular effect. He says, I do not confine myself to the particular shape of this lever.] If your lordships translate this to mean machine, of course I have no further argument to urge. [Lord *Lyndhurst*, C. B. : It is every machine consisting of a self-adjusting leverage producing that particular effect in a chair.] That is the extent to which I am putting it. If your lordships say you can, in favor of the patentee, so read it, that it is the machine and the combination only that the plaintiff has claimed, then I should be wasting your lordships' time if I argued the matter further. [Lord *Lyndhurst*, C. B. : Substantially that combination.] [Parke, B. : Therefore a chair made upon that principle which you have directed to be constructed here, would be an infringement of his patent, that is, the application of a self-adjusting leverage to a chair, such a one as you have produced here to-day.] [Lord *Lyndhurst*, C. B. : It has the particular effect.] Rule refused.

tion of the principle by some means, is a claim to the abstract principle. As, where a specification stated that "It is claimed as new, to cut ice of a uniform size by means of an apparatus worked by any other power than human," it was held that this claim to the art of cutting ice by means of any other power than human was utterly void.¹ It is, therefore, essential that the specification should describe some practical mode of carrying the principle into effect; and then the subject-matter will be patentable, because it will be, not the principle itself, but the mode of carrying it into effect; and on the question of infringement it will be for the jury to say, whether another mode of carrying it into effect is not a colorable imitation of the mode invented by the patentee.²

§ 146. This being the case, the question next arises whether it is necessary, after having described the application of the principle by some mechanical contrivance, or other arrangement of matter, to claim in the specification all the other forms of apparatus, or modifications of matter, by which the principle may also be applied in order to produce the same beneficial

¹ *Wyeth v. Stone*, 1 Story's R. 271, 285.

² In *Neilson v. Harford*, Webs. Pat. Cas. 342. Alderson, B. said, "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 practically described any mode of carrying it into effect. If he had, perhaps he might have covered all other modes, as being a variation."

effect, or whether the patent does not cover all these, without particular description, by covering the application of the principle. When we consider that the subject-matter of such a patent is the application of the principle effected by means of some machinery, or other arrangement, it will be apparent that the reason why the patentee is bound to describe some machinery or practical method of making the application, is in order to show that he has actually applied the principle, and to enable others to do so after him. But the real subject of the patent is the practical application of the principle; and hence, although the means by which the patentee has made that application must be described, in order to show that he has done what he says he has done, and to enable others to do what he says can be done, yet a variation of the means and machinery, if it produces the same beneficial effect, that is, (is) the same application of the same principle, does not show that the party making such variation has not infringed the patent, by making use of that which exclusively belonged to another, viz., the application of the principle to produce a particular effect.

§ 147. Examples will best illustrate this distinction. Minter's patent, for a self-adjusting chair, which has been already referred to, was a case of the application of a well known principle, that of the lever, for the first time applied to a chair. He made no particular claim of shape or form for the construction of the chair, but showed that if a lever was applied to the back of the chair, so that the weight of the seat would act as a counterpoise to the back, in whatever posture the occupant might be sitting or reclining, a self-adjusting chair would be obtained. Now, there might be various modes of constructing a chair on this principle; but as the constructing of chairs on this principle was the true subject of the patent, the court held the making of any chair upon the same principle of a self-adjusting leverage, was an infringement.¹

¹ Minter v. Wells, Webs. Pat. Cas. 134.

§ 148. Neilson's patent involved the principle of blowing furnaces, for the smelting of iron, with a blast of hot air, instead of cold, and he applied that principle by finding out a mode by which air may be introduced in a heated state into the furnace, viz., by heating the air in a close vessel between the blowing apparatus and the furnace. The specification, after stating that the air, heated up to red heat, may be used, but that it is not necessary to go so far to produce a beneficial effect, proceeded to state that the size of the receptacle would depend on the blast necessary for the furnace, and gave directions as to that. It then added, "The shape of the receptacle is immaterial to the effect, and may be adapted to local circumstances." After great consideration, it was held that the word "effect" was not meant to apply to the degree of heat to be given to the air in the heating receptacle, but that any shape of the heating receptacle would produce the beneficial effect of passing heated air into the furnace. This construction settled what the patent was for, viz., the application of the principle of blowing with hot air, by means of a vessel in which the air should be heated on its passage from the blowing apparatus to the furnace. Consequently the subject-matter embraced all the forms of apparatus by which the application of the same principle could be effected.¹

¹ Neilson v. Harford, Webs. Pat. Cas. 295, 369. The same patent was litigated in Scotland, and, upon the point of the generality of the claim, as regards the forms of the apparatus, Lord Justice Clerk Hope made the following observations to the jury: "Is it any objection, then, in the next place, to such a patent, that terms descriptive of the application to a certain specified result include every mode of applying the principle or agent so as to produce that specified result, although one mode may not be described more than another—although one mode may be infinitely better than another—although much greater benefit would result from the application of the principle by one method than by another—although one method may be less expensive than another? Is it, I next inquire, an objection to the patent, that, in its application of a new principle to a certain specified result, it includes every variety of mode of applying the principle according to the general statement of the object and benefit to be attained? You will observe,

§ 149. In this case, it was also laid down by Parke, B. to the jury, that the omission to mention in the specification any

that the greater part of the defenders' case is truly directed to this objection. This is a question of law, and I must tell you distinctly, that this generality of claim, that is, for all modes of applying the principle to the purpose specified, according to or within a general statement of the object to be attained, and of the use to be made of the agent to be so applied, is no objection whatever to the patent. That the application or use of the agent for the purpose specified, may be carried out in a great variety of ways, only shows the beauty, and simplicity, and comprehensiveness of the invention. But the scientific and general utility of the proposed application of the principle, if directed to a specified purpose, is not an objection to its becoming the subject of a patent. That the proposed applications may be very generally adopted in a great variety of ways, is the merit of the invention, not a legal objection to the patent.

The defenders say — you announce a principle, that hot air will produce heat in the furnace; you direct us to take the blast without interrupting, or rather without stopping it, to take the current in blast, to heat it after it leaves the blast, and to throw it hot into the furnace. But you tell us no more — you do not tell us how we are to heat it. You say you may heat in any way, in any sort of form of vessel. You say, I leave you to do it how you best can. But my application of the discovered principle is, that if you heat the air, and heat it after it leaves the blowing engine (for it is plain you cannot do it before,) you attain the result I state: that is the purpose to which I apply the principle. The benefit will be greater or less, I only say, benefit you will get, I have disclosed the principle; I so apply it to a specified purpose by a mechanical contrivance, viz., by getting the heat when in blast, after it leaves the furnace; but the mode and manner, and extent of heating, I leave to you, and the degree of benefit, on that very account, I do not state. The defenders say, the patent, on this account, is bad in law. I must tell you, that taking the patent to be of this general character, it is good in law. I state to you the law to be, that you may obtain a patent for a mode of carrying a principle into effect; and if you suggest and discover, not only the principle, but suggest and invent how it may be applied to a practical result by mechanical contrivance and apparatus, and show that you are aware that no particular sort or modification, or form of the apparatus, is essential, in order to obtain benefit from the principle, then you may take your patent for the mode of carrying it into effect, and you are not under the necessity of describing and confining yourself to one form of apparatus. If that were necessary, you see, what would be the result? Why, that a patent could hardly ever be obtained for any mode of carrying a newly-discovered principle into practical results, though the most valuable of all

thing which the patentee knows to be necessary for the beneficial enjoyment of the invention is a fatal defect ; but the omission to mention something which contributes only to the degree

discoveries. For the best form and shape or modification of apparatus, cannot in matters of such vast range, and requiring observation on such a great scale, be attained at once ; and so the thing would become known, and so the right lost, long before all the various kinds of apparatus could be tried. Hence you may generally claim the mode of carrying the principle into effect by mechanical contrivance, so that any sort of apparatus applied in the way stated will, more or less, produce the benefit, and you are not tied down to any form.

The best illustration I can give you, and I think it right to give you this illustration, is from a case as to the application of that familiar principle, the lever to the construction of chairs, or what is called the self-adjusting lever. (Minter's Patent, Webs. Pat. Cas. 126 and 134.) This case, which afterwards came under the consideration of the whole court, was tried in the Court of Exchequer during the presidency of Lord Lyndhurst. The case was as to the patent reclining chair, the luxury of which some of you may have tried ; it had a self-adjusting lever, so that a person sitting or reclining, and I need not tell you what variety of postures can be assumed by a person reclining in a chair — in whatever situation he placed his back, there was sufficient resistance offered through means of the lever, to preserve the equilibrium. Now anything more general than that I cannot conceive ; it was the application of a well-known principle, but for the first time applied to a chair. He made no claim to any particular parts of the chair, nor did he prescribe any precise mode in which they should be made ; but what he claimed was a self-adjusting lever to be applied to the back of a chair, where the weight of the seat acts as a counterpoise to the back, in whatever posture the party might be sitting or reclining. Nothing could be more general. Well, a verdict passed for the patentee, with liberty to have it set aside ; but Lord Lyndhurst and the rest of the court held, that this was not a claim to a principle, but to the construction of a chair on this principle, in whatever shape or form it may be constructed. (Minter v. Wells. Webs. Pat. Cas. 134.) Just so as to the hot blast, only the principle is also new. The patentee says, "I find hot air will increase the heat in the furnace, that a blast of hot air is beneficial for that end." Here is the way to attain it — "heat the air under blast, between the blowing apparatus and the furnace ; if you do that, I care not how you may propose to do it — I neither propose to you, nor claim, any special mode of doing it ; you may give the air more or less degrees of heat ; but if you so heat it, you will get by that contrivance the benefit I have invented and disclosed, more or less, according to the degree of heat." This is very simple, very general ; but its sim-

of benefit, provided the apparatus would work beneficially and be worth adopting, is not a fatal defect.¹

§ 150. As it is the duty of the court to determine on the construction of the patent, what the subject-matter is, it is often necessary to decide whether the patentee claims a combination of several things, or the distinct invention of several things, or both. General principles cannot be laid down for the determination of questions of this kind, depending exclusively on the particular facts. There is, however, one circumstance, that will always be decisive, in construing a patent, against a claim for the several things described in the specification, and that is, that one or more of them is not new. If this turns out to be the case, the question may then be, whether the patent can be sustained for the combination.² In determining this question it is to be observed that a patent for a combination of three things cannot at the same time be a patent for a combination of any two of them. If the subject-matter is the combination of any given number of things, or processes, or parts, no portion of the combination less than the whole can be considered at the same time as being also the subject-matter.³

§ 151. The rule which we have thus endeavored to illustrate, which requires the patentee so to describe his invention as to enable the public to know what his claim is, of course imposes upon him the duty of not misleading the public, either by concealing anything material to the invention, or by adding any-

plicity is its beauty and its practical value — not an objection in law.” *The Househill Company v. Neilson*, *Webs. Pat. Cas.* 684, 686.

¹ *Neilson v. Harford*, *Webs. Pat. Cas.* 317.

² For some of the cases where the question has been between a combination or a claim for several distinct things, see *Howe v. Abbott*, 2 *Story's R.* 190; *Ames v. Howard*, 1 *Sumner*, 482; *Prouty v. Ruggles*, 16 *Peters*, 336; *S. C. Prouty v. Draper*, 1 *Story*, 568; *Pitts v. Whitman*, 2 *Story's R.* 609; *Carver v. Braintree Manuf. Company*, 2 *Story's R.* 432.

³ *Prouty v. Draper*, 1 *Story*, 568, 572; *S. C. Prouty v. Ruggles*, 16 *Peters*, 336.

thing not necessary to be introduced. The ambiguity which we have been considering in the preceding pages may be produced involuntarily; but there is a special provision of the statute aimed at the voluntary concealment or addition of anything material. The statute enacts it as one of the defences to an action on a patent, that the specification "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."¹ This defence will be made good, when it appears that the patentee fraudulently concealed something that he knew to be material to the practice of his invention, or fraudulently added something which he knew was not useful, material, or necessary, at the time when he prepared his specification. If it was subsequently discovered not to be useful, material, or necessary, his patent will not be affected by it.²

§ 152. II. The second rule for preparing a specification is,
To describe the invention in such a manner as to enable the public to practice it, from the specification alone.

§ 153. The statute requires the patentee to describe "the manner and process of making, constructing, using, and compounding his invention or discovery, 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

¹ Act of July 4th, 1846, § 15.

² See *Post*, in the chapter on Infringement, and also in the chapter on Remedy by Action.

particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery.”

§ 154. We have seen that the question whether a specification answers this requisite of the statute, is a question of fact for the jury; and although it is not necessary that technical terms should be made use of in a specification, they often are made use of and often require to be explained by evidence. In judging of a specification, therefore, a distinction must be taken between that sort of ambiguity which a person unacquainted with technical terms would encounter, and the ambiguity which might appear to a person skilled in the particular art. It is not necessary that the specification should contain an explanation level with the capacity of every person, which would often be impossible.¹ The statute allows the patentee to address himself to persons of competent skill in the art, and it requires him to use such full, clear, and exact terms as will enable that class of persons to reproduce the thing described from the description itself. It is, therefore, important to ascertain what the rules of construction are, which define what will constitute an ambiguity or uncertainty to artists and persons skilled in the subject.

§ 155. And *first* with regard to the persons whose judgment and apprehension are thus appealed to: they are not those who possess the highest degree of skill or knowledge in the particular art or science, to which the subject-matter belongs, nor are they day-laborers; they are practical workmen, or persons of reasonably competent skill in the particular art, science, or branch of industry. If persons of the highest skill were those whom the law has in contemplation, the object of a specification, which is to enable competent persons to reproduce the thing patented, without making experiments, inventions, or additions of their own, could not generally be answered.²

¹ Per Story J. in *Lowell v. Lewis*, 1 Mas. 182.

² *The King v. Arkwright*, Dav. Pat. Cas. 106; Webs. Pat. Cas. 64.

§ 156. *Secondly*, as to the application of their knowledge and skill, by such persons, to the understanding and carrying out of the description given by the patentee. The description must be such as will enable persons of competent skill and knowledge to construct or reproduce the thing described, without invention or addition of their own, and without repeated experiments.¹ Thus it has been held, that any material alteration to be made in existing apparatus or machinery, must be stated, and not left to be supplied by the workman; as, with reference to the materials employed, or their form, or the speed of the parts, or their relative dimensions, where these are material.² So, too, the specification is insufficient, if information must be derived from experiments, or from seeing others make the thing described;³ or as it has also been said, if it requires the solu-

Lowell v. Lewis, 1 Mas. 182; Harman v. Playne, 11 East, 101. And see particularly the observations of M. Baron Parke, cited *Post*, from Neilson v. Harford.

¹ The King v. Arkwright, Webs. Pat. Cas. 66, 67, 69, 70. It will not do to rely for the correction of errors on the ordinary knowledge of competent workmen. In Neilson v. Harford, the specification contained a particular passage, which the jury found to be untrue; but they also found that any workman of competent knowledge of the subject would correct the statement. Parke, B., "Nor do we think that the point contended for by Sir William Follett, that if a man acquainted well with the process of heating air were employed, this misstatement would not mislead him, would at all relieve the plaintiffs from the difficulty; for this would be to support the specification by a fresh invention and correction by a scientific person, and no authority can be found that in such a case a specification would be good. To be valid, we think it should be such as, if fairly followed out by a competent workman, without invention or addition, would produce the machine for which the patent is taken out, and that such machine so constructed must be one beneficial to the public." Webs. Pat. Cas. 37.

² *Ibid.* p. 67.

³ *Ibid.* p. 67, 70, 71. Upon this point, Buller J. said, "Immison says, that from the specification he should have made a parallel cylinder, and not a spiral one, but this is the one used by the defendant. As to the rollers, it does not appear from the specification some were to go faster than others; from the specification, without other sources, it is impossible to say how they should be made, as there is no scale or plan to work by. A roller is

tion of a problem.¹ And, generally, a specification, to be valid, must be such as, when fairly followed out by a competent

necessary to the feeder to give regular direction to the work; it will not answer without it. From the knowledge he has now, he should add a roller if he was directed to make the machine. But that does not prove the specification to be sufficient, because, if a man, from the knowledge he has got from three trials, and seeing people immediately employed about it, is able to make use of it, it is his ideas improve the plan, and not the merit of the specification; if he makes it complete, it is his ingenuity, and not the specification of the inventor." . . . "Upon the other hand, several respectable people are called upon the part of the defendant, who say they could do it, but there is this difference in their description: most, if not every one of them, have looked at and seen how the machines were worked by the defendant, and have got their knowledge by other means, and not from the specification and plan alone; besides, they admit the manner the defendant works it is not consistent with the plan laid down, particularly as to the cylinder, a particular part of the business, for Moore says, this upon the face of it, must be taken to be a parallel, whereas that which plainly appears to be used is a spiral; besides, after all this they have spoken most of them in a very doubtful way, particularly Mr. Moore, who qualified his expression in the way which I have stated to you, and the others qualifying their expressions, saying they think upon the whole they could do it. Suppose it perfectly clear they could with the subsequent knowledge they had acquired, yet, if it be true that sensible men, that know something of this particular business, and mechanics in general, cannot do it, it is not so described as is sufficient to support this patent."

¹ In *Morgan v. Seaward*, Webs. Pat. Cas. 170, 174, Alderson, B. said, "It the invention can only be carried into effect by persons setting themselves a problem to solve, then they who solve the problem become the inventors of the method of solving it, and he who leaves persons to carry out his invention by means of that application of their understanding, does not teach them in his specification that which, in order to entitle him to maintain his patent, he should teach them the way of doing the thing, but sets them a problem, which being suggested to persons of skill, they may be able to solve. That is not the way in which a specification ought to be framed. It ought to be framed so as not to call on a person to have recourse to more than those ordinary means of knowledge (not invention) which a workman of competent skill in his art and trade may be presumed to have. You may call upon him to exercise all the actual existing knowledge common to the trade, but you cannot call upon him to exercise anything more. You have no right to call upon him to tax his ingenuity or invention.

workman, without invention or addition, the object of the patent may be obtained.¹

Those are the criteria by which you ought to be governed, and you ought to decide this question according to those criteria. You are to apply those criteria to the case now under consideration, and you should apply them without prejudice, either one way or the other, for it is a fair observation to make, that both parties here stand, so far as this observation is concerned, on a footing of perfect equality. The public, on the one hand, have a right to expect and require that the specification shall be fair, honest, open, and sufficient; and, on the other hand, the patentee should not be tripped up by captious objections, which do not go to the merits of the specification. Now, applying those criteria to the evidence in the cause, if you shall think that this invention has been so specified that any competent engineer, having the ordinary knowledge which competent engineers possess, could carry it into effect by the application of his skill, and the use of his previous knowledge, without any inventions on his part, and that he could do it in the manner described by the specification, and from the information disclosed in the specification, then the specification would be sufficient. If, on the other hand, 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." See also *Gray v. James*, 1 Pet. C. C. R. 376.

¹ In *Neilson v. Harford*, Webs. Pat. Cas. 295, 313, Parke B. instructed the jury as follows: "Now, then, understanding the meaning of this specification to be the sense I have given to it, that he claims as his invention a mode of heating the blast between the blowing apparatus and the furnace, in a vessel exposed to the fire, and kept to a red heat, or nearly, (and which description I think sufficient) of the size of a cubic foot for a smith's forge, or the other size mentioned, or of any shape, these questions will arise for your decision. It is said that, understanding it in that sense, the patent is void, because there are no directions given for any mode of constructing the instrument. But understanding the patent in that sense, it seems to me, that if you should be of opinion that a person of competent skill (and I will explain to you what I mean by that) would nevertheless construct such a vessel as would be productive of some useful and beneficial purpose in the working of iron, that the patent nevertheless is good, though no particular form of vessel is given. Then it is to be recollected that this claim is a patent right, — a right of heating in any description of vessel; and in order to maintain that right, it is essential that the heating in any description of vessel, either the common form, the smith's forge, the cupola, or the blast furnace, that it should be beneficial in any shape you may choose for all those three pur-

§ 157. Slight defects in a specification will sometimes prevent the object of the patent from being obtained, by any competent person who may undertake to apply it, and will therefore render the patent void, because they create a necessity for the exercise of inventive power on the part of the person who thus

poses. Now, then, I think, therefore, that this is correctly described in the patent; and if any man of common understanding, and ordinary skill and knowledge of the subject, and I should say in this case that the subject is the construction of the blowing apparatus; such a person as that is the person you would most naturally apply to in order to make an alteration of this kind; if you are of opinion on the evidence, that such a person as that, of ordinary skill and knowledge of the subject, (that is, the construction of the old blowing apparatus,) would be able to construct, according to the specification alone, such an apparatus as would be an improvement, that is, would be productive practically of some beneficial result, no matter how great, provided it is sufficient to make it worth while (the expense being taken into consideration) to adapt such an apparatus to the ordinary machinery in all cases of forges, cupolas, and furnaces, where the blast is used; in that case, I think the specification sufficiently describes the invention, leaving out the other objection (to which I need not any further direct your attention) that there is not merely a defective statement in the specification, unless those conditions were complied with, but there is a wrong statement. But leaving out the wrong statement for the present, and supposing that it was not introduced, then if, in your opinion, such a person as I have described — a man of ordinary and competent skill — would erect a machine which would be beneficial in all those cases, and be worth while to erect; in that case it seems to me that this specification is good, and the patent, so far as relates to this objection, will be good. It is to be a person only of ordinary skill and ordinary knowledge. You are not to ask yourselves the question, whether persons of great skill — a first-rate engineer, or a second-class engineer, as described by Mr. Farey — whether they would do it; because generally those persons are men of great science and philosophical knowledge, and they would upon a mere hint in the specification probably invent a machine which should answer the purpose extremely well; but that is not the description of persons to whom this specification may be supposed to be addressed — it 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 the patent may be supported so far as relates to that.”

undertakes to apply the description. As, the omitting to state the use of tallow, which the patentee employed for facilitating the manufacture of steel trusses ;¹ or, in a patent medicine, stating the ingredients without stating the proportions.² If anything be omitted, which gives an advantageous operation to the thing invented, it will vitiate the patent ; as the omission to state the use of a material, *aqua-fortis*, which the patentee used himself for obtaining the effect more rapidly ;³ for the patentee is bound to give the most advantageous mode known to him, and any circumstance conducive to the advantageous operation ; otherwise, he does not pay the price for his monopoly, because he does not give the public the benefit of all that he knows himself.⁴

§ 158. So, too, if a specification directs the use of a substance, which, as generally known, contains foreign matter, the presence of which is positively injurious, and does not show any method of removing that foreign matter, or refer to any method generally known, or state how the substance in a proper state can be procured, the specification will be defective.⁵

¹ *Liardet v. Johnson*, Webs. Pat. Cas. 53.

² *Ibid*, 54, note.

³ *Wood v. Turner*, Webs. Pat. Cas. 82.

⁴ *Morgan v. Seaward*, Webs. Pat. Cas. 175, 182. See the remarks of Alderson, B. cited *ante*. See also, *The King v. Arkwright*, Webs. Pat. Cas. 66 ; *Walton v. Bateman*, *Ibid*. 622 ; *Turner v. Winter*, *Ibid*, 81, where the employment of cheaper materials than those mentioned in the specification, or the insertion of materials which would not answer, were said to be sufficient to avoid a patent.

⁵ *Derosne v. Fairie*, Webs. Pat. Cas. 154, 162. In this very instructive case, Lord Abinger, C. B. said ; “ Upon the main point, however, that respecting the bituminous schistus, nothing that I have heard has removed my original impression, that there was no evidence to show that this process, carried on with bituminous schistus, combined with any iron whatsoever, would answer at all. The plaintiff himself has declared, that in that bituminous schistus, which he himself furnished, the whole of the iron was extracted ; and it appears, that it was admitted by the counsel, that the presence

§ 159. In like manner, a specification will be defective, if an article be described by a particular name, the patentee knowing that the requisite article cannot ordinarily be procured under the name by which it is described in the specification, and it be not stated where it may be procured; because the public have not that full and precise information which they have a right to require.¹ A specification will also be defective, which states

of iron would not only be disadvantageous, but injurious. Thus, then it appearing by the evidence, that in all the various forms in which the article exists in this country, sulphuret of iron is found, and the witnesses not describing any known process by which it can be extracted, it appears to me that the plaintiff ought to prove one of two things — either that the sulphuret of iron in bituminous schistus, is not so absolutely detrimental as to make its presence disadvantageous to the process, (in which case, this patent would be good, or that the process of extracting the iron from it is so simple and well known, that a man may be able to accomplish it with ease. As the bituminous schistus which was procured and used, was exclusively that which was furnished by the plaintiff, not in its original state, but after it had undergone distillation, and had been made into charcoal in a foreign country, and as in that stage of its preparation, it could not be discovered by examining it, whether it was made from one substance or another, (the residuum, after distillation, of almost every matter, vegetable as well as animal, being a charcoal mixed more or less with other things,) then there is only the plaintiff's statement to prove that the substance which was furnished by him and used, was charcoal of bituminous schistus. It appeared, also, that he had declared to one of the witnesses, that he had extracted all the iron from the substance so sent, and that it also underwent another process. I am, therefore, of opinion, that without considering whether or not the patent would be avoided by the process requiring the use of means to extract the iron from the bituminous schistus, which were kept secret by the patentee, he has not shown in this case, that what he has described in the patent could be used as so described, without injury to the matter going through the process. Under all these circumstances, I think that the plaintiff ought to have given some evidence to show that bituminous schistus, in the state in which it is found and known in England, could be used in this process with advantage, and as he has not done that, the defendants are entitled to a nonsuit; but, at the same time, as it is alleged that the plaintiff may supply the defect of proof, as to the schistus on a new trial by other evidence, we are desirous that the patent, if a good one, should not be affected by our judgment, and think it right to direct a new trial on the terms which have been stated."

¹ *Sturz v. De La Rue*, Webs. Pat. Cas. 83.

that the manner in which a power is to be applied varies with the circumstances in some measure, without showing in what the improvement consists, as distinguished from all former modes of doing the same thing.¹ If obscure terms be employed for the sake of concealment, so as to induce the belief that elaborate processes are necessary, when the simplest will succeed, the specification is bad ;² and if a patentee states that he prefers a certain material, having ascertained that no other will answer, he misleads the public.³

§ 160. The rule, however, which forbids a patentee to leave the public to find out by experiment how to apply his discovery or invention, is subject to one important limitation. If, for instance, the specification of a patent for a composition of matter is so drawn, that no one can use the invention, without first ascertaining by experiment the exact proportion of the different ingredients required to produce the intended result, the patent will be void. But it has been determined by the Supreme Court of the United States, that if, in such a specification, the patentee gives a certain proportion as the general rule applicable to the ordinary state of the ingredients, he may, without the risk of having his patent declared void by the court, for vagueness and uncertainty, state other and variable proportions as exceptions to the rule, applicable to the varying states of the ingredients, although the precise proportion adapted to a given state of the ingredients, other than the usual state, can only be ascertained by computing it from the general rule, after the particular state of the ingredients is ascertained. In such cases, it is for the jury to decide, on the evidence of experts, whether the general rule given is susceptible of application, and whether it furnishes the means of determining the proportions to be used,

¹ *Sullivan v. Redfield*, Paine's C. C. R. 441, 450, 451.

² *Savoy v. Price*, Webs. Pat. Cas. 83.

³ *Crompton v. Ibbotson*, Ibid. 83.

in the excepted cases, by the exercise of the ordinary knowledge and skill of the workman.¹

¹ Wood v. Underhill, 5 How. S. C. R. 1, 3, 4. The specification in this case was as follows: "Be it known that I, the said James Wood, have invented a new and useful improvement in the art of manufacturing bricks and tiles. The process is as follows: Take of common anthracite coal, unburnt, such quantity as will best suit the kind of clay to be made into brick or tile, and mix the same, when well pulverized, with the clay before (it) is moulded; that clay which requires the most burning, will require the greatest proportion of coal-dust; the exact proportion, therefore, cannot be specified; but, in general, three-fourths of a bushel of coal-dust to one thousand brick will be correct. Some clay may require one-eighth more, and some not exceeding a half-bushel. The benefits resulting from this composition, are the saving of fuel, and the more general diffusion of heat through the kiln, by which the contents are more equally burned. If the heat is raised too high, the brick will swell, and be injured in their form. If the heat is too moderate, the coal dust will be consumed before the desired effect is produced. Extremes are therefore to be avoided. I claim as my invention, the using of fine anthracite coal, or coal dust, with clay, for the purpose of making brick and tile as aforesaid, and for that only, claim letters-patent from the United States." Mr. Ch. Justice Taney delivering the judgment of the court, said, "The plaintiff claims that he has invented a new and useful improvement in the art of manufacturing bricks and tiles; and states his invention to consist in using fine anthracite coal, or coal dust, with clay, for the purpose of making brick or tile; and for that only, he claims a patent. And the only question presented by the record is, whether his description of the relative proportions of coal-dust and clay, as given in his specification, is upon the face of it too vague and uncertain to support a patent. The degree of certainty which the law requires is set forth in the act of Congress. The specification must be in such full, clear and exact terms, as to enable any one skilled in the art to which it appertains, to compound and use it without making any experiments of his own. In patents for machines, the sufficiency of the description must, in general, be a question of fact to be determined by the jury. And this must also be the case in compositions of matter, where any of the ingredients mentioned in the specification do not always possess exactly the same properties in the same degree. But when the specification of a new composition of matter gives only the names of the substances which are to be mixed together, without stating any relative proportion, undoubtedly, it would be the duty of the court to declare the patent to be void. And the same rule would prevail where it was apparent that the proportions were stated ambiguously and vaguely. For in such cases it

§ 161. But although it is necessary that a specification should clearly and fully describe the invention, and should give the best process, materials, and methods, known to the inventor, yet it is not necessary for the patentee to describe the mode of making everything which he uses, or detail known processes, or explain the terms appropriate to the particular art, or science, or

would be evident, on the face of the specification, that no one could use the invention without first ascertaining by experiment, the exact proportion of the different ingredients required to produce the result intended to be obtained. And if the specification before us was liable to either of these objections, the patent would be void, and the instruction given by the Circuit Court undoubtedly right. But we do not think this degree of vagueness and uncertainty exists. The patentee gives a certain proportion as a general rule; that is, three-fourths of a bushel of coal-dust to one thousand bricks. It is true, he also states that clay which requires the most burning, will require the greatest proportion of coal-dust; and that some clay may require one-eighth more than the proportions given, and some not more than half a bushel instead of three-fourths. The two last mentioned proportions may, however, be justly considered as exceptions to the rule he has stated; and as applicable to those cases only where the clay has some peculiarity, and differs in quality from that ordinarily employed in making bricks. Indeed, in most compositions of matter, some small difference in the proportions must occasionally be required, since the ingredients proposed to be compounded must sometimes be in some degree superior or inferior to those most commonly used. In this case, however, the general rule is given with entire exactness in its terms; and the notice of the variations, mentioned in the specification, would seem to be designed to guard the brick-maker against mistakes, into which he might fall if his clay was more or less hard to burn than the kind ordinarily employed in the manufacture. It may be, indeed, that the qualities of clay generally differ so widely, that the specification of the proportions stated in this case is of no value; and that the improvement cannot be used with advantage in any case, or with any clay, without first ascertaining by experiment the proportion to be employed. If that be the case, then the invention is not patentable. Because, by the terms of the Act of Congress, the inventor is not entitled to a patent. But this does not appear to be the case on the face of this specification. And whether the fact is so or not, is a question to be decided by a jury, upon the evidence of persons skilled in the art to which the patent appertains. The Circuit Court, therefore, erred in instructing the jury, that the specification was too vague and uncertain to support the patent, and its judgment must be reversed."

branch of industry to which his invention belongs.¹ The specification is, as we have seen, addressed to persons acquainted with the nature of the business; some technical knowledge is presumed on the part of those who will undertake, after the patent is expired, to carry out the invention; and such persons are to be called as witnesses to explain the language to the jury, while the patent is in force, and to show that it is capable of being understood by those to whom it is addressed. Accordingly it has been said, that a specification containing scientific terms, which are not understood, except by persons acquainted with the nature of the business, is not bad because an ordinary person does not understand it, provided a scientific person does; but a specification using common language, and stating that by which a common man may be misled, though a scientific man would not, when it does not profess to use scientific terms, and an ordinary man is misled by it, would not be good.² And it has been held that if a specification contain an untrue statement in a material circumstance, of such a nature that, if literally acted upon by a competent workman, it would mislead him, and cause the experiment to fail, the specification is therefore bad, and the patent invalidated, although the jury, on the trial of an action for the infringement of the patent, find that a competent workman, acquainted with the subject, would not be misled by the error, but would correct it in practice.³

§ 162. The specification need not describe that which is within the ordinary knowledge of any workman who would be employed to put up the apparatus; as, a condenser, in constructing a gas apparatus.⁴ So, too, a deviation from the precise dimensions shown by the specification and model, so as to make

¹ Per Lord Abinger C. B. in *Neilson v. Harford*, Webs. Pat. Cas. 341. See also *Derosne v. Fairie*, *Ibid.* 154, 167.

² *Ibid.*

³ *Neilson v. Harford*, 8 M. & W. 806; S. C. Webs. Pat. Cas. 328.

⁴ *Crossley v. Beverley*, Webs. Pat. Cas. 110, *note*.

different parts work together, is within the knowledge of any workman.¹ But if the practical application of the invention involves a particular kind of knowledge on the part of a workman, requiring him to do that which a person of ordinary engineering skill ought to know how to do, it must at least suggest to him that that thing is to be done, if it does not specifically point out the mode of doing it.² In like manner it is not ne-

¹ *Morgan v. Seaward*, Webs. Pat. Cas. 176. In this case, Alderson, B. said to the jury, "In the case of the steam engine, there was put in on the part of the defendants, a model, made, as it was said, according to the specification, which model would not work. The model was a copy of the drawing, and would not work, because one part happened to be a little too small, whereas if it had been a little larger, it would have worked. Now, a workman of ordinary skill, when told to put two things together, so that they should move, would of course, by the ordinary knowledge and skill 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, 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; with respect to that, therefore, I do not apprehend you will feel much difficulty."

² In the case last cited, the same learned judge further instructed the jury as follows, "Mr. George Cottam says, 'It is a common problem to find a centre from three given points, and a person of ordinary engineering skill ought to be able to do that.' The question is, whether it ought not to be suggested to him by the specification, that that is the problem to be solved. Then Mr. Curtis says, 'I have made wheels on this plan.' You see he made the two wheels which were sent to the Venice and Trieste Company, but those were made under the direction of Mr. Galloway, the inventor. Now, it somewhat detracts from the weight due to his testimony, not as to his respectability, but as to the value of his evidence to you, that he had received the verbal instructions of Mr. Galloway. It may be, that he could do it because of his practice under Mr. Galloway; and it must be recollected that people in other places would not have that advantage. He says, he would not have any difficulty in doing it; and he says, 'I should not consider my foreman a competent workman unless he were able to make the wheel from the specification and drawings.' He says, 'I could alter the angle by altering the cranks.' The question is not, whether he could do that, but whether

cessary, in the description of a machine to state of what material every part should be made, where the principle of operation and the effect are the same, whether the parts be made of one material or another ;¹ but if a particular material be essential to the successful operation of the machine, as the patentee uses it, he must direct the use of that material.

§ 163. In the case of machinery, the statute directs the patentee to accompany his specification with "a drawing or drawings, and written references, where the nature of the case admits of drawings." The object of annexing drawings is both to distinguish the thing patented from other things known before, and to explain the mode of constructing the subject of the patent. It has been settled, that the drawings constitute a part of the specification, when annexed thereto, and may be used to explain or help out the otherwise imperfect description in the specification. So that it is not necessary that the description should be wholly in writing, but it may be partly in writing and partly in drawing ; and if, by a comparison of the words and the drawings, the one will explain the other sufficiently to enable a skilful mechanic to perform the work, and to show what is the invention claimed, the specification will be sufficient.² And it has been held, that in order to make a drawing when annexed to or accompanying a specification, part of the specification, so that the written description may be read by it, it is not necessary that the written description should contain references to the drawing ; that the direction in the statute, to annex "drawings and written references," means that where references from the writing to the drawing are necessary to the understanding

he could alter the angle to a particular angle by altering the cranks in a particular way, that is, whether, having the angle given to him, he could make the alteration that was desired."

¹ *Brooks v. Bicknell*, 3 M'Lean's R. 250, 261.

² *Earle v. Sawyer*, 4 Mas. 1, 9 ; *Bloxam v. Elsee*, 1 Car. & P. 558 ; *Brunton v. Hawkes*.

of the machine or improvement, they are to be made; but that the description of many machines or improvements, when accompanied by a drawing, may be perfectly understood with references in the description itself.¹

§ 164. It was formerly held in England that the drawings annexed to specifications ought to be drawn on a scale; so that the relation and proportion of the parts to each other, and the dimensions of the different parts might appear in due ratio to each other.² But this rule has been modified; and it seems now to be considered that if a mechanic can make the subject of the patent from the drawing in perspective, it is not necessary that there should be a scale.³ Indeed, it is a necessary consequence of the rule which makes the written description open to explanation by the drawing, to hold that the drawing is open to explanation by the written description. So long as both together enable the public to know and practice the invention, it must be immaterial whether the drawing is made upon a scale or not. But if the subject of the patent could not be made, without many experiments, unless the drawing is upon a scale, then undoubtedly the whole specification taken together, being the written description and the drawing, would be defective.

§ 165. It should not be forgotten, that the statute requires a formal attestation of the specification and drawings. They must be signed by the inventor and by two witnesses.⁴ It has been suggested, that the signing of the specification referring to the drawings is in effect attesting the drawings.⁵ But whether

¹ *Brooks v. Bicknell*, 3 M'Lean's R. 250, 261; *Washburn v. Gould*, 3 Story's R. 122, 133.

² *The King v. Arkwright*, Dav. Pat. Cas. 114.

³ *Godson on Patents*, p. 137.

⁴ Act of July 4, 1836, § 6, "which description and drawings, signed by the inventor and attested by two witnesses, shall be filed in the patent office."

⁵ *Phillips on Patents*, p. 302, 303.

the statute is to be so construed as to require both the specification and the drawings to be signed, has not been decided.

§ 166. Provision is made by the thirteenth section of the Act of 1836 for the amendment of the specification by the addition of new improvements made after the patent has issued. The description of any such new improvement may be filed in the patent office, and is directed to be annexed by the commissioner to the original specification, with a certificate of the time of its being so annexed, and thereafter it is to have the same effect as if it had been embraced in the original specification.¹

§ 167. A still further provision is made for the amendment of a redundant specification, by the filing of a *Disclaimer*. The Act of 1837, ch. 45, § 7, provides, 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 disclaimers 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 thereby, by the disclaimant, and by those claiming by or under him

¹ Act of 4th July, 1836, § 13.

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."

§ 168. The 9th section of the same act provides as follows :
“(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^b 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 bona fide his own: *Provided*, it shall be a material and substantial part of the thing patented, and be definitely 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 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 shall be bona fide his own as aforesaid, notwithstanding the specification may embrace more than he shall have any 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 of 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 benefit of the provisions contained in this section, who shall have unreasonably neglected or delayed to enter at the Patent Office a disclaimer as aforesaid.”

§ 169. The disclaimer mentioned in the seventh section has been held to apply solely to suits pending when the disclaimer was filed in the patent office ; and that mentioned in the ninth section to suits brought after the disclaimer is so filed.¹

¹ *Wyeth v. Stone*, 1 Story's R. 273, 293. In this case, Mr. Justice Story thus expounded the statute: "We come, then, to the remaining point, whether, although under the Patent Act of 1793, ch. 55, the patent is absolutely void, because the claim includes an abstract principle, and is broader than the invention ; or, whether that objection is cured by the disclaimer made by the patentee (*Wyeth*), under the act of 1837, ch. 45. The seventh section of that Act provides, 'That whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification 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 or justly his own, any such patentee, his administrators, executors, or assigns, whether of the whole or a sectional part thereof, 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, &c., &c. And such disclaimer shall be thereafter taken and considered as a part of the original specification, to the extent of the interest, which shall be possessed in the patent or right secured thereby by the disclaimant, &c.' Then follows a proviso, that '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.' The ninth section provides, '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 first and original 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 shall be definitely distinguishable from the other parts so claimed without right as aforesaid.' Then follows a clause, that in every such case, if the plaintiff recovers in any suit, he shall not be entitled to costs, 'unless he shall have entered at the patent office, prior to the commencement of the suit, a disclaimer of all that part of the thing patented, which was so claimed without right ;' with a proviso, '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 to enter at the patent office a disclaimer as aforesaid.'

“Now, it seems to me, that upon the true construction of this statute, the disclaimer mentioned in the seventh section must be interpreted to apply solely to suits pending, when the disclaimer is filed in the patent office ; and the disclaimer mentioned in the ninth section to apply solely to suits brought after the disclaimer is so filed. In this way, the provisions harmonize with each other ; upon any other construction they would seem, to some extent, to clash with each other, so far as the legal effect and operation of the disclaimer is concerned.

“In the present case, the suit was brought on the first of January, 1840, and the disclaimer was not filed until the twenty-fourth of October, of the same year. The proviso, then, of the seventh section would seem to prevent the disclaimer from affecting the present suit in any manner whatsoever. The disclaimer, for another reason, is also utterly without effect in the present case ; for it is not a joint disclaimer by the patentee and his assignee, Tudor, who are both plaintiffs in this suit ; but by Wyeth alone. The disclaimer cannot, therefore, operate in favor of Tudor, without his having joined in it, in any suit, either at law, or in equity. The case, then, must stand upon the other clauses of the ninth section, independent of the disclaimer.

“This leads me to say, that I cannot but consider, that the claim made in the patent for the abstract principle or art of cutting ice by means of an apparatus worked by any other power than human, is a claim founded in inadvertence and mistake of the law, and without any wilful default or intent to defraud or mislead the public, within the proviso of the ninth section. That section, it appears to me, was intended to cover inadvertences and mistakes of the law, as well as inadvertences and mistakes of fact ; and, therefore, without any disclaimer, the plaintiffs might avail themselves of this part of the section to the extent of maintaining the present suit for the other parts of the invention claimed, that is, for the saw and for the cutter and thereby protect themselves against any violation of their rights, unless there has been an unreasonable neglect or delay to file the disclaimer in the office. Still, however, it does not seem to me, that a court of equity ought to interfere to grant a perpetual injunction in a case of this sort, whatever might be the right and remedy at law, unless a disclaimer has been in fact filed at the patent office before the suit is brought. The granting of such an injunction is a matter resting in the sound discretion of the Court ; and if the Court should grant a perpetual injunction before any disclaimer is filed, it may be, that the patentee may never afterwards, within a reasonable time, file any disclaimer, although the Act certainly contemplates the neglect or delay to do so to be a good defence both at law and in equity, in every suit, brought upon the patent, to secure the rights granted thereby. However, it is not indispensable in this case to dispose of this point, or of the question of unreasonable neglect or delay, as there is another objection,

which in my judgment is fatal, in every view, to the maintenance of the suit in its present form."

NOTE. — The following synopsis of the leading English cases on the subject of specifications may be found convenient to the reader, although they are cited in the foregoing chapter. The references are to the pages of Webster's Patent Cases ; but the same cases may be found in other reports, by reference to the Index of Cases prefixed to this work.

The object of the specification is, that after the term has expired the public shall have the benefit of the invention. *Arkwright v. Nightingale*, Webster's Pat. Cas. 61.

The meaning of the specification is, that others may be taught to do that for which the patent is granted, and if any material part of the process be omitted, the specification is bad. *Liardet v. Johnson*, 53.

As the omitting to state the use of tallow, which the patentee employed for facilitating the manufacture of steel trusses. *Ibid.* 53.

Or, the omitting to state the use of a material, *aquafortis*, which the patentee used for obtaining the effect more rapidly. *Wood v. Zimmer*, 82.

Or, if the patentee employ cheaper articles than those specified.

Turner v. Winter, 81.

It is required as the price of the monopoly, that the patentee should enrol to the very best of his knowledge and judgment, the fullest and most sufficient description of the particulars on which the effect depended, that he was enabled to do.

Liardet v. Johnson, 54.

The most advantageous mode known to the inventor, and any circumstance conducive to the advantageous operation, must be stated.

Morgan v. Seaward, 175, 182.

The specification is intended to teach the public ; it must fully disclose the secret, and contain nothing materially false or defective.

R. v. Arkwright, 66.

The specification must give the

best mode known to the inventor, and must not mislead.

Walton v. Bateman, 622.

The specification ought to be so clearly worded as to enable any person of sufficient understanding on the particular subject, to attain the result without doubt or difficulty, it being the price paid by the inventor for keeping the public out of the manufacture. *Gibson v. Brand*, 629.

Some knowledge is requisite in the person reading the specification, which is addressed to artists of competent skill in the particular manufacture. *Bickford v. Skewes*, 219.

The specification addressed to persons of skill in the subject-matter and particular trade. *Arkwright v. Nightingale*, 61 ; *Elliott v. Aston*, 224.

The specification must be sufficient for persons skilled in the subject.

Huddart v. Grimshaw, 87.

The general test of sufficiency of the specification for mechanics or persons acquainted with the subject, limited by the condition, that they should be able to make the machine by following the directions of the specification, without any new inventions or additions of their own.

R. v. Arkwright, 66.

Any material alteration to be made in existing apparatus or machines must be stated. *Ibid.* 67.

As, with reference to the materials employed, or their form, or the speed of the parts, or their relative dimensions. *Ibid.* 67.

The representation and description of parts of no use, or without distin-

guishing to what purposes they are to be applied, or for the purpose of puzzling, will render the patent void, the specification not affording that fair, full, and true discovery, which the public have a right to demand in return for the monopoly. *Ibid.* 69.

If that which is shown will not do of itself, but requires something to be added, the specification is bad.

Ibid. 70.

If different parts are to move with different velocities, that must be stated. *Ibid.* 70.

If more parts be inserted than are necessary, as ten, where four are sufficient, the specification is void.

Ibid.

Information must not be requisite from other sources. *Ibid.*

As, where a workman has learned to make the machine from seeing others make it. *Ibid.*

The specification must be such as can be followed by a person possessing the ordinary knowledge, common to the trade, without invention or addition, or setting himself to solve a problem.

Morgan v. Seaward, 174.

Information acquired from other sources than the specification is to be excluded; but reasonable data must be given. *Ibid.* 179.

All extreme or exaggerated cases must be discarded, and the substance of the thing looked to. *Ibid.* 180.

It is not sufficient that a skilful person should be able to find it out; the invention must be effected by the directions contained in the specification. *Ibid.* 185.

The specification cannot be supported by the fresh invention and correction of a scientific period. To be valid, it must be such as, when fairly followed out by a competent workman, without invention or addition, the object of the patent may be obtained. *Neilson v. Harford*, 371.

By competent skill and knowledge are meant, ordinary skill and knowledge, such as that possessed by practical workmen; not the degree of skill which would enable a person on a mere hint to invent a machine for the purpose. *Ibid.* 314.

The specification being for the benefit of the trade must be sufficient for workmen competent to the ordinary business of that trade; first rate engineers and common laborers must be excluded. *The Househill Company v. Neilson*, 692.

The compositions and proportions, where materials and quantity are of the essence of the invention, must be given. *Liardet v. Johnson*, 54, n.

As, in the case of a medicine or paint. *Ibid.* 54, n.

A specification which merely suggests something, so as to throw on the public the trouble of experiment, is bad. *Morgan v. Seaward*, 175.

A deviation from the precise dimensions shown so as to make different parts work together, is within the knowledge of any workman.

Ibid. 176.

The omission to give directions as to matters within the knowledge of a workman, who would, under ordinary circumstances be employed to carry out the invention, is no ground of invalidity.

Crossley v. Beverley 110, n. n.

The omission to mention in the specification anything which the patentee knows to be necessary for the beneficial enjoyment of his invention, is a fatal defect.

Neilson v. Harford, 317, 321.

But the omission to mention something which contributes only to the degree of the benefit, provided the apparatus described would work beneficially and be worth adopting, is not a fatal defect. *Ibid.* 317.

The omission to mention the use of water twyres will not invalidate the specification, it appearing that a beneficial effect could be produced without such apparatus, and that any person acquainted with smelting knows, that if the heat is increased, recourse must be had to some method of guarding the pipe, and that the water twyre was well known one mode for that purpose. *Ib.* 318.

If the apparatus described can be used beneficially in its simplest form, it is no objection that great improvements may have been made. *Ib.* 317.

Not necessary that the apparatus

described should produce the greatest amount of benefit.

The Househill Co. v. Neilson, 695.

It is sufficient if persons acquainted with heating air would construct an apparatus productive of some benefit.

Ib. 694.

If experiments are necessary for the production of any beneficial effects, the patent is void.

Neilson v. Harford, 320.

As, if a particular temperature be essential and not stated. *Ib.* 318.

The specification need not describe that which is within the knowledge of any workman who would be employed to put up the apparatus.

Crossley v. Beverley, 110, n. n.

As, a condenser, in constructing a gas apparatus. *Ib.* 110, n. n.

A patentee is bound to insert in his specification the most improved means of carrying out his invention with which he is acquainted at the time of the enrolment of the specification. *Ib.* 116.

As, the different mechanical contrivances for carrying out the principle in respect of which he applied for his patent. *Ib.*

If it were otherwise, and if such contrivances must be the subject of fresh letters patent, the monopoly would be prolonged. *Ib.* 116

Time is allowed for the specification, in order that the invention may be brought to its greatest state of perfection. *Ib.* 117.

All improvements made during the interval for enrolling the specification should be described. *Ib.* 117.

The insertion or representation of anything as important, not being so in fact, will vitiate the specification.

Huddart v. Grimshaw, 93.

Letters patent are void if the specification be ambiguous, or give directions which tend to mislead the public. *Turner v. Winter*, 77.

As, where a generic term "fossil salt" is employed, but one species only, "sal gem," will succeed.

Ib. 80.

Or, where one of several articles named will not succeed. *Ib.* 81.

Where the specification directed

the use of a subject, bituminous schistus, saying, the carbonization has nothing particular, only it is convenient before carbonization to separate the sulphates of iron which are mixed with it, and it appeared that all bituminous schistus had such sulphates, and that no easy means were generally known of removing them, and that without their removal the schistus could not be efficaciously used; the specification held insufficient. *Derosne v. Fairie*, 157.

If a substance as generally known contain foreign matter, the presence of which is positively injurious, the plaintiff must show that a method of easily removing such foreign matter is known. *Ib.* 162.

Aliter, if such foreign matter interfere to a limited extent only with the degree of benefit. *Ib.* 159.

The substance named must answer the purpose proposed beneficially.

Ib. 163, 164.

A specification must state at least one method which will succeed.

Ib. 165.

All the substances which will answer the purpose of the invention need not be stated, only the public must not be misled.

Bickford v. Skewes, 218.

But if a whole class of substances be stated as suitable, and any one of them will not answer, the specification is bad, as misleading the public.

Ib. 218.

The plainest and most easy way of production must be stated, and if obscure terms be employed for the sake of concealment, so as to induce the belief that elaborate processes are necessary, when the simplest will succeed, the specification is bad.

Savory v. Price, 83.

If a patentee states that he prefers a certain material, having ascertained that no other would answer, he misleads the public.

Crompton v. Ibbotson, 83.

If an article be described by a particular name, the patentee knowing that the requisite article cannot be ordinarily procured under the name by which it is described in the speci-

fication, and it be not stated where it may be procured, the public have not that full and precise information which they have a right to require.

Sturtz v. De La Rue, 83.

A studied or manifest ambiguity will vitiate.

Galloway v. Bleaden, 524.

It is no objection *primâ facie* to a specification, that it contains terms of art requiring explanation.

Derosne v. Fairie, 157.

A specification containing scientific terms which are not understood except by persons acquainted with the nature of the business, is not bad, because an ordinary person does not understand it, provided a scientific person does ; but a specification using common language, and stating that by which a common man may be misled, though a scientific man would not, when it does not profess to use scientific terms, and an ordinary man is misled by it, would not be good.

Neilson v. Harford, 341.

If the invention be an improvement, it must distinctly appear on the face of the specification as such, and not as an original discovery.

Hill v. Thompson, 247.

The specification must inform the public what is new and what old.

MacFarland v. Price, 74.

A person is to be warned by the specification against the use of the particular invention. *Ib.*

A specification describing a machine as a whole is sufficient, though the invention be an improvement on a former patent.

Harman v. Playne, 75.

The specification is to warn the public of what is prohibited, and to teach them the invention.

Morgan v. Seaward, 173.

The specification must distinguish between what is new and old ; if not, the presumption is, that the patent extends to the whole and to each part. *Carpenter v. Smith*, 532.

A mistake in a specification does not of necessity vitiate letters-patent, as, where air was called an imponderable substance, or sulphur a mineral, *Neilson v. Harford*, 340.

Semble, that a mistake in respect of a matter foreign to the invention, and which cannot mislead, will not vitiate the specification. *Ib.* 353.

The inaccurate use of words, if explained by the context, will not vitiate a specification. *Ib.* 369.

Semble, that the evidence of a person of ordinary skill cannot be allowed to contradict or correct the plain grammatical sense of one part of the specification. *Ib.* 329.

The sufficiency of the specification in matters of description is a question for the jury. *Walton v. Potter*, 595.

In the absence of evidence on the part of the defendants, that persons have been misled by the specification, it is sufficient for the plaintiff to call persons who say, that to them, it is clear. *Cornish v. Keene*, 502.

The attention of the plaintiff must be fully and clearly directed to the objection to the specification.

Bickford v. Skewes, 219.

The finding of the jury on an objection as to the distinctness of the specification is conclusive. *Ib.* 220.

NOTE. — I borrow from Mr. Godson's excellent work the following summary of the defects common in specifications, as they are treated in the English law. The specification is bad, when

1. The terms are *ambiguous*.
2. Necessary *descriptions* are omitted.
3. Parts claimed are *not original*.
4. Things are put in to *mislead*.
5. The *drawings* are incorrect.
6. *One of different ways*, or different ingredients named, fails.
7. *One of several effects specified* is not produced.
8. The things described are *not the best known* to the patentee.

If the *terms* in which the description of the subject is expressed be *ambiguous*, if the words are used in any other sense than that in which they are generally understood, the invention may be wholly or partially concealed; and, therefore, on that account, the grant would be invalid.

Taking the title, patent and specification of *Campion's* letters patent¹ together, it was very difficult to say whether the word "whatever" referred to the total exclusion of starch, or whether when combined with the words "without any starch," it was merely a description of the thread of the sail-cloth which had been improved. For that ambiguity the patent was declared to be void.

It is mentioned in *Turner's* specification,² "take any quantity of lead, and calcine it; or minium or red lead," whence it was inferred that the lead only was to be calcined, and a doubt arose whether the minium or the red lead was to be calcined. Such an objection, if the only one, would probably not invalidate a grant, though a similar ambiguity is carefully to be guarded against. In that case, however, calcination would not produce the effect; fusion was necessary.

It was objected to the same patent, that the substance intended to be produced, and *called* white lead, could only be applied to a few of the purposes of white lead. The answer that it was not intended to make white lead was not sufficient. In the specification, the inventor should have stated that the effect produced a substance *similar* to white lead, and then have set forth the useful purposes to which this new substance might be converted; and ought not to have misapplied the *term* white lead.

There was also another word in that specification which was not intelligible. It was directed that *fossil* salt should be used. Now, fossil salt is a genus having many species, and only one of the latter, *sal gem*, would answer the intended purpose. For those reasons the patent was declared to be void.

If a term have a *technical* meaning, or one differing in the usage of trade from the ordinary sense annexed to it, the word may be received in its perverted sense; and if the manufacture be otherwise intelligibly described, a mere verbal inaccuracy will not vitiate the patent;³ but if a word be not used in its common acceptance, then it should be explained. Thus, in *Wheeler's* specification,⁴ it appeared, that by the word "malt," the patentee meant barley fully prepared for making beer; but that the word "malt," in its common acceptance, is applied to the grain as soon as it has germinated by the effect of moisture, and before it has been dried; and it was held that he ought to have explained his meaning.

¹ *Campion v. Benyon*, 3 B. & B. 5.

² *Turner v. Winter*, 1 T. R. 602.

³ 2 Hen. Bla. 485.

⁴ *King v. Wheeler*, 2 Barn. & Ald. 349.

In another case,¹ one of the ingredients was a white substance imported from Germany, and which could be purchased at one or two color shops in London.

The only description or denomination given to it in the specification was, "The purest and finest chemical white lead;" but there was no article known by that denomination in the trade, or in the shops where white lead is usually sold, and the finest white lead that could be obtained would not answer the purpose. The specification was held to be insufficient.

If, in a manufacture, something well known be used, and the inventor give a design of it, which appears to be of a different thing, though he means that the thing known should be used, the specification is in terms ambiguous; and it will be considered as being worded with an endeavor to conceal the invention and deceive the public. Thus, Mr. Arkwright, although he used the old spiral cylinder in his machine, so managed the drawing and description, that on the face of the specification it appeared that he intended to use a parallel cylinder.²

The several distinct parts of the subject of a patent may be divided into the *new* and the *old*. In a specification, all that is new must of course be clearly elucidated. The old parts may be distinguished as they are *material* and *immaterial* in producing the desired effect. Any particular thing, although in common use, when it is applied in a new manner to the production of a new effect, is material, and becomes a part of the substance of the invention, and must be described. And if it is not mentioned, and its use pointed out, the description will be defective. It is only the *well-known and immaterial* old parts that need not be described.³

A material alteration, from rollers in general, had been made in the rollers of Arkwright's machine, of which no description was given, and it was considered as wilfully concealed.⁴ Mr. Arkwright's machine was intended to prepare for spinning, not only cotton, but silk, flax, and wool; yet he described all the parts of it as one entire instrument. He did not state, as he should have done, that the hammer in the front of it was *only* to be used in preparing flax.⁵ Other parts, which were put on or off as occasion required, appeared as though they were fixed, and to be used in every stage of manufacturing each of the articles.⁶ Those omissions in the description were considered of sufficient importance to invalidate the patent.

Every part of the invention which is new must be accurately described, as

¹ *Sturz v. De La Rue and others*, 5 Russell's Rep. 322.

² Printed Case, 175; Dav. Pat. Cas. 113. Gods. on Pat. 54.

³ *Hill v. Thompson*, 2 B. Moore, 450, 455, &c.

⁴ Printed Case, 173; Dav. Pat. Cas. 107.

⁵ *King v. Arkwright*, Printed Case, 175; Dav. Pat. Cas. 117.

⁶ *King v. Arkwright*, Printed Case, 173; Dav. Pat. Cas. 109.

to the manner in which it is to operate. In the case of *Felton v. Greaves*,¹ the patent was granted for a machine for an expeditious and correct mode of giving a fine edge to knives, razors, *scissors*, and other cutting instruments. The machine described in the specification consisted of two circular rollers of steel made *rough*, like files, and the instrument to be sharpened was passed backward and forward in an angle formed by their intersection. It appeared in evidence that if the machine was intended to give a fine edge to *scissors*, that the one roller should be smooth.

In the specification it was also stated that *other materials* besides steel might be employed, and it appeared that if Turkey stones, instead of steel, were used for both the rollers, it was possible to succeed with scissors. The Lord Chief Justice observed: "The specification describes both the rollers as files. It is not stated either that the rollers must be one rough and the other smooth, or that Turkey stones must be substituted for the files, when it is intended to sharpen the edges of scissors. The specification is insufficient."

There are persons who imagine that if they introduce the words "and for other useful purposes" into the title of the patent, that the title must be good; and that if they insert the words "other materials may be used," or "any other substance from which the thing can be obtained," into the description, that it is impossible to find fault with the specification. There is not a greater error. In the last case it appeared that the words "other materials," did not assist the description or save the specification.

In addition to the old authorities, another case² has been decided, by which it appears that the words "any other substance" had been nearly fatal to an important patent. In the introductory part of the specification, Clegg, the original patentee, used these words: "My improved gas-apparatus is for the purpose of extracting inflammable gas by heat from pit-coals, tar, or any other substance from which gas or gases, capable of being employed for illumination, can be extracted by heat;" and then he went on to mention the other inventions. In the description of the retort, he called it "a horizontal flat retort, in which coal, or other materials capable of producing inflammable gas, are heated, and the gas extracted by distillation;" and in the course of it he spoke of the "coal or other substance" being "spread in a thin layer." Throughout the description of the retort, and the explanation of the drawings, he always spoke of "coal," or "coal or coke," or "coal or other substance" only.

It appeared that the retort was incapable of obtaining gas, except very imperfectly, or by considerable modifications, *from oil*. The date of the patent was December 9, 1815, that of the specification, June 8, 1816. At

¹ 3 Car. & Payne's Rep. 611.

² *Crossley v. Beverley*, 1 Mood. & Malk. 283; and see 3 Car. & Payne, 513.

these periods it was known, as a philosophical fact, that gas was producible from oil; but it had not been proposed to manufacture such gas for purposes of illumination. Some speculations, indeed, were then going on, and a patent was obtained about the same time for making it; and the manufacture was subsequently brought into use, though not very generally.

The counsel for the defendant submitted that the unfitness of the retort for making gas from oil was fatal to the patent, and contended that it was the duty of the patentee not to overstate the limits within which his invention would be useful, that no person may be led to unavailing expense in trying it upon purposes for which it is unfit.

Lord Tenterden said: "I must look at the whole of the specification together; and doing so, I think it is evident that it only represents the retort as suited to materials of the same kind as coal. I am of opinion, also, that I ought to understand the "other substances" mentioned to signify *substances then known* to be available for the purpose of illuminating with gas, not everything which will burn with a flame; for all these, in a certain sense, will produce gas. It is clear, on the evidence, that oil was not then generally considered as such a substance; and the fact, that some speculations were going on at the time with respect to its being so, will make no difference. The patentee cannot be required to foresee the success of these speculations, if they have succeeded; but I must consider him, as a practical man, to have spoken of things which practical men then treated as usable for the purpose specified.

On both grounds, therefore, I must decide against the objection. The law is severe enough in breaking up patents altogether for a fault in any part of them, without straining it in favor of such an objection.

This position of law was further illustrated in the case of *Crompton v. Ibbotson*.¹ The patent was for an improved method of drying and finishing paper. The specification contained these words: "the invention consists in conducting paper by means of a cloth or cloths against a heated cylinder; which cloth may be made of *any suitable material*, but *I prefer* it to be made of linen warp and woolen west; which cloth is shown in the drawing by blue lines."

It appeared by the evidence of the plaintiff's witness, that, as to the conducting medium, he had tried several things, but he was not aware of anything that would answer the purpose except the material which the patentee said he preferred. Whereupon Mr. Justice Bayley directed a nonsuit. A motion was made to set aside that nonsuit. It was refused, and Lord Tenterden said, the patent was obtained for the discovery of a proper conducting medium. The plaintiff found, after repeated trials, that nothing would serve

¹ Danson & Lloyd's Rep. 33.

the purpose except the cloth described in the specification ; yet he says the cloth may be made "of any suitable material," and merely that he prefers the particular kind there mentioned. Other persons, misled by the terms of this specification, may be induced to make experiments which the patentee knows might fail, and the public has not the full and entire benefit of the invention ; the only ground on which the patent is obtained. But this rule must not be extended to the rudiments of a science, nor to the mere incidents of a subject. If gold were directed to be used in a state of fusion, the manner and *utensils* for putting it in that state need not be mentioned.¹

That the new parts of the subject may be more clearly seen and easily known, the patentee must not only claim neither more nor less than his own invention, but he must *not appear* even unintentionally to appropriate to himself any part which is old, or has been used in other manufactures.² Those parts that are old and immaterial, or are not of the essence of the invention, should either not be mentioned, or should be named only to be designated as old. The patentee is not required to say that a screw or a bobbin, or anything in common use is not part of his discovery ; yet he must not adopt the invention of another person, however insignificant it may appear to be, with-

¹ *Turner v. Winter*, 1 T. R. 602. Gods. on Pat. 120.

² *Huddart v. Grimshaw*, Dav. Pat. Cas. 295. Ellenborough, C. J.: As to the bobbins they are not worth mentioning; the springs and tube are the things in which it should seem the principal originality of the invention consists. It is contended that the springs are not an essential part of the invention ; if they are enrolled as an essential part, whether they are so or not, it would certainly go to destroy this patent, because no deceptive things are to be held out to the public ; those that are material are to be held out as material ; according to the evidence of Mr. Rennie, they are material. It appears to me that the springs in Belfour and Huddart's machine both produce the same end to regulate the tension. Now, if it is a spring to regulate the tension of the yarn, which is essential to be regulated, it does seem to me ; but it is for your judgment to say whether it is a material part of the invention, and relied upon as such, as it should seem it is by both ; and if it is the same, then that which has been communicated by Mr. Belfour Mr. Huddart cannot take the benefit of.

It is for you to say, for that is the substance of the case, as to the invention of the patent, *whether any essential part of it was disclosed to the public before*. If you think the same effect in substance is produced, and that the springs in Mr. Belfour's by producing tension, obtains a material end in the making of ropes in this way proposed, and that it is in substance the same as in the other, this patent certainly must, upon principles of law, fall to the ground. If you think it is not the same, or if you think it is not material, though we have had the evidence of Mr. Rennie upon its materiality ; if you think this patent has been for a new invention, carried into effect by methods new and not too large beyond the actual invention of the party, in that case the patent may be sustained. But if you think otherwise in point of law or expediency, the patent cannot be sustained.

The verdict was for the plaintiff with nominal damages ; but it is evidently at variance with the opinion of Lord Ellenborough.

out a remark. If any parts are described as essential without a protest against any novelty being attached to them, it will seem, though they are old, that they are claimed as new.¹ The construction will be against the patentee that he seeks to monopolize more than he has invented, or that, by dwelling in his description on things that are immaterial or known, he endeavors to deceive the public, who are not to be deterred from using anything that is old by its appearing in the specification as newly invented. They are to be warned against infringing on the rights of the patentee, but are not to be deprived of a manufacture which they before possessed.² It seems, therefore, to be the safest way in the specification to describe the whole subject, and then to point out all the parts which are old and well known.

In the case of *Campion v. Benyon*,³ it appeared that the patent was taken out "for an improved method of making sail-cloth, without any starch whatever." The improvement or discovery consisted in a new mode of texture, and not in the exclusion of starch; and the advantage of excluding that substance had been discovered and made public before that time. The court held that the patent was void, as claiming, in addition to what the patentee had discovered, the invention of something already made public. Mr. Justice Park observed; "In the patentee's process, he tells us that the necessity of using starch is superseded, and mildew thereby entirely prevented; but if he meant to claim as his own an improved method of texture or twisting the thread to be applied to the making of unstarched cloth, he might have guarded himself against ambiguity by *disclaiming* as his own discovery, the advantage of excluding starch."

Upon the same principles of reasoning, but certainly with much more force, if there be several things specified that may be produced, and *one* of them is *not new*, the whole patent is void. This point underwent a very full discussion in the case of *Brunton v. Hawkes*.⁴

If things useless and unnecessary have been mixed with a substance, or attached to a machine, though the *terms* are intelligible, and every necessary description has been introduced, and the *parts claimed* are only those which have been newly invented, the patent is void. Of this nature, are those parts that have *never been used* by the patentee. It is from that circumstance inferred, that they have been introduced to overload the subject, and by clouding the description, to mislead the public, and conceal the real invention. Thus, in Arkwright's machine, the introduction of several things,⁵

¹ *Boville v. Moore*, Dav. Pat. Cas. 404; and see *Manton v. Parker*, Dav. Pat. Cas. 329.

² Dav. Pat. Cas. 279, and 3 Meriv. 629.

³ 3 B. & B. 5.

⁴ 4 Barn. & Ald. 550.

⁵ Godson on Pat. p. 29, n.; and see Printed Case, 182, 186, 187; and see Dav. Pat. Cas. 129, 139, 140; also *Hill v. Thompson*, 2 B. Moore, 450.

which were never used by him, was considered as done merely to mislead the public.

If any considerable part of a manufacture be *unnecessary* to produce the desired effect, it will be presumed that it was inserted only with a view to perplex and embarrass the inquirer. In the specification to Turner's patent¹ for producing a yellow color, among other things, minium is directed to be used, which it appeared would not produce the desired effect. In the same case, among a great number of salts which were specified, it was left to the public to use those they pleased, without either of them in particular being pointed out, and only one would answer the intended purpose. For either of these reasons, the validity of a patent could be impeached.

This rule, that if any considerable part of the things described in the specification be unnecessary, it will be presumed that it was inserted only with a view to perplex and embarrass the inquirer, was confirmed by the case of *Savory v. Price*.²

That patent had been granted for a method of making a neutral salt or powder, possessing all the properties of the medicinal spring at Seidlitz, under the name of "Seidlitz Powder." The specification enrolled within the time required by the patent, *set out three distinct recipes*, and described the modes and proportions in which the results were to be mixed, in order to produce the "Seidlitz Powder." It was proved that the three products so mixed answered the purpose professed in the patent, and that *the combination was new* and useful. But upon cross-examination of the plaintiff's witnesses, the following facts were established. The recipe No. 1, produced the substance called "Rochelle Salts." Rochelle salts were known to the world before 1815 under that name, and also as Soda Tartarizata.

Recipe No. 2, produced "Carbonate of Soda," which was known before 1815, and was in the Pharmacopœia of 1809; and a more expensive, but more perfect way of making it was also known, and it might be bought in shops.

The recipe No. 3, produced "Tartaric Acid," the method of making which was known at the time of the patent, and under that or some other name, it might be bought in chemists' shops; and other methods of making it were known, all of which would be equally efficacious for the combination of Seidlitz Powders. Rochelle salts, carbonate of soda, and tartaric acid *mixed in the manner prescribed*, produced the Seidlitz Powders.

The Chief Justice said, "It is the duty of any one, to whom a patent is granted, to point out in his specification the plainest and most easy way of producing that for which he claims a monopoly; and to make the public acquainted with the mode which he himself adopts. If a person, on reading

¹ Turner v. Winter, 1 T. R. 602; Godson on Pat. 120.

² Ryan & Moody, 1.

the specification, would be led to suppose a laborious process necessary to the production of any one of the ingredients, when, in fact, he might go to a chemist's shop and buy the same thing as a separate simple part of the compound, the public are misled. If the results of the recipes, or of any one of them, may be bought in shops, this specification, tending to make people believe an elaborate process essential to the invention, cannot be supported."

Although the unnecessary part had *occasionally* been used, it would still be a question whether it had not been put there to mislead the public. But this rule is not so strictly enforced that a person is compelled to *go on using* every part of his invention to secure and continue his patent right. If any particular parts have been once fairly introduced, and not laid aside, until, by some discovery or contrivance made subsequent to the date of the patent, they were found to be unnecessary, the patentee may, without prejudice, leave them out; or cease to make use of them. But the presumption is against the inventor, until he give a good reason for the discontinuance.¹

Watts, in his specification, gave a description of several things, which being incomplete, would not have supported a patent; and yet, inasmuch as he did not claim them as part of the subject of his patent, it was considered that they were *matters of intention only*, and that the specification was not rendered less intelligible by the introduction of them.²

It is absolutely necessary to annex to the specification a model, diagram, picture, or drawing, descriptive of the manufacture.³ If without it the subject is clearly described, it is better omitted. It is, however, an easy way of illustrating the parts of a machine, and, therefore, has generally been adopted. It was formerly said, that in every instance in which a drawing was introduced, it was indispensable that it should be drawn on a *scale*, &c.;⁴ that in it the diameters of wheels, the length of levers, &c., every proportion and relation of the parts, ought to appear in due ratio to each other; and that the whole should be capable of being put together without leaving the length, breadth, or relative velocity, of any of the parts to be found out by conjecture and experiments, or the patent would be void. Arkwright's machine,⁵ though shown in a perspective drawing, could not be made for want of a scale to determine its dimensions.

This rule has of late been modified. If a common mechanic can make the subject of the patent from the drawing in perspective, it is not necessary that there should be a scale. It was also formerly considered that the words

¹ *Boville v. Moore*, Dav. Pat. Cas. 398.

² *Boulton v. Bull*, 2 Hen. Bla. 480; Dav. Pat. Cas. 187, 188.

³ 2 Hen. Bla. 479; Dav. Pat. Cas. 187; and see *Ex parte Fox*, 1 Ves. & Beam. 67

⁴ *Harman v. Playne*, 11 East 112; 14 Ves. 130, S. C.

⁵ *King v. Arkwright*, Printed Cas. 176. Dav. Pat. Cas. 114.

of the specification ought of themselves to be sufficiently descriptive of the improvement; that the specification ought to contain within itself all the necessary information, without the necessity of having recourse to a diagram, and that, if a diagram were given, it ought to be taken merely as an illustration, and not as constituting a principal or essential part of the specification; and, therefore, that a person was not bound to look at the diagram to learn the invention. But a very learned judge has, however, held, that if a drawing or figure enable a workman of ordinary skill to construct the improvement, it is as good as any written description.¹

On the trial at nisi prius, it was objected in the case of *Blexam v. Elsee*,² that the specification was bad, because there were several words in it not in English; such as *vice depression*, *vice repulsion*, and *vice de re-action*, for different screws; and the French word *chapitre*, for a cap, also occurred. It was, however, proved, that, from the drawings annexed to this specification, a skilful mechanic might make the machine; but it was contended that, as a specification could not be made by drawings alone, it must be made in apt words, intelligible to mechanics; and if this specification were held good, everything mentioned in a specification might be called by a wrong name, and drawings referred to for the whole. Even the scale appended to the drawings was a scale of *pieds* and *pouces*, terms unknown to English mechanics.

The Lord Chief Justice observed, "It was proved that the names to the scale were quite immaterial; for relative proportion, which was all that was wanted, the scale would have been as good if there had been no names at all. An inventor of a machine is not tied down to make such a specification as, by words only, would enable a skilful mechanic to make the machine, but he is to be allowed to call in aid the drawings which he annexes to the specification; and if, by a comparison of the words and the drawings, the one would explain the other sufficiently to enable a skilful mechanic to perform the work, such a specification is sufficient."

The consequences which attend the introduction of anything into the specification, merely to misguide the public, have been mentioned. The means must be adapted to the end.³ The description must not give *several ways* and methods which may or may not answer, according to the skill exercised in the attempt to produce the manufacture. Thus, in the specification of Winter's patent,⁴ a great number of salts were mentioned, by which it appeared that the public might take either of them to make the subjects of

¹ *Brunton v. Hawkes*, 37 Vol. Rep. of Arts, N. S. p. 105; and see S. C. 4 Barn. & Ald. 541; 1 Stark N. P. C. 201, and *Post*.

² 1 Car. & P. 558.

³ *Dav. Pat. Cas.* 331. And see *Manton v. Parker*, *Dav. Pat. Cas.* 328. 2 B. Moore, 457, 458.

⁴ *Turner v. Winter*, 1 T. R. 602.

the patent. There was only one of them that would produce the effect, and therefore, his patent was void. Even if there be only one thing which will not answer the intended purpose, the specification is incorrect.

In *Derosne v. Fairie*,¹ the specification stated a method of depriving syrups of every description, of color, by filtering them through charcoal, produced by the distillation of bituminous schistus, and used alone or mixed with animal charcoal, or even through animal charcoal alone when placed in thick beds. It appeared that iron was combined with the *bituminous schistus* found in this country, and it was doubtful whether the charcoal distilled from the schistus was not only disadvantageous but injurious to the matter going through the process. The charcoal sworn to have answered the purpose of the patent, was received from Derosne at Paris, where it had been made, and was declared by him to be the residuum of bituminous schistus, from which the iron had been extracted. But no means existed of ascertaining in this country, of what substance it actually was the residuum, nor did the specification mention any process for extracting the iron from bituminous schistus. The court held, that whether the latter omission avoided the patent or not, the patentee ought to prove, either that the presence of iron in the bituminous schistus used in the process of filtering, was not absolutely disadvantageous to the matter going through that process, or that the method of extracting the iron from it was so simple and known, that a person practically acquainted with the subject could accomplish it with ease, or that bituminous schistus, as known in England, could be used in this process with advantage; and a verdict having been found for the plaintiff, the court set it aside on terms, and granted a new trial.²

Not only must there not be any unnecessary *means* mentioned in the specification, but *effects* that cannot accurately be produced must not be mentioned and described. The patentee should inform the inquirer of the *exact* nature of the manufacture invented. If the article described have not the qualities, or the machine produce not the results which are set forth in the specification, the grant is invalid.³

¹ *Derosne v. Fairie* and others, 5 Tyr. Rep. 393.

² There was not any further litigation, but the patentee disclaimed the use of bituminous schistus.

³ See *Haworth v. Harcastle*, 1 Bing. N. C. 1822.

Tindal, C. J. "The motion for entering a nonsuit was grounded on two points. First, that the jury had, by their special finding, negatived the usefulness of the invention to the full extent of what the patent and specification had held out to the public. Secondly, that the patentee had claimed in his specification, the invention of the rails of staves over which the cloths were hung, or, at all events, the placing them in a tier at the upper part of the drying room."

As to the finding of the jury, it was in these words: "The jury find the invention is new, and useful upon the whole, and that the specification is sufficient for a mechanic, properly instructed, to make a machine; and that there has been an infringement of

Such is the law too, if the patentee take his grant for the invention of several things, and he fail in *any one* of them. By Winter's invention¹ three things were to be produced; one reason for its being considered void was, that the second article, which was called in the patent "white lead," was in fact, quite a different substance, and which could be used only for a very few of the purposes for which common white lead is applied. Bainbridge's patent² for the improvement of the hautboy was for *new notes*, in the plural number. On proof, it appeared that he had only found out *one* new note, and he consequently failed in an action of damages for an infringement of the grant, although great ingenuity had been exerted, and the fingering was rendered less complicated by the invention.

In the case of *Lewis v. Marling*,³ a most important point was settled. A patent was granted for improvements on shearing machines, for shearing or cropping woolen and other cloths. The patentees in their specification claimed, (amongst other things) "the application of a proper substance fixed on or in the cylinder *to brush* the surface of the cloth to be shorn." The brush for the surface of the cloth was soon found to be useless, and the patentees never sold any machines with it.

The Court decided that if the patent be granted for several things, one of

the patent; but they also find that the machine is not useful in some cases for taking up goods."

The specification must be admitted, as it appears to us, to describe the invention to be adapted to perform the operation of removing the calicoes and other cloths from off the rails or staves, after they have been sufficiently dried. But we think we are not warranted in drawing so strict a conclusion from this finding of the jury, so as to hold that they have intended to negative, or that they have thereby negatived, that the machine was not useful, in the generality of the cases which occur for that purpose. After stating that the machine was useful on the whole, the expression that in some cases, it is not useful to take up the cloths, appears to us, to lead rather to the inference, that, in the generality of cases, it is found useful. And if the jury think it useful in the general, because some cases occur in which it does not answer, we think it would be much too strong a conclusion to hold the patent void. How many cases occur, what proportion they bear to those in which the machine is useful, whether the instances in which it is found not to answer are to be referred to the species of cloth which are hung out, to the mode of dressing the cloths, to the thickness of them, or to any other cause distinct and different from the defective structure, or want of power in the machine, this finding of the jury gives us no information whatever. Upon such a finding, therefore, in a case where the jury have given their general verdict for the plaintiff, we think that we should act with great hazard and precipitation if we were to hold that the plaintiff ought to be nonsuited, upon the ground that his machine was altogether useless for one of the purposes described in his specification.

¹ *Turner v. Winter*, 1 T. R. 602.

² *Bainbridge v. Wigley*, K. B. Dec. 1810; and see *Brunton v. Hawkes*, 4 Barn. & Ald. 451.

³ 10 Barn. & Cress. 22.

which is supposed (at the time of enrolling the specification,) to be useful, but is afterwards found not to be so, yet the grant is good in law. The opinions of the judges are very excellent.

Lord Tenterden observed, "As to the objection on the ground that the application of a brush was claimed as a part of the invention, adverting to the specification, it does not appear that the patentee says the brush is an essential part of the machine, although he claims it as an invention. When the plaintiffs applied for the patent, they had made a machine to which the brush was affixed, but before any machine was made for sale, they discovered it to be unnecessary. I agree, that if the patentee mentions that as an essential ingredient in the patent article, which is not so, nor even useful, and whereby he misleads the public, his patent may be void; but it would be very hard to say that this patent should be void, because the plaintiffs claim to be the inventors of a certain part of the machine not described as essential, and which turns out not to be useful. Several of the cases already decided have borne hardly on patentees, but no case has hitherto gone the length of deciding that such a claim renders a patent void, nor am I disposed to make such a precedent."

Mr. Justice Bayley said, "I am of the same opinion. To support a patent, it is necessary that the specification should make a full and fair disclosure to the public of all that is known to the patentee respecting his invention. If it does not, the consideration on which he obtains his patent fails. If he represents several things as competent to produce a specific effect, when only one will answer, that is bad; or if he suppresses anything which he knows will answer, that also is bad. But it is objected here, that the plaintiffs described the application of the brush as parcel of their discovery. At the time when the patent was obtained, a brush was used, and there is no reason to doubt that the plaintiffs at that time thought it necessary."

Mr. Justice Parke. "The objection to the patent as explained by the specification may be thus stated; the patent is for several things, one of which, being supposed to be useful is now found not to be so; but there is no case deciding that a patent is on that ground void, although cases have gone the length of deciding, that if a patent be granted for three things, and one of them is not new, it fails *in toto*. The prerogative of the crown as to granting patents, was restrained by the statute, 21 Jac. 1, c. 3, § 6, to cases of grants, 'to the true and first inventors of manufactures, which others at the time of granting the patent shall not use.' The condition, therefore, is, that the thing shall be new, not that it shall be useful; and although the question of its utility has been sometimes left to a jury, I think the condition imposed by the statute has been complied with, when it has been proved to be new."

Although the description may be otherwise complete and correct, although the means may be adapted to the end, and the things specified be produced;

yet, if the subject be not given to the public in the best and *most improved state* known to the inventor, the patent is void. If, at the time of obtaining the grant, he was acquainted with a mode of making his manufacture more beneficial than by the one specified, the concealment will be considered fraudulent. Thus, Lord Mansfield held a patent for "steel trusses" to be void, because the inventor had omitted to mention that in tempering the steel, he rubbed it with tallow, which was of some use in the operation.¹

In the specification for a patent for making verdigris,² aqua fortis, which was used by the inventor, was not mentioned. It appeared that the patentee mixed the aqua fortis, with great secrecy, which raised the presumption that he knew of its value when the grant was sealed. The patent was, therefore, declared to be void.

Nor can any *alteration*, known to the inventor before he procures the patent, be made, however insignificant it may be, even if it were nothing more than the means of working the machine a little more expeditiously, without raising a presumption that the patentee fraudulently concealed the best method. A lace machine,³ for which Mr. Boville had obtained a patent was worked with greater expedition *by bending together* two teeth of the dividers, or by making one longer than the others, than if it were used as

¹ *Liardet v. Johnson*, Bull. N. P. 76 ; and see 1 T. R. 608.

² *Wood and Others v. Zimmer and Others*, 1 Holt, 58. Gibbs, C. J. It is said that this patent makes verdigris, and 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 anything which gives an advantageous operation to the thing invented be concealed, the specification is void. Now, though the specification should 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.

³ *Boville v. Moore*, Dav. Pat. Cas. 400. Gibbs, C. J. There is another consideration respecting the specification, which is also a material one ; and that is, whether the patentee has given a full specification of his invention ; not only one that will enable a workman to construct a machine answerable to the patent, to the extent most beneficial within knowledge of the patentee at the time ; for a patentee, who has invented a machine useful to the public, and can construct it in one way more extensive in its benefit than in another, and states in his specification only that mode which would be least beneficial, reserving to himself the more beneficial mode of practising it, although he will have so far answered the patent as to describe in his specification a machine to which the patent extends ; yet he will not have satisfied the law, by communicating to the public the most beneficial mode he was then possessed of for exercising the privilege granted to him. And see *Brown v. Moore*, Rep. of Arts, 28th vol. p. 60.

specified. This mode of using it was known to the inventor before he obtained the patent; and, therefore, Gibbs, C. J. thought that the patent was bad on that account.

If the patentee use *cheaper materials* in making the manufacture than those he has enumerated, his grant will not be sustained by his proving that the articles specified will answer the purpose as well.¹

It signifies not in what manner this advantage accrues to the patentee; it is not necessary that any palpable alteration has taken place; that something has been added or something taken away from the invention as specified, to render the patent void; it will be invalid, if *by any means* whatever a benefit is derived by the patentee, which was concealed from the public at the time the patent was obtained, even if it be merely a small part of a machine on which a particular motion is impressed at a given moment in a particular direction.²

If this improved manner of using the invention be *unintentionally* left undescribed, still the patent is void. "If it was inadvertent," says Gibbs, C. J., speaking of *Boville's* omission in not describing the bending of the teeth, "if he actually knew and meant to practise that mode, and inadvertently did not state the whole in his specification, he must answer for his inadvertence."³

But if it appear that this better mode of using the manufacture be a *subsequent discovery*; that the patentee has since the date of the grant found out this new means of carrying on his own invention to a better effect; then the grant will continue valid;⁴ but, as before stated, the presumption of concealment will be against him.

Another important rule of law was established in the case of *Crossley v. Beverley*.⁵ Mr. Clegg, the patentee, had a grant for an improved gas appa-

¹ 1 T. R. 607; 1 Holt's N. P. C. 60; *King v. Wheeler*, 2 Barn. & Ald. 345.

² *King v. Arkwright*, Printed Cases, 50. The cylinder in the specification was a parallel one; but that which was used, spiral.

³ *Boville v. Moore*, Dav. Pat. Cas. 413. Gibbs, C. J., observed to the jury, You will say whether you think there is any fraudulent concealment in the specification. A juryman: It might be inadvertent, and not fraudulent. Gibbs, C. J.: Certainly; and if it were inadvertent; if he actually knew and meant to practise that mode, and inadvertently did not state the whole in his specification, he must answer for his inadvertence; but it might be a subsequent discovery. Verdict for the defendant.

⁴ *Boville v. Moore*, Dav. Pat. Cas. 401. Gibbs, C. J.: If Mr. Brown, since he obtained his patent, had discovered an improvement, effected by bending the teeth or adding a longer tooth, he might apply that improvement; and his patent will not be affected by his using his own machine in that improved state; but if, at the time he obtained his patent, he was apprized of this more beneficial mode of working, and did not by his specification communicate it to the public, that must be considered as a fraudulent concealment, although it was done inadvertently, and will render the patent void.

⁵ 9 Barn. & Cress. 63.

ratus, and he claimed a gas meter (or part of it) as described in the specification. It appeared, on the examination of Mr. Clegg himself, that he had invented the method of making the gas meter, as described in the specification, in the time *between the dates of the patent and the specification*. Before he took out the patent he had completed the design of the meter, but he had not actually made one, and he found several improvements upon it before he sent in his specification, in which he described the meter so improved as the invention claimed by him. The court was clearly of opinion the patent was valid in law, and Lord Tenterden observed that he was at a loss to know upon and for what reason a patentee is allowed time to disclose his invention, unless it be for the purpose of enabling him to bring it to perfection. If, added his lordship, in the intermediate time another person were to discover the improvements for so much of the machine, the patent would not be available. But Mr. Justice Bayley said, "It is *the duty* of a person taking out a patent to communicate to the public any improvement that he may make upon his invention before the specification has been enrolled."

Upon these grounds and for these reasons, applicable to the specifications of almost all kinds of manufactures, many patents have been declared to be void. The inventor bearing them in mind, and attending to the nature of each kind of manufacture, whether it be a substance or machine, &c., as it is distinguished from the rest in the last chapter, will be able, by avoiding similar errors, to make a correct specification for any invention. Indeed, no further assistance can be given to him than that which may be derived from a few general observations on the description peculiar to each manufacture.

The *description of a machine* must disclose the nature of the invention, and the manner in which it is to be performed. It must be minute without perplexity, and luminous without being overwrought. When it descends to particulars, the elements that are known to all should not be noticed; nor yet, in its fulness, should anything be included that is not necessary to render it intelligible. It should be such that a common mechanic, with a reasonable degree of skill upon the subject, may comprehend it. Though it need not be so full as to instruct a person ignorant of the first principles of mechanics in the method of its formation and use; yet, on the other hand, a person eminently skilled in the subject must not be required to make it. A reasonable knowledge and skill (of which the jury decide) must be possessed by the person who complains that the specification is obscure, and that he cannot make the machine. No contrivance or addition, no trial or experiment, it is said, must be resorted to for a full knowledge of the invention.¹ This rule must, however, be taken in a limited sense. Though no inventive faculty must be exercised, nor anything new added, yet trials, if they are not essentially necessary, may be made. If the inventor leave anything to be found

¹ 2 Hen. Bla. 484.

out by experiment, the specification is bad ; unless the data, manner of performing, and the expected results are so clearly given, that it may easily be done.

Reference may be made to the rudiments of that science by which the principles of the machine are explained, but not to scientific books.¹ A proposition, or truth generally known, needs no reference ; and that which can be found only in some particular treatise must be explained, but not claimed as new.

If a piece of machinery be contemplated for the purpose of giving a full description of it, the several parts, as wheels, rollers, screws, springs, &c., &c., must be set forth, together with the proportion of their diameters, thickness, tension, &c.² Then the method by which they are united, and the relative velocities of the movable parts.³

If the thing specified be the component parts of *two* machines, the union of the parts that make up each of them must be clearly shown.⁴ If parts of the machine are to be put on and off during some of its operations, in order to produce the desired effect, or if several articles are intended to be worked on, or several manufactures to be produced, it must be distinctly stated *what* those parts are, their *proportions* for different purposes, and *where* they are to be applied.⁵

It has been shown that the grant must not be more extensive than the invention ;⁶ and that where the patent is for an improvement or addition, the inventor cannot monopolize the whole subject. The specification will, therefore, be incorrect, if it contain a description of *more* than the improvement or addition ;⁷ unless it particularly distinguish the new from the old parts.

The inventor is not bound down to any particular mode of describing his improvement, so that he informs the public *exactly* in what his invention consists. He may describe it by *words*, or by *diagrams*,⁸ but he must confine himself to his invention.

¹ 11 East, 105.

² *King v. Arkwright*, Printed Cas. 174 ; Dav. Pat. Cas. 111.

³ *Id.* Printed Cas. 62, 179 ; Dav. Pat. Cas. 122.

⁴ *Id.* Printed Cas. 174 and 177 ; Dav. Pat. Cas. 111 and 117.

⁵ *Ibid.*

⁶ Godson on Pat. 59.

⁷ *Bramah v. Hardcastle*, MSS. post, 156 ; and *Williams v. Brodie*, cited by counsel in *King v. Arkwright*, Printed Cas. 162.

⁸ *McFarland v. Price*, 1 Stark, 199. Action for infringement. The patent was for certain improvements in the making of umbrellas and parasols. The specification professed to set out the improvements as specified in certain descriptions and drawings annexed ; but no distinction was made, either in the description, or by any marks in the drawings, between what was new and what was old.

Ellenborough, C. J. The patentee, in his specification, ought to inform the person

The patent for the improvement of a thing, or for the thing improved, is in essence for the same manufacture.¹ The inventor may either accurately describe the addition, and then point out the method by which it is applied to the known parts; or he may describe the whole as one machine, and then particularize the parts newly discovered.

It is not absolutely necessary that the old parts should be described. They may be referred to generally, if the whole is not thereby rendered unintelligible. Thus, in Jessop's case,² whose invention consisted of a single movement in a watch, it was said to be sufficient to refer generally to a common watch, and then to give directions how the new part was to be added to it. There is one decision on an *improvement* which appears to be an anomaly. Harmar³ obtained a patent for a machine. Having very much improved it

who consults it what is new and what is old. The specification states that the improved instrument is made in manner following. That it is not true, since the description comprises what is old as well as what is new. Then it is said, that the patentee may put in aid the figures. But how can it be collected from the whole of these, in what the improvement consists?

¹ 2 Hen. Bla. 481, 482.

² 2 Hen. Bla. 489.

³ *Harmar v. Plague*, 11 East, 101.

The patent was for "a machine invented for raising a shag on all sorts of woollen cloths, and cropping or shearing them, which together come under the description of dressing woollen cloths, and also for cropping or shearing of fustian." There were drawings of the machine. Harmar afterwards invented some improvement of his machine, for which he prayed a patent; which patent was granted upon the usual condition, that he should ascertain the nature of the said invention or the said improvements. The second specification recited the first patent, and described the *whole* of the machine, without showing in words, or marking in the drawing where the first machine ended, or from what point the improvements began. The improvement could only appear by comparing together the two specifications. It was contended for the plaintiff, that the patent and specification referring to it are to be construed together as one instrument. The first patent being enrolled, the public were bound to take notice of it; and being recited in the second, the improvements easily appeared by comparing them. That it was more convenient to give a description of the whole, than by a literal compliance to state what the improvements were

For the defendant it was said, that improvements should be distinctly marked and made known by this second specification alone, without further search or trouble.

Le Blanc, J. Suppose the specification had merely described the improvements, must not the party still have referred to the original specification, or at least have brought a full knowledge of it with him, before he could understand truly to adapt the new parts described to the old machine?

Ellenborough, J. It would lead to great inconvenience, if books of science were allowed to be referred to. A person ought to tell from the specification itself what the invention was for which the specification was granted, and how it is to be executed. If reference may be made to one why not to many works? It may not be necessary, indeed, in stating a specification of a patent for an improvement, to state precisely

he procured another patent, in which the first was recited. In the second specification, without any reference being made to the description of the former subject, the whole machine so improved was set forth, without the new parts being distinguished from the old ones. The second grant was held to be good, because the second patent, by reciting the first, referred to its specification, which by the enrolment was matter of record, and therefore supposed to be within every person's knowledge.

It must be here observed that Harmar referred to his *own* patent. It seems, by the same reasoning, that it might be laid down as a general rule, that every person, making a manufacture from the subjects of several expired patents, might recite and refer to the specifications of them, without taking any notice of their contents.

Sometimes it is difficult to determine, whether the improvements be an addition of new parts, properly so called, or the parts of an old machine newly arranged with some material alteration. In the latter case it is safer to claim the whole as a new engine; and then in the specification to distinguish accurately between the old and new manufacture, showing the peculiar qualities of each, the improvement effected, the means that produced it, and the use to which it is to be applied. From these decisions it appears that there are several ways of making a correct specification of an improvement.

First. By describing the whole manufacture, and then particularizing with great exactness the addition or improvement of the inventor.¹

Secondly. By a description of the whole manufacture, pointing out the parts that either are old or not material to the invention.

Thirdly. By giving an accurate and intelligent description of the improvement, and the manner in which it is applied to the subject, or parts that are old.

Fourthly. By describing the whole manufacture, if it be an improvement of another for which a patent has been obtained, taking care to refer in the new specification to that of the former patent.

The observations of the court, in *Minter v. Mower*,² are worthy of atten-

all the former known parts of the machine, and then to apply to those the improvement; but on many occasions it may be sufficient to refer generally. But, however, I feel impressed by the observation of my brother Le Blanc, that the *trouble and labor* of referring to and comparing the former specification would be fully as great if the patentee only described in this the precise improvements of the former machine. Reference may be made to general science. The court certified to the Lord Chancellor in favor of the specification.

¹ In *Bramah v. Hardcastle*, before Lord Kenyon, 1789, the inventor did not distinguish the part he really invented from the parts that were old in his new water-closet.

² *Minter v. Mower*, 6 Adol. & Ell. Rep. 735.

tion, in drawing a specification of a machine. In the specification the invention was described to be of "An improvement in the construction, making, or manufacturing of chairs," and to consist in the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acted as a counterbalance to the pressure against the back, and whereby a person sitting in the chair, might, by pressing against the back, cause it to take any inclination, and yet might be supported. In an action for infringing the patent, it was pleaded that the specification did not describe the invention. It was proved that a chair had previously been sold, to which a similar leverage was applied, acting by the pressure in the same way, but having also other machinery which prevented the inclination of the back from being shifted, except when a spring was touched by the hand. The jury found, that without such other machinery, the chair previously sold would have produced an equilibrium by the self-adjusting leverage; that the maker of it was the inventor of the machine, and found out the principle, but not the practical purpose to which it was now applied; and that the plaintiff had discovered such purpose.

Lord Denman, ordering a nonsuit, thus delivered the judgment of the court. "An action between the same parties has already been decided by the court of exchequer, in which the patent claimed by the plaintiff was deemed good and valid. But, on the trial in this court, an entirely new fact was given in evidence, and affirmed by the verdict of the jury; namely, that a chair very closely resembling that made by the plaintiff's patent had been made and sold before that patent was taken out. The words of the jury were these: 'We are of opinion that Browne¹ was the inventor of the machine, and found out the principle, but not the practical purpose to which it is now applied. We think that Minter (the plaintiff) made that discovery.' This statement might not be fatal to the plaintiff's title, if his invention were truly set forth in the specification; but the material issue in this cause being simply, whether the plaintiff did thereby particularly describe and ascertain the nature of the said invention, we find it needful to examine the terms of it.

"Now, the patent is taken out for 'An improvement in the construction, making, or manufacturing of chairs;' the method of making the machine, and the way in which it acts, are then fully described, without any mention of any of the means employed in Browne's chair. The specification thus concludes: 'What I claim as my invention, is 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 such

¹ A workman, see Godson on Pat. p. 27. Also *Barker v. Shaw*, before Holroyd, J., at Lancaster, 1823, in which the plaintiff was nonsuited, because his workman invented the improvement in hats.

chair, as above described.' Now it was perfectly clear, upon the evidence, that this description applies to Browne's chair, though that was encumbered with some additional machinery. The specification, therefore, claimed more than the plaintiff had invented, and would have actually precluded Mr. Browne from continuing to make the same chair that he had made before the patentee's discovery. We are far from thinking that the patentee might not have established his title by showing that a part of Browne's chair could have effected that for which the whole was designed. But his claim is not for an improvement upon Browne's leverage, but for a leverage so described that the description comprehended Browne's. We are, therefore, of opinion, that the patent cannot be sustained, and a nonsuit must be entered."

Every combination appears, at first sight, to be subject to the same rules for describing it, as an improvement or addition. The same end, a clear and intelligent description of the manufacture, without any extraneous matter, is to be obtained; but the manner of attaining it is somewhat different.

If it is only a combination of substances, materials, or parts of machines in common use, previously applied for the same or different purposes, then the specification will be correct which sets out the whole as the invention of the patentee;¹ if he clearly express that it is in respect of such new com-

¹ *Boville v. Moore*, 2 Marsh. 211; S. C. Dav. Pat. Cas. 411.

A patent was taken out by Mr. Browne for "a machine or machines, for the manufacture of bobbin lace or twist net, similar to and resembling the Buckinghamshire lace net and French lace net, as made by the hand with bobbins or pillows," who assigned it to the plaintiff.

Gibbs, C. J. Now, gentlemen, the objections made to this specification upon this part of the case are, that it goes farther than it ought; that it states more to be the invention of Mr. Browne than really was so; and I think I may state generally to you, that they say that all that precedes the crossings of the threads is old, whereas he has stated it as part of his invention; and besides that they state, that the forks and dividers, which he has stated as part of his invention, are equally old. I think, with respect to the principle, if there existed, at the time Mr. Browne took out his patent engines for the making of lace, of which his was only an improvement, then his patent ought to have been only for an *improvement*; and certainly, if he could have supported his patent for an *engine*, his specification ought to have pointed out those parts only which were of his invention, as those to which his privilege applied; and if you should be of opinion that he has in his specification stated more than he is entitled to, as what was his invention, then in my opinion his specification is bad.

Now, the answer that the plaintiffs have endeavored to give to that objection is this,—they say there is nothing in the world that is absolutely new; you may refer it all to first principles. The wheels are well known; and yet you may state them in your specification as one of the means by which you effect your purpose. Levers are well known; but yet you may state them in the same way; that certainly is so. They go on to say, their invention consists not in that or this particular part, of which their machine is composed, as being new, but in the conformation of all the parts of it; the novelty consisting in that conformation; and if the new conformation of all those parts was of the plaintiff's invention, then, although every one of the parts was old,

bination or application, and of that only, without laying any claim to the merit of original invention in the use of the materials. Nothing more than the invention must be claimed. Every old part which is essential and material in producing the intended effect will be considered as claimed, if it be not designated as old. If the part in common use be even an elementary principle, or a single combination, and effect a new end, it becomes a part of the substance of the invention, and must be protested against as not being claimed.

If the invention consist of a new *set of combinations*, added to a manufacture composed of combinations, then, though the effect produced be different throughout, the specification should only describe the new combinations which have been invented, and how they are to be added to the old ones.

If the *combination* consist of the subjects of *several patents* which have expired, or of *some new ones* that have been bought, it would appear from the reasoning of Ellenborough, C. J., that a description of the method by which they were combined, with a reference to the several specifications, would be all that is required to sustain the patent.¹

they would be entitled to a patent for a machine composed by that new conformation of the whole; but if you find that another person had combined all those parts up to a given point, and that Mr. Browne took up his combination at that point, and went on combining beyond that, if the subsequent combinations alone were his invention, the former combinations he will have no right to. Those combinations could not exist before, unless there had existed an engine in which they were found, and if there existed before this time an engine in which they were found, it is for you to say, whether this which Mr. Browne has invented is any more than an improvement of that engine, or whether it is the invention of a new engine. If Mr. Browne has only invented an improvement of the old engine, be it Heathcote's, or be it any one or two engines which existed before, then his specification by which he claims the whole to himself will be bad. If, on the other hand, you think that he has invented an engine, which consists of a perfectly new conformation of parts, although all the parts were used before, yet he will be entitled to support his patent for a new machine.

Now, I wish to have what I state upon this subject observed by the counsel on both sides, that they may be aware how I put it. If a combination of those parts existed before; if a combination of a certain number of these parts existed up to a given point before, and Mr. Browne's invention sprung from that point, and added other combinations to it; then I think this specification, stating the whole machine as his invention, is bad. If, on the other hand, you think he has the merit of inventing the combination of all the parts from the beginning, then I think the specification is good, and that he is entitled to your verdict. Verdict for the defendant.

Gibbs, C. J. Gentlemen, I will just ask you this:—Do you find that the combination of the parts up to the crossing of the threads is not new?

Foreman. Yes, my lord.

Juryman. The threads then taking a new direction, and certainly the most valuable part to the plaintiff, is a new invention; but we are of opinion it is nothing more than an improvement.

¹ *Harmar v. Playne*, 11 East, 107; *Godson on Pat.* 159.

Pursuing the same order in giving rules for making specifications as was followed in the former chapter, when the different subjects of patents were examined, the necessary description of the fifth kind of new manufactures, principles or *methods carried into practice* by tangible means, must now be investigated. It was shown, in the last chapter, that a principle could not be the object of a patent. The impossibility of giving a description of it in every instance in which it might be used, was urged as a strong argument against its being allowed to be monopolized.

Reasons have also been assigned why a method *merely as such*, is not a proper subject for a patent. If a method can be the subject of a patent, the description of it must indeed be very accurate. It must be so clear and evident that no experiments must be necessary to learn it, and to put it in practice as beneficially as the patentee enjoys it.

If neither a principle nor a method can be the subject of a patent within the meaning of the statute of James: if, when a patent is obtained for a method, it is in fact granted for *tangible means* of carrying that method into practice; ¹ it is quite evident that the specification of a method is governed by the same rules as if the description was to be given of some one kind of the above-mentioned manufactures, whether the *real subject* of the patent be a machine, improvement, or combination, and therefore, that any further comment would be superfluous.

When a chemical discovery is the foundation of the invention for which the patent has been granted, inasmuch as the substance or thing produced, and not the principle, process, or method, is the legal subject of the patent, it ought to be described. The ingredients, their proportions, the time of mixing, &c. ought to be fully stated, and then the beneficial *use* to which the substance can be applied.²

A manufacture, when first introduced into England, whether it be a substance or machine, an improvement of something already known here, or a combination of native discoveries, still it must be fully and correctly explained. Its specification is regulated by the same laws, and is subject to the same critical examination, as if it were an English invention.

Thus it appears that *every part* which is new, however minute, must be clearly described. In the specification of a *substance*, the simplest elements of which it can be formed, and the best modes of making and using it, must be accurately stated. In descriptions of *machines* there must with scrupulous fidelity be set forth the cheapest materials, the most exact proportions

¹ Godson on Pat. 73.

² Turner v. Winter, 1 T. R. 602. The specification to this patent is what a scientific man, unacquainted with legal strictness, would naturally have made. It contains almost every fault generally found in the descriptions of this class of manufactures. It is, therefore, given fully in the different parts of the text.

of the parts, the most expeditious and the best mode of conducting them, with the precise times of putting on or taking off any part of the machine; and an *improvement* or new *combination* must be kept distinctly apart from the old manufacture.

The public must be put in possession of the manufacture in a way as ample and beneficial as the patentee enjoys it.

It has been shown that it is a technical, but unjust rule of law, that if the inventor claims anything in the *title* to his patent, or in the specification, which is not *new*, or has been before *used*, then the whole patent becomes void. It has also been contended, that every part should be useful as well as new; but that was overruled by the judges, in the case of *Lewis v. Marling*.¹

In the first section of 5 and 6 William IV. c. 83, the law has been altered in the following words:

“ Any person who, as grantee, assignee, or otherwise, hath obtained, or who shall hereafter obtain letters-patent, for the sole making, exercising, vending, or using of any invention, may, if he think fit, enter with the clerk of the patents of England, Scotland, or Ireland, respectively, as the case may be, (having first obtained the leave of his majesty’s attorney-general or solicitor-general in case of an English patent, of the lord-advocate or solicitor-general of Scotland in the case of a Scotch patent, or of his majesty’s attorney-general or solicitor-general for Ireland in the case of an Irish patent, certified by his fiat and signature,) a *disclaimer of any part of either the title of the invention or of the specification, stating the reason for such disclaimer*, or may with such leave as aforesaid enter a memorandum of *any alteration in the said title or specification*, not being such disclaimer or such alteration as shall *extend the exclusive right* granted by the said letters-patent; and such disclaimer or memorandum of alteration, being filed by the said clerk of the patents, and enrolled with the specification, shall be deemed and taken to be part of such letters-patent or such specification in all courts whatever; *provided* always, that any person may enter a caveat *in like manner as caveats are now used to be entered*,² against such disclaimer or alteration; which caveat being so entered, shall give the party entering the same a right to have notice of the application being heard by the attorney-general or solicitor-general, or lord-advocate, respectively; *provided also*, that no such disclaimer or alteration shall be receivable in evidence in any action or suit (save and except in any proceeding by *scire facias*) *pending at the time* when such disclaimer or alteration was enrolled, but in every such action or suit the original title and specification alone shall be given in evidence, and deemed and taken to be the title and specification of the invention for which

¹ 10 B. & C. 22.

² See Godson on Pat. chap. v. as to the method of entering *caveats*.

the letters-patent have been or shall have been granted : *provided also*, that it shall be lawful for the attorney-general or solicitor-general, or lord-advocate, before granting such fiat, to require the party applying for the same to *advertise his disclaimer* or alteration in such manner as to such attorney-general or solicitor-general, or lord-advocate, shall seem right, and shall, if he so require such advertisement, certify in his fiat that the same has been duly made.

The entry of a disclaimer of part of a specification, under the 5 and 6 William IV. c. 83, § 1, does not give a right of action for infringements, committed previously to the disclaimer.¹

¹ *Perry v. Skinner*, in Exch. E. T. 1837 ; Law Journal, p. 127.

CHAPTER II.

PROCEEDINGS AT THE PATENT OFFICE.

- I. Caveat for incomplete invention.
- II. The Petition, Oath, Payment of fees.
- III. Signatures of the Secretary of State and Commissioner
- IV. Interfering applications.
- V. Renewal and Amendment of Patents.

CAVEAT FOR INCOMPLETE INVENTION.

§ 170. The twelfth section of the Act of July 4, 1836, provides that any citizen of the United States, or alien who shall have been resident in the United States one year next preceding, and who shall have made oath of his intention to become a citizen thereof, who shall have invented any new art, machine, or improvement thereof, and shall desire further time to mature the same, may, on payment of 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 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 a *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, specifications, 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 provided in the case of interfering applications.

THE PETITION, OATH, PAYMENT OF FEES, ETC.

§ 171. The Act of 1836, § 6, requires an inventor who desires to obtain a patent to “*make application in writing to the Commissioner of Patents,*” &c. This application in writing has, from the origin of the government, been by way of petition, generally with the specification annexed and referred to, or accompanied by the specification, filed at the same time. The form of the petition is not material, provided it set forth the facts to which the applicant is required to make oath. When filed, it is to be presumed to adopt the specification, or schedule, filed at the same time, and to ask for a patent for the invention therein described.¹

§ 172. The applicant is also required to make oath or affirmation that he does verily believe that he is “the original and first inventor,” &c., “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.²

§ 173. The applicant is required to make oath or affirma-

¹ *Hogg v. Emerson*, 6 Howard, 437, 480. The rules of the Patent Office give a form of petition which it is advisable to adopt, in all cases. See Appendix.

² Act of July 4, 1836, § 6. The oath extends to all described in the schedule filed with the petition, as well as to the title or description of the invention contained in the petition itself. *Hogg v. Emerson*, 6 Howard, 437, 482.

tion, not that he is the original and first inventor or discoverer, but that he believes himself to be so. He cannot know absolutely whether he first invented or discovered the thing for which he claims a patent, but he may believe that he did ; and it is only when he is willing to make oath that he so believes, that the law grants him the patent. A subsequent section of the same statute provides for one case, in which a patent shall still be valid, if issued to an applicant who believed himself to be the first inventor or discoverer, although he was not so, in point of fact. This case is where the invention or discovery had been previously known or used in a foreign country, but had not been patented or described in any public work, and the patentee was ignorant of that fact. If the patentee, before making his application, had learned that the thing had been known or used in a foreign country, although not patented or described in any foreign work, he cannot have believed himself to be the first inventor or discoverer. But if he learn the fact after he has taken the oath, it will not invalidate his patent.¹

§ 174. An irregularity in the form of the oath will be cured by the issuing of the patent, and it seems that a patent would be valid, when issued, although the oath might not have been taken at all. It has been held that the taking of the oath is only a prerequisite to the granting of the patent, and in no degree essential to its validity ; so that if the proper authorities from inadvertence or any other cause, should grant a patent, where the applicant had not made oath according to the requisitions of the statute, the patent would still be valid. But where the oath has been taken and is recited in the patent, it is the foundation of the *onus probandi* thrown on the party who alleges that the patentee was not the original and first inventor.²

§ 175. The ninth section of the statute provides that before

¹ Act 4th July, 1836, § 15.

² Alden v. Dewey, 1 Story's R. 336, 341.

any application for a patent shall be considered by the commissioner, the applicant shall pay into the treasury of the United States, 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 the King of Great Britain, the sum of five hundred dollars.¹

SIGNATURES OF THE SECRETARY OF STATE AND OF THE
COMMISSIONER OF PATENTS.

§ 176. The Act of July 4, 1836, c. 357, § 5, provides that patents shall be issued from the patent office "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 said office."

§ 177. It has been held that the sanction of the secretary of state to a correction of a clerical mistake in letters-patent, may be given in writing afterwards; and that he need not resign the letters themselves. But the commissioner, if he be the same officer who countersigned the letters originally, may make the correction, without re-signing or re-sealing. If the mistake occurs in the copy of the patent, and not in the record or enrolment, it may be corrected by the commissioner and made to conform to the original. If the mistake in the enrolled patent be a material one, the letters cannot operate except on cases arising after the correction is made; but if the correction be of a clerical mistake only, it operates back to the original date of the letters, unless, perhaps, as to third persons, who have acquired intervening rights to be affected by the alteration.²

¹ Act 4th July, 1836, § 9.

² *Woodworth v. Hall*, 1 Woodb. & M. 248; S. C. *Ibid.* 389.

§ 178. It has also been held, that a signature to the patent, and a certificate of copies by a person calling himself "acting commissioner," is sufficient on its face in controversies between the patentee and third persons, as the law recognizes an acting commissioner to be lawful.¹

RENEWAL OR AMENDMENT OF A PATENT.

§ 179. The Act of July 4, 1836, § 13, makes the following provision in case of a defective or insufficient specification, or of the subsequent invention of something which the patentee wishes to add to his specification.

§ 180. "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 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 re-issued, together with the corrected description and specification, shall have the same effect and operation in law, on the

¹ *Woodworth v. Hall*, 1 Woodb. & M. 248. Where evidence is offered to prove that the "acting commissioner" who signs a patent was not appointed by the President, it is doubtful whether it is competent in controversies where he is not a party. S. C. 1 Woodb. & M. 389.

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 out 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 herein before 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.”¹

181. It has been held by Mr. Justice Story that the decision of the Commissioner in respect to the surrendering of an old patent, and granting a new one, is not reëxaminable elsewhere, unless it appear on the face of the patent that he had exceeded his authority, and there is a clear repugnancy between the old and the new patent, or the new one has been obtained by col-

¹ The Act of March 3, 1837, §8, makes a further provision on this subject:

“ 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 re-issue, 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 re-issue 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.”

lusion between the Commissioner and the patentee. If neither of these things appears, then the presumption that the renewed patent is for the same invention as the old patent, is conclusive.¹

¹ *Woodworth v. Stone*, 3 Story's R. 749, 753. In this case, which was in equity, the learned judge said, "But the most material objection taken is, that the new patent is not for the same invention as that which has been surrendered. And certainly, if this be correct, there is a fatal objection to the prolongation of the injunction. But is the objection well founded in point of fact? It is said, that the present patent is for a combination only, and that the old patent was for a combination and something more, or different. But I apprehend that, upon the face of the present patent, the question is scarcely open for the consideration of the court; and, at all events, certainly not open in this stage of the cause. I have already, in another cause, had occasion to decide that where the commissioner of patents accepts a surrender of an old patent and grants a new one, under the Act of 1836, ch. 357, his decision, being an act expressly confided to him by law, and dependent upon his judgment, is not reëxaminable elsewhere; and that the court must take it to be a lawful exercise of his authority, unless it is apparent upon the very face of the patent, that he has exceeded his authority, and there is a clear repugnancy between the old and the new patent, or the new one has been obtained by collusion between the commissioner and the patentee. Now, upon the face of it, the new patent, in the present case, purports to be for the same invention and none other, that is contained in the old patent. The avowed difference between the new and the old, is, that the specification in the old is defective, and that the defect is intended to be remedied in the new patent. It is upon this very ground, that the old patent was surrendered and the new patent was granted. The claim in the new patent is not of any new invention, but of the old invention more perfectly described and ascertained. It is manifest that in the first instance, the commissioner was the proper judge whether the invention was the same or not, and whether there was any deficit in the specification or not, by inadvertence, accident, or mistake; and consequently, he must have decided that the combination of machinery claimed in the old patent was, in substance, the same combination and invention claimed and described in the new. My impression is, that at the former trial of the old patent before me, I held the claim substantially (although obscurely worded) to be a claim for the invention of a particular combination of machinery, for planing, tongueing, and grooving, and dressing boards, &c.; or, in other words, that it was the claim of an invention of a planing machine or planing apparatus such as he had described in his specification.

It appears to me, therefore, that *primâ facie*, and at all events, in this

§ 182. The same learned judge has also held, that the statutes which authorize the reissue of a patent, because of a de-

stage of the cause it must be taken to be true, that the new patent is for the same invention as the old patent; and that the only difference is, not in the invention itself, but in the specification of it. In the old, it was defectively described and claimed. In the new, the defects are intended to be remedied. Whether they are effectually remedied is a point not now properly before the court. But as the commissioner of patents has granted the new patent as for the same invention as the old, it does not appear to me, that this court is now at liberty to reverse his judgment, or to say that he has been guilty of an excess of authority, at least (as has been already suggested) not in this stage of the cause; for that would be for the court of itself to assume to decide many matters of fact, as to the specification, and the combination of machinery in both patents, without any adequate means of knowledge or of guarding itself from gross error. For the purpose of the injunction, if for nothing else, I must take the invention to be the same in both patents, after the commissioner of Patents has so decided, by granting the new patent."

In *Allen v. Blunt*, 3 Story's R. 742, 743, which was an action at law, he observed, "The 13th section of the Patent Act, of 1836, ch. 357, enacts, that whenever any patent 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 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 for the same invention for the residue of the term then unexpired, for which the original patent was granted, in accordance with the patentee's corrected description and specification. Now, the specification may be defective or insufficient, either by a mistake of law, as to what is required to be stated therein in respect to the claim of the inventor, or by a mistake of fact, in omitting things which are indispensable to the completeness and exactness of the description of the invention, or of the mode of constructing, or making, or using the same. Whether the invention claimed in the original patent, and that claimed in the new amended patent, is substantially the same, is and must be in many cases a matter of great nicety and difficulty to decide. It may involve consideration of fact as well as of law. Who is to decide the question? The true answer is, the Commissioner of Patents; for the law entrusts him with the authority, not only to accept the surrender, but to grant the new amended patent. He is bound

fective or redundant specification or description, without fraud, or for the purpose of adding thereto an improvement, do not require the patentee to claim, in his renewed patent, all things,

therefore by the very nature of his duties, to inquire into and ascertain, whether the specification is sufficient or insufficient, in point of law or fact, and whether the inventor has claimed more than he has invented, and in such case, whether the error has arisen from inadvertency, accident, or mistake, or with a fraudulent or deceptive intention. No one can well doubt, that in the first instance, therefore, he is bound to decide the whole law and facts arising under the application for the new patent. *Primâ facie* therefore, it must be presumed that the new amended patent has been properly and rightfully granted by him. I very much doubt whether his decision is or can be reëxaminable in any other place, or in any other tribunal, at least, unless his decision is impeached on account of gross fraud or connivance between him and the patentee; or unless his excess of authority is manifest upon the very face of the papers; as, for example, if the original patent were for a chemical combination, and the new amended patent were for a machine. In other cases, it seems to me, that the law, having entrusted him with authority to ascertain the facts, and to grant the patent, his decision, *bonâ fide* made, is conclusive. It is like many other cases, where the law has referred the decision of a matter to the sound discretion of a public officer, whose adjudication becomes conclusive. Suppose the Secretary of the Treasury should remit a penalty or forfeiture incurred by a breach of the laws of the United States, would his decision be reëxaminable in any court of law upon a suit for the penalty or forfeiture? The President of the United States is, by law, invested with authority to call forth the militia to suppress insurrections, to repel invasions, and to execute the laws of the Union; and it has been held by the supreme court of the United States, that his decision as to the occurrence of the exigency, is conclusive. (*Martin v. Mott*, 12 Wheat. R. 19.) In short it may be laid down as a general rule, that, where a particular authority is confided to a public officer to be exercised by him in his discretion upon the examination of facts, of which he is made the appropriate judge, his decision upon these facts is, in the absence of any controlling provisions, absolutely conclusive as to the existence of those facts. My opinion, therefore, is, that the grant of the present amended patent by the Commissioner of Patents is conclusive as to the existence of all the facts, which were by law necessary to entitle him to issue it; at least, unless it was apparent on the very face of the patent itself, without any auxiliary evidence, that he was guilty of a clear excess of authority, or that the patent was procured by a fraud between him and the patentee, which is not pretended in the present case."

which were claimed in his original patent, but they give him the privilege of retaining whatever he deems proper.¹

¹ *Carver v. The Braintree Manuf. Co.* 2 Story's R. 432, 438. In this case, the learned judge said: "The next objection is, that the patentee has omitted some things in his renewed patent, which he claimed in his original patent as a part of his invention, viz., the knob, the ridge, and the flaring of the lateral surface of the rib above the saw, and that he claims in his renewed patent the combination of the thickness and the slope of the front and back surfaces of the rib. Now, by the thirteenth section of the Patent Act of 1836, ch. 357, it is provided, that whenever any patent, which is 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, mistake or accident, and without any fraudulent or deceptive intention, it shall be lawful for the commissioner, upon the surrender to him of such patent, and the payment of the further sum of fifteen dollars, to cause a new patent to be issued to the 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 it is afterwards added, that, "whenever the original patentee shall be desirous of adding the description 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. The act of 1837, ch. 45, § 8, further provides, "that whenever any application shall be made to the commissioner for any addition, or a newly discovered improvement, to be made to an existing patent, or whenever a patent shall be returned for correction and reissue, the specification annexed to every such patent shall be subject to revision and restriction, in the same manner as original applications for patents; the commissioner shall not add any such improvements 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." (Act of 1836, ch. 357, § 15.)

Now I see nothing in these provisions which, upon a reissue of a patent, requires the patentee to claim all things in the renewed patent, which were claimed as his original invention, or part of his invention in his original patent. On the contrary, if his original patent claimed too much, or if the commissioner deemed it right to restrict the specification, and the patentee

§ 183. When a patent is thus renewed, it is granted for the unexpired term, commencing from the date of the original patent which is surrendered. Consequently it operates from the commencement of the original, and will enure to the benefit of assignees, who became such before the renewal, although no assignment is made to them after the renewal.¹

acquiesced therein, it seems to me, that, in each case, the renewed patent, if it claimed less than the original, would be equally valid. A specification may be defective and unmaintainable under the patent act, as well by an excess of claim, as by a defect in the mode of stating it. How can the court in this case judicially know, whether the patentee left out the knob and ridge, and flaring of the lateral surface of the rib, in the renewed patent, because he thought, that they might have a tendency to mislead the public by introducing what, upon further reflection, he deemed immaterial or unessential, and that the patent would thus contain more than was necessary to produce the described effect, and be open to an objection, which might be fatal to his right, if it was done to deceive the public? (Act of 1836, ch. 357, § 15.) Or, how can the court judicially know, that the commissioner did not positively require this very omission? It is certain, that he might have given it his sanction. But I incline very strongly to hold a much broader opinion; and that is, that an inventor is always at liberty in a renewed patent to omit a part of his original invention, if he deems it expedient, and to retain that part only of his original invention, which he deems it fit to retain. No harm is done to the public by giving up a part of what he has actually invented; for the public may then use it; and there is nothing in the policy or terms of the patent act, which prohibits such a restriction.

The other part of the objection seems to me equally untenable. If the description of the combination of the thickness, and the slope of the front and back surfaces of the rib, were a part of the plaintiff's original invention, (as the objection itself supposes,) and were not fully stated in the original specification, that is exactly such a defect, as the patent acts allow to be remedied. A specification may be defective, not only in omitting to give a full description of the mode of constructing a machine, but also in omitting to describe fully in the claim, the nature and extent, and character of the invention itself. Indeed this latter is the common defect, for which most renewed patents are granted."

¹ *Woodworth v. Stone*, 3 Story's R. 749. *Woodworth v. Hall*, 1 Woodbury & Minot, 248. Both of these cases related to the same patent. In the first, Mr. Justice Story said, "If the present case had stood merely

§ 184. The Supreme Court of the United States have decided, upon great consideration, that the Commissioner of

upon the original bill, it appears to me clear, that the motion to dissolve the injunction granted upon that bill, ought to prevail, because, by the surrender of the patent, upon which that bill is founded, the right to maintain the same would be entirely gone. I agree that it is not in the power of the patentee, by a surrender of his patent, to affect the rights of third persons, to whom he has previously, by assignment, passed his interest in the whole or a part of the patent, without the consent of such assignees. But, here, the supplemental bill admits, that the assignees, who are parties to the original and supplemental bill, have consented to such a surrender. They have, therefore, adopted it; and it became theirs in the same manner as if it had been their personal act, and done by their authority.

The question, then, is precisely the same, as if the suit were now solely in behalf of the patentee. In order to understand with clearness and accuracy, some of the objections to the continuance of the injunction, it may be necessary to state, that the original patent to William Woodworth, (the inventor,) who is since deceased, was granted on the 27th of December, 1828. Subsequently, under the 18th section of the act of 1836, ch. 357, the commissioner of Patents, on the 16th of November, 1842, recorded the patent in favor of William W. Woodworth, the administrator of William Woodworth, (the inventor,) for seven years, from the 27th of December, 1842. Congress, by an act passed at the last session, (Act of 26th of February, ch. 27,) extended the time of the patent for seven years, from and after the 27th of December, 1849, (to which time the renewed patent extended); and the Commissioner of Patents was directed to make a certificate of such extension in the name of the administrator of William Woodworth, (the inventor,) and to append an authenticated copy thereof to the original letters-patent, whenever the same shall be requested by the said administrator or his assigns. The Commissioner of Patents, accordingly, on the 3d of March, 1845, at the request of the administrator, made such certificate on the original patent. On the 8th day of July, 1845, the administrator surrendered the renewed patent granted to him, "on account of a defect in the specification." The surrender was accepted, and a new patent was granted on the same day to the administrator, reciting the preceding facts, and that the surrender was "on account of a defective specification," and declaring that the new patent was extended for fourteen years, from the 27th December, 1828, "in trust for the heirs at law, of the said W. Woodworth, (the inventor,) their heirs, administrators or assigns."

Now, one of the objections taken to the new patent is, that it is for the term of fourteen years, and not for the term of seven years, or for two suc-

Patents can lawfully receive a surrender of letters-patent for a defective specification, and issue new letters patent upon an

cessive terms of seven years. But it appears to me that this objection is not well founded, and stands *inter Apices juris*; for the new patent should be granted for the whole term of fourteen years, from the 27th of December, and the legal effect is the same as it would be, if the patent was specifically renewed for two successive terms of seven years. 'The new patent is granted for the unexpired term only, from the date of the grant, viz., for the unexpired period existing on the 8th of July, 1845, by reference to the original grant in December, 1828. It is also suggested, that the patent ought not to have been in trust for the heirs at law of the said W. Woodworth, their heirs, administrators or assigns.'" But this is, at most, a mere verbal error, if indeed it has any validity whatsoever; for the new patent will, by operation of law, enure to the sole benefit of the parties, in whose favor the law designed it should operate, and not otherwise. It seems to me that the case is directly within the purview of the 10th and 13th sections of the act of 1836, ch. 357, taking into consideration their true intent and objects.

Another objection urged against the continuation of the injunction is, that the breach of the patent assigned in the original bill, can have no application to the new patent, and there is no ground to suggest, that, since the injunction was granted, there has been any new breach of the old patent, or any breach of the new patent. But it is by no means necessary, that any such new breach should exist. The case is not like that of an action at law for the breach of a patent, to support which, it is indispensable to establish a breach before the suit was brought. But in a suit in equity, the doctrine is far otherwise. A bill will lie for an injunction, if the patent right is admitted or has been established, upon well-grounded proof of an apprehended intention of the defendant to violate the patent right. A bill, *quia timet*, is an ordinary remedial process in equity. Now, the injunction already granted, (supposing both patents to be for the same invention,) is *prima facie* evidence of an intended violation, if not of an actual violation."

In the last case, Mr. Justice Woodbury said, "The original patent for fourteen years, given in December, 1828, expired in 1842, and though it was extended by the board for seven years more, which would last till 1849, and by Congress for seven more, which would not expire till 1856, yet all of these patents were surrendered July 8th, 1845, and a new one taken out for the whole twenty-eight years from December, 1828. This was done, also, with some small amendments or corrections, in the old specification of 1828. After these new letters-patent for the whole term, no assignment having been made to Washburn and Brown, but only one previously on the

amended specification, after the expiration of the term for which the original patent was granted, and pending the existence of an extended term of seven years. Such surrender and renewal may be made at any time during such extended term.¹

§ 185. Specifications may also be amended by another process, that of filing a disclaimer, whenever, through inadvertence, accident, or mistake, the original claim was too broad, claiming more than that of which the patentee was the original or first inventor, provided some material and substantial part of the thing patented is justly and truly his own. Such a disclaimer may be filed in the patent office by the patentee, his administrator, executors, and assigns, whether of the whole or of a sec-

2d of January, 1843, the plaintiffs contend that all the previous letters being surrendered, and a new specification filed, and new letters issued, any conveyance of any interest under the old letters is inoperative and void under the new ones; and hence that Washburn and Brown possess no interest in these last, and are improperly joined in the bill.

But my impression, as at present advised, is, that when a patent has been surrendered, and new letters are taken out with an amended specification, the patent has been always considered to operate, except as to suits for violations committed before the amendment, from the commencement of the original term. The amendment is not because the former patent or specification was utterly void, as seems to be the argument, but was defective or doubtful in some particular, which it was expedient to make more clear. But it is still a patent for the same invention. It can by law include no new one, and it covers only the same term of time which the former patent and its extensions did.

In the present case, these are conceded to have been the facts; and it is an error to suppose that on such facts the new letters ought to operate only from their date. By the very words of those letters, no less than by the reasons of the case as just explained, they relate back to the commencement of the original term, and for many purposes should operate from that time."

¹ *Wilson v. Rousseau*, 4 Howard, 646. If a new patent, issued on a surrender of an old one, be void for any cause connected with the acts of public officers, it is questionable whether the original patent must not be considered in force till its term had expired. *Woodworth v. Hall*, 1 Woodb. & M. 389.

tional interest in the patent; and it will be thereafter taken and considered as part of the original specification, to the extent of the interest of the disclaimant in the patent, and by those claiming by or under him subsequent to the record thereof.¹

§ 186. Patents are sometimes extended by special Acts of Congress, passed upon the application of the patentees. But by the Act of July 4th, 1836, c. 357, § 18, the Secretary of State, the Commissioner of the Patent office, and the Solicitor of the Treasury were constituted a board of commissioners to hear evidence for and against the extension prayed for, and to decide whether, having due regard to the public interest therein, it is just and proper that the term of the patent should be extended, because the patentee has failed to obtain a reasonable remuneration. The commissioners being satisfied that the patent ought to be renewed, it was made the duty of the Commissioner of Patents to make a certificate on the original patent, showing that it is extended for a further term of seven years from the expiration of the first term.

§ 187. But by a very recent statute this power is vested solely in the Commissioner of Patents, who is required to refer the application to the principal examiner, having charge of the class of inventions to which the case belongs, and, upon his report, to grant or refuse the patent, upon the same principles and rules that have governed the board provided by the former act.²

¹ Act of Mar. 3, 1837, § 7. As to the effect of a disclaimer on actions. See the Chapter on REMEDY.

² Act of Cong. May 27, 1848, § 1. This act declares that no patent shall be extended for a longer term than seven years.

PART III.

TRANSMISSION OF THE INTEREST

IN

LETTERS-PATENT.

PART III.

TRANSMISSION OF THE INTEREST IN LETTERS- PATENT.

CHAPTER I.

OF ASSIGNMENTS AND LICENSES.

§ 188. THE Act of Congress of July 4, 1836, § 11, provides “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.”

§ 189. The interest that is thus made assignable by statute is undoubtedly assignable at common law. But it has been deemed proper to regulate the assignment of patents by statute. An invention may be assigned for the patent before it is taken out, so as to vest in the assignee the exclusive interest when the patent has issued; but the application must be made and the specification duly sworn to by the inventor, and the assignment must be recorded.¹ The interest in a patent may also be

¹ Act of Mar. 3, 1837, § 6. *Herbert v. Adams*, 4 Mas. 15; *Dixon v.*

assigned by operation of law, in case of the bankruptcy of the patentee, as well as by his voluntary assignment. There is no question that a patent already obtained passes to assignees in bankruptcy; and in England it has been held that a patent issued after an act of bankruptcy and an assignment by the commissioners, but before the bankrupt had obtained his certificate, passes to the assignees.¹ It is necessary, however, that the invention should have been perfected, and, at least, that the bankrupt inventor should have applied for a patent. It was said in the case just cited, that the schemes which a man has in his head, or the fruits which he may make of them do not pass; but if he has carried his schemes into effect, and thereby acquired a beneficial interest, that interest is of a nature to be affected by an assignment in bankruptcy. Under our system, I conceive that such an interest would have been acquired, after the application for a patent. The party has then done all that the law requires for the creation of the interest, and the issue of the patent furnishes him with the evidence of his exclusive right. Whether an invention perfected and reduced to practice, capable of supporting a patent, but for which no application had been made for a patent, at the time when the assignment in bankruptcy attaches to the bankrupt's effects, would pass to the assignees, is a more difficult question. The mere material in which the invention had been incorporated would undoubtedly pass, but this is distinguished from the invention itself, which has not become a vested interest under the patent law, until the proper application has been made by the proper party, who must be the inventor and no one else. It would seem that the assignees would not render themselves liable to an action for infringement, at the suit of the subsequent patentee (the bank-

Moyer, 4 Wash. 71, 72. So also, it has been held that a contract may be made to convey a future invention, as well as a past one, and for any improvement or maturing of a past one; and that a bill in equity will lie to compel a specific performance. *Nesmith v. Calvert*, 1 Woodb. & M. 34.

¹ *Hesse v. Stevenson*, 3 Bos. & P. 565.

rupt) for selling such materials, as in the case of a newly invented machine, patented after the property in the materials had passed to them;¹ but whether the purchaser could thus acquire any right, as against the inventor, to use those materials in the shape of the invention, as intended to be used by the inventor, who had used due diligence in obtaining his patent, may admit of doubt.

§ 190. The statute renders it necessary to record the assignment in the Patent office. 'Three classes or degrees of interest by assignment, and no others, are thus required' to be recorded; *first*, an assignment of the whole patent; *second*, an assignment of an undivided part of the whole patent; and *third*, a grant or conveyance of the exclusive right under the patent for any specified part or portion of the United States. Assignments, of these several classes, must be recorded in the Patent office within three months of the execution thereof, to affect intermediate *bonâ fide* purchasers, without notice. But it has been held that in other respects the statute is merely directory, and that any subsequent recording will be sufficient to pass the title to the assignee.²

¹ *Sawin v. Guild*, 1 Gallis. 485.

² *Brooks v. Byam*, 2 Story's R. 526; *Pitts v. Whitman*, Ib. 609, 614. In this last case, Mr. Justice Story said, "The first objection taken upon the motion for a new trial is, that the deed of assignment from John A. Pitts to the plaintiff, dated on the 17th of April, 1838, was not recorded in the Patent office until the 19th of April, 1841, after the present suit was commenced; whereas it ought to have been recorded within three months after the execution thereof. By the Patent Act of 1793, ch. 55, § 4, every assignment when recorded in the office of the Secretary of State, was good to pass the title of the inventor, both as to right and responsibility; but no time whatever was prescribed within which the assignment was required to be made. By the 11th section of the Act of 1836, ch. 357, it is provided, "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 an exclusive right under any patent to make and use, and to grant to others to make and use, the

§ 191. But the assignee can maintain no suit, in law or equity,

thing patented within and throughout any specified portion of the United States, shall be recorded in the Patent office within three months from the execution thereof." Now, it is observable, that there are no words in this enactment, which declare that the assignment, if not recorded, shall be utterly void; and the question therefore, is, whether it is to be construed as indispensable to the validity of an assignment, that it should be recorded within the three months, as a *sine qua non*; or whether the statute is merely directory for the protection of purchasers. Upon the best reflection which I have been able to bestow upon the subject, my opinion is, that the latter is the true interpretation and object of the provision. My reasons for this opinion are, the inconvenience and difficulty, and mischiefs, which would arise upon any other construction. In the first place, it is difficult to say why, as between the patentee and the assignee, the assignment ought not to be held good as a subsisting contract and conveyance, although it is never recorded by accident, or mistake, or design. Suppose the patentee has assigned his whole right to the assignee for a full and adequate consideration, and the assignment is not recorded within the three months, and the assignee should make and use the patented machine afterwards; could the patentee maintain a suit against the assignee for such making or use as a breach of the patent, as if he had never parted with his right? This would seem to be most inequitable and unjust; and yet if the assignment became a nullity and utterly void by the non-recording within the three months, it would seem to follow as a legitimate consequence, that such suit would be maintainable. So strong is the objection to such a conclusion, that the learned counsel for the defendant admitted at the argument, that as between the patentee and the assignee the assignment would be good, notwithstanding the omission to record it. If so, then it would seem difficult to see why the assignment ought not to be held equally valid against a mere wrong doer, piratically invading the patent right.

Let us take another case. Could the patentee maintain a suit against a mere wrong doer, after the assignment was made, and he had thereby parted with all his interest, if the assignment was not duly recorded? Certainly it must be conceded that he could not, if the assignment did not thereby become a mere nullity, but was valid as between himself and the assignee; for then there could accrue no damage to the patentee, and no infringement of his rights under the patent. Then, could the assignee in such a case, maintain a suit for the infringement of his rights under the assignment? If he could not, then he would have rights without any remedy. Nay, as upon this supposition, neither the patentee nor the assignee could maintain any suit for an infringement of the patent, the patent right itself would be utterly extinguished in point of law, for all transferable purposes. Again; could the

upon the patent, either as a sole or as a joint plaintiff, against

assignee, in such a case, maintain a suit for a subsequent infringement against the patentee? If he could, then the patentee would be in a worse predicament than a mere wrong-doer. If he could not, then the assignment would become in his hands, in a practical sense, worthless as it would be open to depredations on all sides. On the contrary, if we construe the 10th section of the act to be merely directory, full effect is given to the apparent object of the provision, the protection of purchasers. Why should an assignment be required to be recorded at all? Certainly not for the benefit of the parties, or their privies; but solely for the protection of purchasers, who should become such, *bonâ fide*, for a valuable consideration, without notice of any prior assignment. By requiring the recording to be within three months, the act, in effect, allows that full period for the benefit of the assignee, without any imputation or impeachment of his title for *laches* in the intermediate time. If he fails to record the assignment within the three months, then every subsequent *bonâ fide* purchaser has a right to presume that no assignment has been made within that period. If the assignment has not been recorded until after the three months, a prior purchaser ought, upon the ground of *laches*, to be preferred to the assignee. If he purchases after the assignment has been recorded, although not within the three months, the purchaser may justly be postponed, upon the ground of *mala fides*, or constructive notice of the assignment. In this way, as it seems to me, the true object of the provision is obtained, and no injustice is done to any party. In respect to mere wrong-doers, who have no pretence of right or title, it is difficult to see what ground of policy or principle there can be in giving them the benefit of the objection of the non-recording of the assignment. They violate the patent right with their eyes open; and as they choose to act *in fraudem legis*, it ought to be no defence, that they meant to defraud or injure the patentee, and not the assignee. Indeed, if the defence were maintainable, it would seem to be wholly immaterial whether they knew of the assignment or not.

In furtherance then of right and justice, and the apparent policy of the act, *ut res magis valeat quam pereat*, and in the absence of all language importing that the assignment, if unrecorded shall be deemed void, I construe the provision as to recording to be merely directory, for the protection of *bonâ fide* purchasers without notice. And assuming that the recording within the three months is not a prerequisite to the validity of the assignment, it seems to me immaterial (even admitting that a recording at some time is necessary,) that it is not made until after the suit is brought. It is like the common case of a deed required by law to be registered, on which the plaintiff founds his title, where it is sufficient, if it be registered before the trial, although after the suit is brought; for it is still admissible in evi-

third persons, until his assignment has been recorded, according to the requisitions of the statute.¹ For the purposes of such a suit, however, it will be sufficient if the assignment is recorded at any time before the trial or hearing.²

§ 192. An assignment vests in the assignee an interest in the patent, indefeasible by act of the patentee, so that the patentee cannot, by a surrender of his patent, affect the rights of an assignee, to whom he has previously granted the whole or a part of the patent, without the consent of such assignee.³ In fact, the statute which authorizes a surrender and reissue of a patent, on account of a defective specification, expressly saves the rights of assignees in the patent, by this clause; "and in case of his (the patentee's) death, or any assignment by him, made of the original patent, a similar right (that of surrender and reissue) shall vest in his executors, administrators, or assignees."⁴ Strictly, therefore, an assignee should be a party to the surrender; but if he is not, and the surrender is made by the patentee, and the patent is reissued to him, it seems that assignments, made before the surrender, are not vacated, but the patent remains the same, in contemplation of law, and the interests of assignees remain the same, without any new assignment.⁵

dence as a deed duly registered." See also *Boyd v. McAlpin*, 3 McLean's R. 427.

¹ *Wyeth v. Stone*, 1 Story's R. 273.

² *Pitts v. Whitman*, *ut supra*.

³ *Woodworth v. Stone*, 3 Story's R. 749, 750.

⁴ Act of 1836, § 13.

⁵ *Woodworth v. Hall*, 1 Woodbury & Minot, 248, 256. "The original patent for fourteen years, given in December, 1828, expired in 1842, and though it was extended by the board for seven years more, which would last till 1849, and by congress for seven more, which would not expire till 1856, yet all of these patents were surrendered July 8th, 1845, and a new one taken out for the whole twenty-eight years, from December, 1828. This was done, also, with some small amendments or corrections, in the old specification of 1828. After these new letters-patent for the whole term, no assignment having been made to Washburn and Brown, but only one previously, on the 2d of January, 1843, the plaintiffs contend that all the previous letters

§ 193. *A fortiori*, if the assignee of a patent has consented to the surrender, although he is not a party on the record of

being surrendered, and a new specification filed, and new letters issued, any conveyance of any interest under the old letters is inoperative and void under the new ones; and hence, that Washburn and Brown possess no interest in these last, and are improperly joined in the bill.

But my impression, as at present advised, is, that when a patent has been surrendered, and new letters are taken out with an amended specification, the patent has been always considered to operate, except as to suits for violations committed before the amendment, from the commencement of the original term. The amendment is not because the former patent or specification was utterly void, as seems to be the argument, but were defective or doubtful in some particular, which it was expedient to make more clear. But it is still a patent for the same invention. It can by law include no new one, and it covers only the same term of time which the former patent and its extensions did. In the present case, these are conceded to have been the facts, and it is an error to suppose, that on such facts, the new letters ought to operate only from their date. By the very words of those letters, no less than by the reasons of the case, as just explained, they relate back to the commencement of the original term, and for many purposes should operate from that time. I do not say for all, as an exception will hereafter be noticed. This is in strict analogy to amended writs and amended judgments, which for most purposes, have the same effect as if the amended matter was in them originally.

Again, if such were not the result generally, the new letters would be treated as taking out a new patent, or an old one in a form then first valid; and, in such a view, would, of course, run fourteen years from the date of the new letters, instead of only fourteen from the issue of the original letters; or if they had been extended as here, fourteen longer, they would not run only twenty-eight years from the beginning of the original term, that is, December, 1828, as here, but twenty-eight years from July, 1845, the date of the new letters.

Besides these considerations, it has been held, that recoveries under the original patent are evidence after the new letters and new specification, to strengthen the title of the plaintiff so as to obtain an injunction; thus treating the patent as one and the same, and the conveyance of it once, therefore, for a specified term, as good for the term, whether an amended specification be filed or not before the term closes. See *Orr v. Littlefield*, 1 Woodb. & M. p. 13. Also, *Orr v. Badger*, before Justice Sprague, February, 1845.

It would be a little strange, that a recovery under the new and amended

the application at the patent office, it enures to his benefit and becomes his act, and he is properly made a party in any suits brought for infringement within the territory covered by the assignment.¹ But the assignee or grantee, under the original patent, does not acquire any right under the extended patent, which may be obtained pursuant to the 18th section of the act of 1836, unless such right be expressly conveyed to him by the patentee.² But assignees, who were in the use of a patented

and corrected specification, should be, as is another argument for the defendant, any stronger evidence of right than a recovery, even when the specification was more objectionable. Independent of these circumstances, it is averred in the bill as amended, that Washburn and Brown have adopted and approved of the new specification; and that they claim under their contract, and to the extent of it, all the rights conferred by it on the patentee. There is, moreover, a clause in the act of July 4, 1836, ch. 357, § 13, which seems to have been designed to dispose of such objections; and though it does not mention contracts or assignments, it is quite broad and comprehensive enough to cover them. It is, "the patent, so reissued together with the corrected descriptions and specifications, shall have the same *effect and operation in law* on the trial of all actions hereafter commenced for causes subsequently occurring, as though the same had been originally filed in such corrected form before the issuing of the original patent."

It would be very doubtful, also, whether a misjoinder of parties as plaintiffs in an application of this kind, could defeat a prayer for an injunction not to use a machine in which any of them were interested. At law, such a misjoinder could be objected to only in abatement, as the act sounds *ex delicto* (1 Ch. Pl. 75;) and probably it could not be objected to at all in equity, though in the final judgment, of course it would be entered up in favor of those alone who appeared to have some right and interest to be protected.

As the claims of two of the plaintiffs, however, have been already proved and established in several recoveries before the new letters; and the contract now offered, under which they claim, confers on them a right to use fifty planing machines within certain territory, including this city; and there is a covenant by the grantees of that right not to sell to different persons liberty to use others within those limits, during the time of Washburn and Brown's contract, their interest within them would seem to be sufficiently exclusive to make them properly plaintiffs, and entitled to judgment."

¹ *Woodworth v. Stone*, 3 Story's R. 749.

² *Woodworth v. Sherman*, 2 Story's R. 171; *Wilson v. Rousseau*, 4 Howard, 646.

machine at the time of the renewal, have still a right to use *the machine*, under the clause of the statute which declares that “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.”¹

§ 194. When a disclaimer is to be filed, under the 7th and 9th sections of the Act of 1837, an assignee of the whole patent will be the proper party to file it; and if the patent has been previously assigned in part, it has been held that the disclaimer will not operate to the benefit of such an assignee in any suit by him, at law or in equity, unless he joined in the disclaimer.²

§ 195. The distinction between an assignment and a license relates to the interest in the patent, as distinguished from the right to use the thing patented, or to practise the invention. An assignment is a grant in writing of the whole or a part of the exclusive right vested in the patentee by the patent; and such a part may be designated as an undivided part of the whole patent, extending wherever the patent extends, or as a grant of the exclusive right within a particular district. Each of these grants may carry with it the right to grant to others the power of making and using the thing patented, and in no degree diminishes the right of the patentee; it does not *per se* carry the right to grant to others the power of exercising the invention, although it may involve the right of selling the specific thing made, with the incidental right of using it. Thus when the patentee sells to another a patented machine, made by himself, or permits such person to make the machine, the party thus authorized becomes a licensee, with the right of selling the machine, which carries with it the right of using it. But that party has no interest in the patent; he cannot author-

¹ *Wilson v. Rousseau, ut supra.*

² *Wyeth v. Stone*, 1 Story's R. 273.

ize others to make the machine; nor does the permission extended to him diminish in any degree, the exclusive right of the patentee to make or to authorize others to make the patented machine. So, where the subject of the patent is a compound or composition of matter, if the patentee authorizes another to make and sell the article, that party becomes a licensee, with the right of selling the article he may make to others, to be used by them, in the way of consumption, for the purposes for which it is intended, but he has no interest in the patent, and no power to grant to others any portion of the exclusive right of making the thing, which is vested in the patentee.¹

§ 196. Upon this distinction it may often be necessary to determine whether a particular instrument amounts to an assignment, or only to a license. Our statute seems to assume and proceed upon the clear distinction, that every grant which embraces the exclusive right under the patent, either as to a part or the whole, is an assignment; and it requires such grants to be recorded. The test to be applied, therefore, is, whether the instrument vests in the grantee the exclusive right, either for the whole country, or for a particular district, of making and using the thing patented, and of granting that right to others. If it does so, it is an assignment. But if it merely grants a right to make, use, and sell the thing patented, whether in limited or unlimited quantities, without making that right exclusive, it is a license. Thus, where the patentee granted "the right and privilege of making, using, and selling the friction matches," being the thing patented, and the right "to employ in and about the manufacture, six persons, and no more, and to vend said matches in any part of the United States," with a proviso that nothing herein contained should prevent or restrict the patentee from "making and vending the same, or of selling and conveying

¹ *Brooks v. Byam*, 2 Story's R. 525, 538, 539, 542. In this case Mr. Justice Story held that the true construction of the statute is, that a license is not required to be recorded.

similar rights and privileges to others," with a further proviso that the grantee "shall not manufacture the said matches in any place within forty miles of M.;" it was held that this was a license or authority to make and vend the matches, without any exclusive right of making them, and consequently did not require to be recorded under the statute.¹ The same would be true of a grant to make and use a certain number of patented machines, in a particular place; but if the covenant were that the grantee might make and use ten machines, and that he should have the exclusive right of making and using the machines in a particular district, limiting him to ten, it seems that it would be an assignment, provided the grantee were authorized to grant to others the right to make and use any of the ten machines.² In such a case as this, the patentee would have limited the exercise of his own privilege to ten machines, and would have granted the whole of his privilege, as he had seen fit to limit it, to the grantee, who would thus have acquired an interest in the patent. But if the parties to such an instrument were mutually to agree to open the subject of the contract again, the patentee might enlarge the exclusive privilege indefinitely as to the quantity of machines; but the relations of the parties would still be those of assignor and assignee, as long as the exclusive right should be vested in the grantee.

§ 197. Still, if the grant of an exclusive right to work under the patent appears, upon the tenor of the whole instrument, to have been intended by the parties to operate as a license and not as an assignment, it seems that it should be so construed; and such an intention will be evinced by provisos for determining the license and by the reservation of a rent or per centage on the gross sales or manufactures, instead of granting an interest in the profits of working the patent.³ But whether such an instrument,

¹ *Brooks v. Byam, ut supra.*

² *Woodworth v. Wilson, 4 How. 712.*

³ *Protheroe v. May, Webs. Pat. Cas. 415.* In this case the Court of Ex-

conferring the exclusive right for a particular district, would amount to an assignment, under our statute, or to such a grant as requires to be recorded, will further depend, it would seem, upon the fact of their being a right vested in the grantee to grant to others the "right to make and use the thing patented."

§ 198. Whether a license is assignable must depend upon its terms. A mere license to the party, without mentioning his *assigns*, is of course nothing more than the grant of a power, or the dispensation with a right or remedy, and confers a personal right upon the licensee which is not transmissible to any other person. It seems, however, that the use of the word *assigns*, in the granting part of such an instrument will not necessarily operate to make a license assignable, when from the tenor of the whole instrument it appears to have been intended as a personal privilege.¹ But whether a license is assignable or not, as to the entirety of the privilege, it is still more questionable whether it is apportionable, so as to permit the licensee to grant rights to others to work the patent, by subdividing the rights that may have been granted to himself. This question

chequer, upon a case sent for their opinion by the Vice Chancellor, gave a decided opinion that an exclusive license is no more than a common license, and so it seems to be regarded by our statute, which does not treat the grant as an assignment, requiring to be recorded, unless there is added to the exclusive right of making and using, the right to grant to others to make and use the thing patented. The case of *Woodworth v. Wilson*, 4 How. 712, contains an instrument granting the exclusive right to make and use ten machines in a particular district. The instrument is in form a license for the gross sum of fifteen hundred dollars. The point did not arise whether it ought to have been recorded, nor does the fact appear whether it had been recorded. The question was whether the patentee still retained such an interest as to render him a proper party to a bill in equity with the grantee, brought in the district to which the grant related. The court held that the patentee was properly joined in the suit. There was no grant of the right to grant to others to make and use; but merely a grant authorizing the grantee to "construct and use" ten machines within, &c. This instrument, therefore, I conceive to have been a license, not necessary to be recorded.

¹ *Brooks v. Byam*, 2 Story's R. 525, 544.

arose in a case already referred to, where the patentee of friction matches granted to another party the right to make, use, and sell the friction matches, and "to have and to hold the right and privilege of manufacturing the said matches, and to *employ in and about the same six persons*, and no more, and to vend the said matches in the United States." The licensee afterwards undertook to sell and convey to a third person "a right of manufacturing friction matches according to letters-patent, &c., in said town of A., to the amount of *one right*, embracing one person only so denominated in as full and ample a manner to the extension (extent) of the said one right, as the original patentee." Mr. Justice Story held that every conveyance of this sort must be construed according to its own terms and objects, in order to ascertain the true intent and meaning of the parties; and that in this case, the interest under the license was an entirety, incapable of being split up into distinct rights, each of which could be assigned to different persons in severalty.¹

¹ *Brooks v. Byam*, 2 Story's R. 525, 543. The reasoning of the learned judge was as follows: "The other question as to the indivisibility of the license, granted to Brown, involves considerations of more nicety and difficulty. By the agreement between Brown and Brooks, (18th of September, 1837,) it was agreed by Brown to sell and convey unto Brooks "a right of manufacturing friction matches according to letters patent, granted to Phillips, &c., in the said town of Ashburnham, *to the amount of one right*, embracing one person only, so denominated, in as full and ample a manner to the extension of the said one right as the original patentee;" and Brown further agrees "to go to Ashburnham and assist Brooks in learning the art and mystery of manufacturing such friction matches, &c., &c.;" and also, "not to sell any right of manufacturing said friction matches, or of vending the same to any person living, or intending to live, to manufacture or vend, said matches within forty miles of said Ashburnham." The question, then, is, whether the license or privilege granted by the patentee to Brown is not an entirety, and incapable of being split up into distinct rights, each of which might be assigned to different persons in severalty. I do not meddle with another point, and that is, whether the entirety of the license or privilege to Brown was capable of being assigned, though if it were intended to be a personal privilege or license, it might open a ground for argument, notwith-

§ 199. The relations of the patentee and the licensee, with

standing the use of the word "assigns." That point does not arise in the present case ; for here the whole license or privilege is not sold or assigned ; but one right, embracing one person only. It has been well said, that the right or license may be transmissible, though not apportionable. There is some obscurity in the language of the instrument, which makes it somewhat difficult to give a definite interpretation to it. Brown's privilege or license is at most to himself and his assigns, and "to employ in and about the manufacturing of the matches six persons and no more." Brown agrees to sell to Brooks "one right, embracing one person." Now the privilege or license to Brown, (assuming it to be capable of assignment) is to him, and to his assigns to employ six persons. Whoever is employed is to be employed by Brown and his assigns. It would seem to be a reasonable interpretation of this language to say, that all of these persons should be employed by one and the same party, either all by Brown, or all by his assigns. But the sub-agreement with Brooks conveys to him one right in severalty, embracing one person, that is, (as I understand it) the right to employ one person in the manufacture of the matches. So that, if this agreement be valid, then the original privilege or license, granted by the patentee to Brown upon this construction, includes six distinct and independent rights, each of which may be granted to a different person in severalty. Now I must confess, that such a construction is open to all the objections stated at the bar. It exposes the patentee to the competition of six different distinct persons, acting in severalty, and independently of each other. It may make an essential difference to the patentee in his own sales, whether the whole of the right or privilege granted to Brown be in the possession of one or more persons, having a joint interest, and of several persons, each having a separate and independent interest. The danger, too, to the patentee of an abuse or excess of the right or privilege granted by him is materially enhanced by the circumstance, that each of the sub-holders may be acting at different places at the same time, and the nature and extent of their claim and use of the right or privilege may be difficult for him to ascertain, and leave him without any adequate remedy for any such excess or abuse of it. The language ought, in my judgment, to be exceedingly clear, that should lead a court to construe an instrument of this sort, granting a single right or privilege to a particular person or his assigns, as also granting a right or license to split up the same right into fragments among many persons in severalty, and thus to make it apportionable as well as transmissible. The patentee might well agree to convey a single right as an entirety to one person to manufacture the matches and employ a fixed number of persons under him, when he might be wholly opposed to apportioning the same right in severalty among many persons."

regard to the validity and extent of the patent, must depend on the terms of the license. The taking of a naked license or permission to work under a patent, does not, without some recitals or covenants amounting to an admission, estop the licensee from denying the validity of the patent, or the fact of infringement, if he is subsequently proceeded against. It is necessary to look into the instrument, and to ascertain what recitals and covenants will deprive a licensee of the defence to which all other persons may resort. If, by his agreement, the licensee has admitted that the process or thing which he uses is the patented process or thing, and he is afterwards proceeded against for not complying with the terms of his agreement, it seems that he will not be at liberty to show, that he did not use the patented thing or process.¹ So, too, if the deed contain recitals or statements amounting to an admission of the validity of the patent, either as to the novelty or utility of the supposed invention, or the sufficiency of the specification, the licensee will be estopped, in an action of covenant for the rent or license dues, to deny the validity of the patent, by setting up anything contrary to the admissions in his deed.² In like manner it has been held that a licensee, who has paid an annuity in consideration of a license to use a patent privilege, which he has had the benefit of, but which afterwards turns out to be void, cannot recover back the money he has paid, in an action for money had and received.³ This is upon the ground that the licensee has had the benefit of what he stipulated for; but if the patent turns out to be invalid, before a payment becomes due, and the license deed contains no admis-

¹ *Baird v. Neilson*, 8 Cl. & Fin. 726.

² *Bowman v. Taylor*, 2 Ad. & E. 278. But if the patentee join issue upon an allegation made by a licensee contrary to an admission in his deed, instead of pleading the estoppel, the deed will be evidence for the patentee, but will not as evidence be conclusive. *Bowman v. Rostrom* 2 Ad. & E. 295.

³ *Taylor v. Hare*, 1 N. R. 260.

sion of its validity, the licensee may plead the fact in answer to an action of covenant for money reserved by the license.¹

§ 200. And where there has been no enjoyment by the licensee, who, in an agreement not under seal, has stipulated to pay a certain sum for the right to use a patent privilege, the invalidity of the patent will be a good plea in bar to an action upon the agreement, on the ground of failure of consideration.² The competency of a licensee to dispute the validity of a patent is a question which may also arise where the licensee is proceeded against for an infringement, on the ground that he is using the patent contrary to the conditions in his license. If, for instance, a party receives a license to use a patented machine, on condition that he pay a stipulated sum on all the articles which he may manufacture by means of the machine, and after having been put in possession of the machine, he uses it, but refuses to pay the rent or license dues, or to comply with any other condition, he may be enjoined in equity for an infringement. The sole right which such a party can have to use the machine depends on the license; and he can use under the license only by complying with the conditions; so

¹ *Hayne v. Maltby*, 3 T. R. 438. This case was thus explained by Lord Cottenham, C., in *Neilson v. Fothergill*, Webs. Pat. Cas. 290. "The case of *Hayne v. Maltby* appears to me to come to this, that although a party has dealt with the patentee and has carried on business, yet that he may stop, and then the party who claims to be patentee cannot recover without giving the other party the opportunity of disputing his right, and that if the defendant successfully dispute his right, that notwithstanding he has been dealing under a contract, it is competent to the defendant so to do. That is exactly coming to the point which I put, whether, at law, the party was estopped from disputing the patentee's right, after having once dealt with him as the proprietor of that right; and it appears from the authority of that case, and from the other cases, that from the time of the last payment, if the manufacturer can successfully resist the patent right of the party claiming the rent, that he may do so in answer to an action for the rent for the use of the patent during that year."

² *Chanter v. Leese*, 4 M. & W. 295, affirmed in error, 5 M. & W. 658.

that his use aside from the license is an infringement.¹ If, in such a case, the licensee refuses to pay under the license, or sets up, as a reason for not performing any of his covenants, that the patentee has not complied with the terms of the contract on his part, will the licensee be permitted to question the validity of the patent, in any proceeding either at law or in equity, for using the patent without right? This must depend, in the first place, upon the admissions in the license deed. If the deed contains no admission of the plaintiff's title, then the licensee will not be estopped from denying it; but if it contains such admissions, and *a fortiori*, if, after such admissions, the licensee has worked under the license, and has paid the license dues before his refusal, or if he still continues to claim under the deed, and excuses his non-payment by reason of the non-performance of some covenant on the part of the patentee, he will be estopped from denying the validity of the patent, and the sole question will be whether he is liable for an infringement; which will depend upon the validity of his excuse for not paying, on account of the non-performance by the patentee.² But, in the second place, if the licensee repudiates the contract altogether, and stands upon the right of every man to use the alleged invention because it is not new, or because the patent is void for some other reason, he foregoes all benefit of the license as a permission to use the invention, and becomes a trespasser. In that event, I conceive that his solemn admission under hand and seal, of the validity of the patent, may still be used against him as an estoppel, both in an action and under a bill in equity for the infringement, unless he can show

¹ Brooks v. Stolley, 1 M'Lean's R. 523; Neilson v. Fothergill, Webs. Pat. Cas. 287, 290.

² In equity, no alleged failure on the part of the patentee, under the contract of license, will authorize the use, unless the licensee does everything in his power to perform the contract. Brooks v. Stolley, *ut supra*. If the license is granted, on condition of a weekly payment, the payment must be made weekly, or the licensee may be enjoined for infringing. *Ibid*.

that he was deceived and misled, otherwise a party might obtain possession of the invention, under a license, and then repudiate the contract at his pleasure.

PART IV.

INFRINGEMENT,

AND

THE REMEDY THEREFOR.

PART IV.

INFRINGEMENT AND THE REMEDY THEREFOR.

CHAPTER I.

INFRINGEMENT.

§ 201. The statute grants to the patentee, 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 invention or discovery;”¹ and it gives a right of action for damages, in case of “making, using, or selling” the thing patented.² No definition of what is to constitute an infringement is given in the statute; but, of course, there is an infringement of the right, when one “makes, uses, or sells a thing” which another has the exclusive right of “making, using, and vending to others to be used.” But what constitutes making, using, and selling, with reference to the various things that may be the subjects of patents, so as to interfere with the exclusive right of the patentee, is left by the statute for judicial interpretation.

§ 202. An infringement takes place whenever a party avails himself of the invention of the patentee, without such variation

¹ Act of July 4, 1836, c. 357, § 5.

² Ibid. § 14.

as will constitute a new discovery;¹ or as it has also been stated, an infringement is a copy made after and agreeing with the principle laid down in the specification.² There will be therefore different modes in which patents may be infringed,

¹ In *Walton v. Potter*, Webs. Pat. Cas. 585, 586, Sir N. C. Tindall, C. J., said to the jury, "Now, according to the general rule upon this subject that is a mere question of fact, and peculiarity for the consideration of a jury, and it will be for you to say, under the circumstances that have been brought in review before you, whether that which has been done by the defendants amounts to such an infringement or not. Where a party has obtained a patent for a new invention, or a discovery he has made by his own ingenuity, it is not in the power of any other person, simply by varying in form or in immaterial circumstances the nature or subject-matter of that discovery, to obtain either a patent for it himself, or to use it without the leave of the patentee, because that would be in effect and in substance an invasion of the right; and therefore what you have to look at upon the present occasion, is not simply whether in form or in circumstances, that may be more or less immaterial, that which has been done by the defendants varies from the specification of the plaintiff's patent, but to see whether in reality, in substance and in effect, the defendants have availed themselves of the plaintiff's invention in order to make that fabric, or to make that article which they have sold in the way of their trade; whether, in order to make that, they have availed themselves of the invention of the plaintiff. The course which the evidence has taken has made it not an immaterial, but, on the contrary, a very necessary inquiry for you upon this first head of investigation, to determine whether the defendant's patent, which they have taken out, is in effect borrowed from the plaintiff's or not, because there can be no doubt whatever that all the defendants have done they have endeavored to clothe themselves with the right of doing by taking out the subsequent patent of 1839. The only evidence of infringement we have had before us is the purchase at the manufactory of the defendants of that little piece of card which was marked with the initials S. G., and there can be no doubt but that that fabric which was so produced in evidence before us, is made on the plan and according to the specification of their own patent, and therefore it will be not immaterial to call to your attention upon this first head of inquiry the specification of the plaintiff's, and next that of the defendant's patent, in order that we may compare them together, and see whether there really is that variation in substance so as to give the denomination of a new discovery to what the defendants have done, or whether they are not following out the invention of the plaintiff, with some variation in the description, which may not allow it the name of a new discovery."

² *Galloway v. Bleaden*, Webs. Pat. Cas. 523.

according to their subject-matter. Our statute has made use of the phrases "making, using, and vending to others to be used," to comprehend the exclusive right of the patentee; and consequently the making, using, or selling, are the modes in which that right may be infringed, according to the nature of the subject-matter. We are now, therefore, to consider the meaning of these phrases, as applied to the infringement of the several classes of things which may be the subjects of letters-patent.

§ 203. 1. *As to a machine.* — When a machine is the subject of a patent, the patent covers both the machine itself, the thing invented, and the mode or process of making it. The statute vests in the patentee the exclusive right of making it, the exclusive right of using it, and the exclusive right of vending it to others to be used. It is, therefore, an infringement to make a patented machine, for use or for sale, though in fact it is neither used nor sold;¹ it is an infringement to use it, though made by

¹ *Whittemore v. Cutter*, 1 Gallis. 429, 433. In this case, Mr. Justice Story said, "Another objection, is to the direction, that the making of a machine fit for use, and with a design to use it for profit, was an infringement of the patent right, for which an action was given by the statute. This limitation of the making was certainly favorable to the defendant, and it was adopted by the Court, from the consideration that it never could have been the intention of the legislature to punish a man who constructed such a machine merely for philosophical experiments, or for the purpose of ascertaining the sufficiency of the machine to produce its described effects. It is now contended by the defendant's counsel, that the making of a machine is, under no circumstances, an infringement of the patent. The first section of the act of 1793, expressly gives to the patentee, &c., "the full and exclusive right and liberty of making, constructing, using, and vending to others to be used," the invention or discovery. The fifth section of the same act gives an action against any person who "shall make, devise, and use or sell," the same. From some doubt, whether the language of the section did not couple the making and using together to constitute an offence, so that making without using, or using without making, was not an infringement, the legislature saw fit to repeal that section; and by the third section of the act of 17th April, 1800, ch. 25, gave the action against any person, who should "make, devise, use or sell" the invention. We are not called upon to examine the correctness of the original doubt, but the very change in the structure of the

another; and it is an infringement to sell it, whether made by one's self or by another; because the statute vests the exclusive right of doing all these things in the patentee.

§ 204. The doctrine suggested by Mr. Justice Story, that the making of a machine for philosophical experiment, or for the purpose of ascertaining its sufficiency to produce the described effect, would not be an infringement, is founded in the supposition that such a making is not injurious to the patentee. It is true, that the making for the purpose of using becomes directly injurious to the patentee, because it deprives him of a purchaser of that which he alone is authorized to construct and sell; and it is also true, that when the machine is made by one not the patentee, for the mere purpose of experimenting on the sufficiency of the specification, no profits are taken away from the patentee. There is therefore a difference, undoubtedly, in the tendency of the two acts; but it is not quite clear, that the legislature meant to recognize this difference, or that they used the words "make, use," &c., in any other than their ordinary sense. The prohibition is express, that no other person shall "make"; and that no other person shall "use"; and Mr. Justice Washington held that the motive of testing the practical

sentence affords a strong presumption, that the legislature intended to make every one of the enumerated acts a substantive ground of action. It is argued, however, that the words are to be construed distributively, and that "making" is meant to be applied to the case of a *composition* of matter, and not to the case of a machine. That it is clear, that the use of certain compositions, (as patented pills,) could not be an infringement, and unless making were so, there would be no remedy in such cases. We cannot feel the force of this distinction. The word "making" is equally as applicable to machines, as to compositions of matter; and we see no difficulty in holding that the using or vending of a patented composition is a violation of the right of the proprietor. It is farther argued, that the making of a machine cannot be an offence, because no action lies, except for *actual damage*, and there can be no actual damages, or even a rule for damages, for an infringement by making a machine. We are however of opinion, that where the law gives an action for a particular act, the doing of that act imports of itself a damage to the party. Every violation of a right imports some damage, and if none other be proved, the law allows a nominal damage."

utility of a machine was no answer to a charge of infringement by having "used" it.¹ But it was held by Mr. Justice Story that the making of a patented machine is an infringement only when it is made for use or for sale, and the doctrine seems to be the same in England.² The test is, whether the party made the machine with an intent, to infringe the patent right, and deprive the owner of the lawful rewards of his discovery.³

§ 205. It is said that there may be a constructive using of a patented machine; as, if a person were to make a machine, in violation of the right of the patentee, or purchase it of one who had so made it, and then hire it out to another person for use, he might, under some circumstances, be held responsible for using it. There is a case, where the plaintiff was the patentee of a machine for making watch-chains, and it appeared that the defendant had made an agreement with one C. to purchase of him all the watch-chains, not exceeding five gross a week, which C. might be able to manufacture within six months, and C. had agreed to devote his whole time and attention to the manufacture of watch chains, and not to sell or dispose of any of them, so as to interfere with the exclusive privilege secured to the defendant of purchasing the whole quantity which it might be practicable for C. to make; and it was proved that the machine used by C. with the knowledge and consent of the defendant, in the manufacture, was the same with that invented by the plaintiff, and that all the watch-chains thus made by C. were delivered to the defendant according to the contract; the Supreme Court of the United States held that if the contract were real and not colorable, and if the defendant had no other connection with C. than that which grew out of the contract, it

¹ *Watson v. Bladen*, 4 Wash. 583.

² In *Jones v. Pearce*, Webs. Pat. Cas. 125, Pattenon, J. said in reply to a question by the jury whether there was any evidence of the defendant having used or sold the wheels. — "The terms of the patent are, 'without leave or license make,' &c.; now if he did actually make these wheels, his making them would be a sufficient infringement of the patent, unless he merely made them for his own amusement, or as a model."

³ *Sawin v. Guild*, 1 Gallis. 485, 487.

did not amount to a "using" by him of the plaintiff's machine; but that such a contract, connected with evidence from which the jury might legally infer, either that the machine which was to be employed in the manufacture of the patented article was owned wholly or in part by the defendant, or that it was hired by the defendant for six months, under color of a sale of the articles to be manufactured with it, and with intent to invade the plaintiff's patent right, would amount to a breach of his right.¹

¹ *Keplinger v. De Young*, 10 Wheaton, 358, 363. Washington, J., delivering the judgment of the Court, said, "The only question which is presented by the bill of exceptions to the consideration of this Court is, whether the Court below erred in the instruction given to the jury; and this must depend upon the correct construction of the third section of the Act of Congress, of the 17th of April, 1800, ch. 179, which enacts 'that where any patent shall be granted, pursuant to the Act of the 21st of February, 1793, ch. 156, any person without the consent of the patentee, his executors, &c. 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, a sum equal to three times the actual damage sustained by such patentee,' &c.

The contract, taken in connection with the whole of the evidence stated in the bill of exceptions, if the same were believed by the jury, formed most certainly a strong case against the defendant, sufficient to have warranted the jury in inferring, either that the machine which was to be employed in the manufacture of watch-chains was owned in whole or in part by the defendant, or that it was hired to the defendant for six months, under color of a sale of the articles which might be manufactured with it, and with intent to invade the plaintiff's patent right. Whether the contract, taken in connection with the whole of the evidence, does or does not amount to a hiring by the defendant of the machine, or the use of it for six months, is a point which is not to be considered as being decided either way by the court. The bill of exceptions does not call for an opinion upon it.

But the contract taken by itself, amounted to no more than an agreement by the defendant to purchase at a fixed price, all the watch chains not exceeding five gross a week, which Hatch and Kirkner might be able to manufacture in the course of six months, with any machine they might choose to employ; and an agreement on the part of Hatch and Kirkner, to devote their whole time and attention to the manufacture of the chains, and not to sell or dispose of any of them, so as to interfere with the exclusive privilege secured to the defendant, of purchasing the whole quantity which it might be practicable for them to make.

§ 206. It seems to be in accordance with the doctrine of this case, to consider that a using of a machine is to be taken as

If this contract was real, and not colorable, which is the obvious meaning of the instruction, and the defendant had no other connection with H. & K. in regard to these chains than what grew out of it, it would, in the opinion of the court, be an extravagant construction of the patent law, to pronounce that it amounted to a breach of the plaintiff's patent right, by fixing upon the defendant the charge of having used the plaintiff's machine. Such a construction would be highly inconvenient and unjust to the rest of the community, since it might subject any man who might innocently contract with a manufacturer to purchase all the articles which he might be able to make within a limited period, to the heavy penalty inflicted by the act, although he might have been ignorant of the plaintiff's patent, or that a violation of it would be the necessary consequence of the contract. It might possibly extend farther, and affect contracts express or implied, though of a more limited character, but equally innocent, as to which, however, it is not the intention of the court to express any opinion, as this case does not call for it.

This cause was argued by the plaintiff's counsel, as if the opinion of the court below had been given upon the whole of the evidence. But this was not the case. No instruction was asked for but by the defendants counsel, and that was confined to a single part of the case, the connection between the defendant and H. & K., in regard to the watch chains which the latter bound themselves, by their contract, to manufacture and deliver to the former. If the jury had been of opinion, upon the whole of the evidence, that the contract was not a real one, or that that instrument did not constitute the sole connection between those parties, or that the transaction was merely colorable, with a view to evade the law, the jury were not precluded by the instruction from considering the plaintiff's patent right as violated, and finding a verdict accordingly.

Had the plaintiff's counsel thought proper to call upon the court for an opinion and instruction to the jury, upon any points arising out of the whole, or any part of the evidence, it would have been their duty to give an opinion upon such points, leaving the conclusion of fact from the evidence to be drawn by the jury. But this course not having been pursued, this court can take no notice of the evidence, although spread upon the record, except so far as it is connected with the single point upon which the opinion, which is excepted to, was given. As to the residue of that opinion, that 'the legal aspect of the case would not be changed, although the defendant might, on any occasion, have supplied, at the cost of H. & K., the wire from which the chains so manufactured were made,' it is quite as free from objection as the preceding part of it, since it stands on precisely the same principle."

proved, either when the party charged has used it himself or has employed others to use it for him, or has profited by the use of it.¹

¹ *Woodworth v. Hall*, 1 Woodb. & M. 248, 251. In this case, Mr. Justice Woodbury said, "There has been no evidence whatever offered in this case of any use of the planing machine by Isaac Hall since his license expired, except what is contained in the affidavit of Aaron Pratt. This witness did not see him use it; but made a bargain with him about the 15th of July, 1845, to plane for the witness certain boards at the ordinary price, intending to set off the amount against rent due from said Isaac.

Clement Hall, however, was present, and said, 'we can plane them for you,' and the work was done; but the witness does not say by whom, nor whether in fact the compensation for it was made to Isaac.

Against this, is the answer of Isaac, responsive to the bill, and sworn to, denying that he had ever used the machine since his license expired; and this agrees with Clement's assertion in his answer, that the machine was used by him alone. The facts testified by Pratt might, standing alone, be sufficient to justify an inference, that Isaac had planed the boards and used the machine.

In such cases, it may be, that any workman on the machine, though not interested in it, is liable to be restrained in order to prevent evasions, by treating all as principals who are aiding.

It is a common case, also, that if one does not in person perform the work, but procures another to do it for his advantage on a machine owned by himself, he can still be restrained, and is estopped from denying, *qui facit per alium, facit per se*. Possibly, too, if one hires another to do work on such a machine, he may be restrained. 4 Mann. & Grang. 179. But it is not necessary to give a decisive opinion on this, after comparing the evidence with the denial in Isaac's sworn answer.

After that answer thus testified to as true, the probability is, and it is a construction not inconsistent with the veracity of both Pratt and Isaac, that the boards were planed by Clement alone, and on his own contract, or his own assent to the arrangement, and for his own profit. It would seem, also, very easy to produce further evidence of the fact of Isaac's using the machine, or receiving the profits from it, if such was the truth. Until it is produced, the fairest construction of the affidavits and answer are, that Isaac did not work the machine or profit by it. If this construction were not the most reasonable, and did not reconcile what is sworn to in the affidavit and answers, the court would still be compelled to refuse to issue an injunction against Isaac, on the affidavit of Pratt alone, for the want of evidence in it to overcome Isaac's answer. Because something more must be

§ 207. As to the sale of a patented machine, in order to be an infringement of the right, it must be something more than a sale of the materials, either separate or combined; it must be a sale of a complete machine, for use as a machine, which is patented, in order to render the vendor liable for an infringement of the patent by a "sale."¹

produced than the evidence of a single witness to overcome an answer under oath, and responsive to the bill. *Carpenter v. Prov. Wash. Ins. Co.* 4 How. 185. Certainly, something more than the evidence of one witness, and he not testifying explicitly that Isaac either owned or worked the machine, or received any of its profits.

But in respect to the liability of Clement to an injunction, the testimony is very different; and notwithstanding the several ingenious objections that have been urged, I have come to the conclusion that one ought to be issued against him."

¹ A sale of the materials of a patented machine by a sheriff, on execution, is not an infringement. *Sawin v. Guild*, 1 Gallis. 485. In this case Mr. Justice Story said, "This is an action on the case for the infringement of a patent right of the plaintiffs, obtained in February, 1811, for a machine for cutting brad nails. From the statement of facts agreed by the parties, it appears, that the defendant is a deputy-sheriff of the county of *Norfolk*, and having an execution in his hands against the plaintiffs for the sum of \$567.27 debt, and costs, by virtue of his office, seized and sold, on said execution, the *materials* of three of said patented machines, which were at the time complete and fit for operation, and belonged to the plaintiffs. The purchaser, at the sheriff's sale, has not, at any time since, put either of the said machines in operation; and the whole infringement of the patent consists in the seizure and sale by the defendant as aforesaid. The question submitted to the court is, whether the complete materials, of which a patented machine is composed, can, while such machine is in operation by the legal owner, be seized and sold on an execution against him.

The plaintiffs contend that it cannot be so seized and sold, and they rely on the language of the third section of the Act of the 17th of April, 1800, ch. 25, which declares that if "any person, without the consent of the patentee, his or her executors, &c. first obtained in writing, shall make, devise, use, or sell the thing, whereof the exclusive right is secured to the said patentee, such person, so offending, shall forfeit," &c.

It is a sound rule of law, that every statute is to have a sensible construction; and its language is not to be interpreted so as to introduce public mischiefs, or manifest incongruities, unless the conclusion be unavoidable. If the plaintiffs are right in their construction of the section above stated,

§ 208. The sale of the articles produced by a patented

it is practicable for a party to lock up his whole property, however great, from the grasp of his creditors, by investing it in profitable patented machines. This would undoubtedly be a great public mischief, and against the whole policy of the law, as to the levy of personal property in execution. And upon the same construction, this consequence would follow, that every part of the materials of the machine might, when separated, be seized in execution, and yet the whole could not be, when united; for the exemption from seizure is claimed only when the whole is combined and in actual operation under the patent.

We should not incline to adopt such a construction, unless we could give no other reasonable meaning to the statute. By the laws of *Massachusetts*, property like this is not exempted from seizure in execution; and an officer, who neglected to seize, would expose himself to an action for damages, unless some statute of the *United States* should contain a clear exception. No such express exception can be found; and it is inferred to exist only by supposing, that the officer would, by *the sale*, make himself a wrong doer, within the clause of the statute above recited. But within the very words of that clause, it would be no offence to *seize* the machine in execution. The whole offence must consist in a *sale*. It would therefore follow, that the officer might lawfully seize; and if so, it would be somewhat strange, if he could not proceed to do those acts, which alone by law could make his seizure effectual.

This court has already had occasion to consider the clause in question, and upon mature deliberation it has held, that *the making* of a patented machine, to be an offence within the purview of it, must be the making with an intent to use for profit, and not for the mere purpose of philosophical experiment, or to ascertain the verity and exactness of the specification. (*Whittemore v. Cutter*, 1 Gallis. p. 429.) In other words, that the making must be with an intent to infringe the patent right, and deprive the owner of the lawful rewards of his discovery.

In the present case, we think that a sale of a patented machine, within the prohibitions of the same clause, must be a sale not of the materials of a machine, either separate or combined, but of a complete machine, with the right, express or implied, of using the same in the manner secured by the patent. It must be a tortious sale, not for the purpose merely of depriving the owner of the materials, but of the use and benefit of his patent. There is no pretence, in the case before us, that the officer had either sold or guaranteed a right to use the machine in the manner pointed out in the patent right. He sold the *materials* as such, to be applied by the purchaser as he should by law have a right to apply them. The purchaser must therefore act at his own peril, but in no respect can the officer be responsible for his conduct."

machine, or by a process which is patented, is not an infringement.¹

¹ *Boyd v. Brown*, 3 M'Lean's R. 295. "The complainant filed his bill, representing that he is the legal owner of a certain patent right, within the county of Hamilton, in Ohio, for making bedsteads of a particular construction, which is of great value to him; that the defendant, professing to have a right under the same patent, to make and vend bedsteads in Dearborn County, Indiana, which the complainant does not admit, but denies; that the defendant sends the bedsteads he manufactures to Hamilton county to sell, in violation of the complainant's patent; and he prays that the defendant may be enjoined from manufacturing the article, and vending it within Hamilton county, &c.

The defendant sets up in his answer a right duly assigned to him to make and vend the article in Indiana, and that he is also possessed of an improvement on the same; and he denies that the sales in Hamilton county, complained of by the complainant, are made at his instance, or for his benefit. A motion is now made for an injunction, before the case is prepared for a final hearing.

On the part of the complainant, it is contended that, by his purchase of the right to make and vend the article within Hamilton county, he has an exclusive right to vend as well as to make, and that his right is infringed by the sales complained of; that his right is notorious, and is not only known to the defendant, but to all those who are engaged in the sales stated. If the defendant, who manufactures the bedsteads in Indiana, be actually engaged in the sale of them in Hamilton county, it might be necessary to inquire whether this is a violation of the complainant's right. But, as this fact is denied in the defendant's answer, for the purposes of this motion, the answer must be taken as true, and that question is not necessarily involved. The point for consideration is, whether the right of the complainant is infringed by a sale of the article within the limits of the territory claimed by the complainant. It is not difficult to answer this question. We think that the article may be sold at any and every place, by any one who has purchased it for speculation or otherwise.

There can be no doubt that the original patentee, in selling rights for counties or states, might, by a special covenant, prohibit the assignee from vending the article beyond the limits of his own exclusive right. But in such a case, the remedy would be on contract, and not under the patent law. For that law protects the thing patented, and not the product. The exclusive right to make and use the instruments for the construction of this bedstead in Hamilton county, is what the law secures, under his assignment, to the complainant. Any one violates this right who either makes, uses, or

§ 209. But if the person who sells is connected with the use of the machine, he is responsible as for an infringement; and if a court of equity have jurisdiction of the person, such a vendor may be enjoined, although the machine may be used beyond the jurisdiction of the court.¹

sells these instruments within the above limits. But the bedstead, which is the product, so soon as it is sold, mingles with the common mass of property, and is only subject to the general laws of property.

An individual has a patent right for constructing and using a certain flouring mill. Now, his exclusive right consists in the construction and use of the mill; the same as the right of the complainant to construct and use the instruments in Hamilton county, by which the bedstead is made. But can the patentee of the mill prohibit others from selling flour in his district? Certainly he could not. The advantage derived from his right is, or may be, the superior quality of the flour, and the facility with which it is manufactured. And this sufficiently illustrates the principle involved in this motion." See further, *Simpson v. Wilson*, 4 Howard, 709.

¹ *Boyd v. McAlpin*, 3 McLean, 427, 429. In this case, the same learned judge said, "It is insisted that the sale of the thing manufactured by the patented machine is a violation of the patent. But this position is wholly unsustainable. The patent gives "the exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement." A sale of the product of the machine is no violation of the exclusive right to use, construct, or sell the machine itself. If, therefore, the defendant has done nothing more than purchase the bedsteads from Brown, who may manufacture them by an unjustifiable use of the patented machine, still the person who may make the purchase from him has a right to sell. The product cannot be reached, except in the hands of one who is in some manner connected with the use of the patented machine.

There are several patents of mills for the manufacture of flour. Now, to construct a mill patented, or to use one, would be an infringement of the patent. But to sell a barrel of flour manufactured at such mill, by one who had purchased it at the mill, could be no infringement of the patent. And the same may be said of a patented stove, used for baking bread. The purchaser of the bread is guilty of no infringement; but the person who constructed the stove, or who uses it, may be enjoined, and is liable to damages. These cases show, that it is not the product, but the thing patented, which may not be constructed, sold, or used. This doctrine is laid down in *Keplinger v. De Young*, 10 Wheat. 358. In that case watch-chains were manufactured by the use of a patented machine, in violation of the right of

§ 210. The Supreme Court of the United States have decided that an assignment of an exclusive right to use a machine, and to vend the same to others for use, within a specified territory, authorizes the assignee to vend elsewhere, out of that territory, articles manufactured by such machine.¹

§ 211. 2. *As to a manufacture or composition of matter.* — Assuming that the word is used in our statute to describe the vendible and tangible product of any branch of industry,² a patent for a “manufacture” will be infringed by the same acts as a patent for a composition of matter, that is, by making, using, or selling the thing itself.

the patentee; the defendant, by contract, purchased all the chains so manufactured, and the court held, that, as the defendant was only the purchaser of the manufactured article, and had no connection in the use of the machine, that he had not infringed the right of the patentee.

But in the case under consideration, the bill charges that the defendant, in connection with Brown, constructed the machine patented; and that they use the same in making the bedsteads which the defendant is now selling in the city of Cincinnati. If this allegation of the bill be true, the defendant is so connected with the machine in its construction and use as to make him responsible to the plaintiff. The structure and use of the machine are charged as being done beyond the jurisdiction of the court; but having jurisdiction of the person of the defendant, the court may restrain him from using the machine and selling the product. When the sale of the product is thus connected with the illegal use of the machine patented, the individual is responsible in damages, and the amount of his sales will, in a considerable degree, regulate the extent of his liability.

Whether, if the defendant acts as a mere agent of Brown, who constructed the patented machine, and uses it in Indiana, in making bedsteads, is responsible in damages for an infringement of the patent and may be enjoined, is a question which need not now be determined. Such a rule would, undoubtedly, be for the benefit of Brown, who, according to the bill, had openly and continually violated the patent in the construction and use of the machine. There are strong reasons why the interest of the principal should, by an action at law, and also by a bill in chancery, be reached through his agent. Injunction allowed.”

¹ Simpson v. Wilson, 4 Howard, 709.

² See *Ante*, Part I. ch. 2, § 100.

§ 212. In cases of this kind, however, some difficulty may arise as to what constitutes a using. When the subject-matter is the thing produced, the patent will generally also cover the process of making it; as in the case of a paint, a medicine, a stove, or a fabric of cloth. In these cases, a using of the invention would, in one sense, consist in putting it in practice. But the statute vests the exclusive right to use the thing itself in the patentee, because it is the thing produced which is the subject of the patent. Strictly speaking, therefore, the use of the thing at all, in any form of consumption or application, would be an infringement. But as the purpose of the law is to prevent acts injurious to the patentee, with as little restraint on the public as possible,¹ it may be necessary to consider whether the word "using" is employed in a limited or an unlimited sense.

§ 213. Whether the dictum of Mr. Justice Story that "the using or vending of a patented composition is a violation of the right of the proprietor,"² can be considered to extend to every form of use, so as to give the proprietor a right to maintain an action, is worthy of consideration. If a patented medicine is made by one not authorized to make it, and is sold to a person who consumes it, it would be a somewhat inconvenient restraint upon the public to hold that the latter is to be considered as using the invention in the sense of the statute. He cannot know that the article is not made by the true proprietor; the probability is that he intends to purchase the genuine composition, and that he is deceived into supposing that he does purchase it. Still, in strictness, he may be held liable to an action for using the thing itself by consuming it.

§ 214. It would seem, therefore, in regard to all those classes of things which perish in the using, that the use by which they

¹ Per Coleridge J. in *Minter v. Williams*, Webs. Pat. Cas. 135, 138.

² *Whittemore v. Cutter*, cited *Ante*, § note

are consumed may be regarded as a violation of the patent right; and that the party may be held responsible for using, who sells or gives to others to be consumed, the article that is the subject of the patent; because both make use of the invention to the injury of the patentee. In such cases, it matters not whether the party makes the article himself, in violation of a patented process, or procures it to be made by others.¹

§ 215. Where the subject of the patent is a machine, the using it is altogether prohibited by the statute, because it intends to vest in the patentee the full enjoyment of the fruits of his invention, both in the practice of making the machine, and of producing the effect or result intended to be produced by it.

§ 216. Where an order was given to the defendants by a third person to manufacture a patented article, on a model furnished by him, and the order was executed, it was held that the defendants were guilty of an infringement, although, when they began to execute the order, they had no knowledge of the plaintiff's patent.²

§ 217. 3. *An Art.* — Where an art is the subject-matter of a patent, the patent will be infringed by exercising or practising

¹ *Gibson v. Brand*, 4 Man. & Gr. 179, 196. Tindal, C.J. "The breach alleged in the declaration is, that the defendant had 'directly and indirectly made, used, and put in practice the said invention, and every part thereof, and counterfeited, imitated, and resembled the same.' The proof in support of the breach was that an order had been given by the defendant, in England, for the making of silk by the same process as the plaintiffs; which order had been executed in England; and that is enough to satisfy the allegation in the declaration — that the defendant made, used, and put in practice the plaintiff's invention — though the silk was, in fact, made by the agency of others." For the converse of this case, where the defendant infringes by executing an order for another person, see § 216.

² *Bryce v. Dorr*, 3 M'Lean, 582. Two of the articles were made after notice of the patent.

the same art, which will constitute a "using" of the invention or discovery.

§ 218. But the great question that arises when an infringement is charged to have taken place is, whether the two things, one of which is said to be an infringement upon the other, are the same, or different. If they are the same, there is an infringement. If they are different, there is not. But what kind and what degree of resemblance constitute the identity which the patent law designates as an infringement, and what kind and what degree of difference will relieve from this charge, are the difficult and metaphysical questions to be determined in each particular case.¹

§ 219. Learned judges have often laid it down that where two things are the same in principle, the one is an infringement upon the other. This mode of stating the general doctrine on which the fact of infringement depends is not quite satisfactory, because that which constitutes the principle of an invention is very likely to be regarded differently by different minds. Still, there is a sense in which the principle of an invention is undoubtedly to be considered in determining whether an infringement has taken place; because we cannot determine whether there is a substantial identity between two things, without first

¹ There is a very great dearth of reported cases, in our own books, giving with any detail the facts brought out at the trial, on which the infringement depended. The reporters of the Circuit Courts of the United States seem to have acted on the idea that there is nothing to be reported in a patent cause, unless some question of law is raised on motion for a new trial, or for arrest of judgment, &c.; and then we get the facts, only so far as it is convenient for the court to state them, in deciding the questions raised. This is a great mistake. A careful summary of the evidence given on every important trial for infringement of a patent, including the professional characters and qualifications of the witnesses, together with an accurate description of the plaintiff's and defendant's inventions, the rulings of the court in the progress of the trial, and the charge to the jury, would be of great value.

observing the distinguishing characteristics of the one which is taken as the subject of comparison. But I propose, without rejecting the light of any of the cases in which this language is employed, to inquire whether the fact of an infringement may not be tried by a test more definite, precise, and practical.¹

¹ The meaning to be ascribed to the term *principle* of an *invention* or *discovery*, has been thus commented on by different judges. Mr. Justice Washington, in *Treadwell v. Bladen*, 4 Wash. 706, said, "What constitutes form, and what principle, is often a nice question to decide; and upon none are the witnesses who are examined in patent causes, even those who are skilled in the particular art, more apt to disagree. It seems to me that the safest guide to accuracy in making the distinction is, first to ascertain what is the result to be obtained by the discovery; and whatever is essential to that object, independent of the mere form and proportions of the thing used for the purpose, may generally, if not universally, be considered as the principles of the invention."

In *Whittemore v. Cutter*, 1 Gallis. 478, 480, Mr. Justice Story said, "By the principles of a machine, (as these words are used in the statute) is not meant the original elementary principles of motion, which philosophy and science have discovered, but the *modus operandi*, the peculiar device or manner of producing any given effect. The expansive powers of steam, and the mechanical powers of wheels, have been understood for many ages; yet a machine may well employ either the one or the other, and yet be so entirely new, in its mode of applying these elements, as to entitle the party to a patent for his whole combination. The intrinsic difficulty is to ascertain, in complicated cases like the present, the exact boundaries between what was known and used before, and what is new, in the *mode of operation*." In *Barrett v. Hall*, 1 Mas. 447, 470, the same learned judge said, "As to the opinion of skilful witnesses, whether the principles of two machines are the same, no person doubts that it is competent evidence to be introduced into a patent cause. But care should be taken to distinguish what is meant by a principle. In the minds of some men, a principle means an elementary truth, or power, so that, in the view of such men, all machines, which perform their appropriate functions by motion, in whatever way produced, are alike in principle, since motion is the element employed. No one, however, in the least acquainted with law, would for a moment contend, that a principle in this sense is the subject of a patent; and if it were otherwise, it would put an end to all patents for all machines, which employed motion, for this has been known as a principle or elementary power, from the beginning of time. The true legal meaning of the principle of a machine, with reference to the

§ 220. An infringement involves substantial identity, whether that identity is described by the terms, "same principle," same *modus operandi*, or any other. It is a copy of the thing described in the specification of the patentee, either without variation, or with only such variations as are consistent with its being in substance the same thing.¹ What will amount to such a substantial identity cannot be stated in general terms; we can only look to individual cases for illustrations and applications of the general doctrine.

§ 221. If the invention of the patentee be a machine, it will

patent act, is the peculiar structure or constituent parts of such machine. And in this view the question may be very properly asked, in cases of doubt and complexity, of skilful persons, whether the principles of two machines be the same or different. Now, the principles of two machines may be the same, although the form or proportions may be different. They may substantially employ the same power in the same way, though the external mechanism be apparently different. On the other hand, the principles of two machines may be very different, although their external structure may have great similarity in many respects. It would be exceedingly difficult to contend, that a machine, which raised water by a lever, was the same in principle with a machine which raised it by a screw, a pulley, or a wedge, whatever, in other respects, might be the similarity of the apparatus." See note on the "Principle of an Invention," at the end of this chapter.

¹ In *Walton v. Potter*, Webster's Pat. Cas. 586, Sir N. C. Tindall, C. J. said; "Where a party has obtained a patent for a new invention, or a discovery he has made by his own ingenuity, it is not in the power of any other person, simply by varying in form or in immaterial circumstances, the nature or subject-matter of that discovery, to obtain either a patent for it himself, or to use it without the leave of the patentee, because that would be in effect and in substance an invasion of the right; and, therefore, what you have to look at upon the present occasion, is not simply whether in form or in circumstances, that may be more or less immaterial, that which has been done by the defendants varies from the specification of the plaintiff's patent, but to see whether, in reality, in substance, and in effect, the defendants have availed themselves of the plaintiff's invention in order to make that fabric, or to make that article which they have sold in the way of their trade; whether, in order to make that, they have availed themselves of the invention of the plaintiff."

be infringed by a machine which incorporates in its structure and operation the substance of the invention; that is, by an arrangement of mechanism, which performs the same service, or produces the same effect in the same way, or substantially in the same way.¹

¹ Wyeth v. Stone, 1 Story's R. 273, 280. In this case Mr. Justice Story said, "The next point is, whether the ice-machine used by the defendants is an infringement of the patent, or, in other words, does it incorporate in its structure and operation the substance of Wyeth's invention? I am of opinion that it does include the substance of Wyeth's invention of the ice-cutter. It is substantially, in its mode of operation, the same as Wyeth's machine; and it copies his entire cutter. The only important difference seems to be, that Wyeth's machine has a double series of cutters, on parallel planes; and the machine of the defendants has a single series of chisels in one plane. Both machines have a succession of chisels, each of which is progressively below the other, with a proper guide placed at such a distance as the party may choose, to regulate the movement; and in this succession of chisels, one below the other, on one plate or frame, consists the substance of Wyeth's invention. The guide in Wyeth's machine is the duplicate of his chisel plate or frame; the guide in the defendant's machine is simply a smooth iron, on a level with the cutting single chisel frame or plate. Each performs the same service, substantially in the same way."

In *Odiorne v. Winkley*, 2 Gallis. 51, 53, the same learned judge said, "The first question for consideration is, whether the machines used by the defendant are substantially, in their principles and mode of operation, like the plaintiff's machines. If so, it was an infringement of the plaintiff's patent to use them, unless some of the other matters offered in the defence are proved. Mere colorable alterations of a machine are not sufficient to protect the defendant."

The original inventor of a machine is exclusively entitled to a patent for it. If another person invent an improvement on such machine, he can entitle himself to a patent for such improvement only, and does not thereby acquire a right to patent and use the original machine; and if he does procure a patent for the whole of such a machine with the improvement, and not for the improvement only, his patent is too broad, and therefore void. It is often a point of intrinsic difficulty to decide, whether one machine operates upon the same principles as another. In the present improved state of mechanics, the same elements of motion and the same powers must be employed in almost all machines. The lever, the wheel, and the screw, are powers well known; and if no person could be entitled to a patent who used

§ 222. But if the difference between the two machines is not a mere difference of form ; if there is a material alteration of

them in his machine, it would be in vain to seek for a patent. The material question, therefore, is not whether the same elements of motion, or the same component parts are used, but whether the given effect is produced substantially by the same mode of operation, and the same combination of powers, in both machines. Mere colorable differences, or slight improvements, cannot shake the right of the original inventor. To illustrate these positions : suppose a watch was first invented by a person, so as to mark the *hours* only, and another person added the work to mark the minutes, and a third the seconds ; each of them using the same combinations and mode of operations, to mark the hours as the first. In such a case the inventor of the second hand could not have entitled himself to a patent embracing the inventions of the other parties. Each inventor would undoubtedly be entitled to his own invention and no more. In the machines before the court, there are three great stages in the operations, each producing a given and distinct effect : — 1. The cutting of the iron for the nail ; 2. The gripping of the nail ; 3. The heading of the nail. If one person had invented the cutting, a second the gripping, and a third the heading, it is clear, that neither could entitle himself to a patent for the whole of a machine which embraced the inventions of the other two, and, by the same mode of operation, produced the same effect ; and if he did, his patent would be void. Some machines are too simple to be thus separately considered ; others, again, are so complex, as to be invented by a succession of improvements, each added to the other. And, on the whole, in the present case, the question for the jury is, whether, taking *Reed's* machine, and *Perkins's* machine together, and considering them in their various combinations, they are machines constructed substantially upon the same principles, and upon the same mode of operation."

One machine is the same in substance as another, if the principle be the same in effect, though the form of the machine be different. In *Boville v. Moore*, Dav. Pat. Cas. 361, 405, Gibbs, Lord C. J. said, "I remember that was the expedient used by a man in Cornwall, who endeavored to pirate the steam-engine. He produced an engine, which, on the first view of it, had not the least resemblance to Boulton and Watt's ; — where you looked for the head you found the feet, and where you looked for the feet, you found the head ; but it turned out that he had taken the principle of Boulton and Watt's — it acted as well one way as the other ; but if you set it upright, it was exactly Boulton and Watt's engine. So, here I make the observation, because I observe it is stated that one acts upwards, and the other downwards ; one commences from the bottom and produces the lace by an upward

structure; if they are substantially different combinations of mechanism, to effect the same purpose by means which are really not the same in substance, then the one will not be an infringement of the other.¹

§ 223. But, in cases where the patent is not for a combination, if the principle is applied in the same way as the patentee has applied it, then the absence of two or three things in the defendant's machine, which are mentioned in the specification,

operation, the other acts from above, and produces it by an operation downwards, but that, if the principle be the same, must be considered as the same in point of invention."

¹ *Lowell v. Lewis*, 1 Mas. 182, 191. In this case the same learned judge said: "The manner in which Mr. *Perkins's* invention is, in his specification, proposed to be used, is in a square pump, with triangular valves, connected in the centre, and resting without any box on the sides of the pump, at such an angle as exactly to fit the four sides. The pump of Mr. *Baker*, on the other hand, is fitted only for a circular tube, with butterfly valves of an oval shape, connected in the centre, and resting, not on the sides of the pump, but on a metal rim, at a given angle, so that the rim may not be exactly in contact with the sides, but the valves may be. If from the whole evidence the jury is satisfied that these differences are mere changes of form, without any material alteration in real structure, then the plaintiff is entitled to recover; if they are substantially different combinations of mechanical parts to effect the same purposes, then the defendant is entitled to a verdict. This is a question of fact, which I leave entirely to the sound judgment of the jury."

In *Gray v. James*, Peters's Circ. C. R. 394, 397, Mr. Justice Washington said: "What constitutes a difference in principle between two machines, is frequently a question of difficulty, more especially if the difference in form is considerable, and the machinery complicated. But we think it may safely be laid down, as a general rule, that where the machines are substantially the same, and operate in the same manner, to produce the same result, they must be in principle the same. I say *substantially*, in order to exclude all formal differences; and when I speak of the same result, I must be understood as meaning *the same kind of result, though it may differ in extent. So that the result is the same, according to this definition, whether the one produce more nails, for instance, in a given space of time, than the other, if the operation is to make nails.*"

will not prevent the patentee from recovering for an infringement.¹ It is in relation to this question of substantial identity, that the doctrine of mechanical equivalents becomes practically applicable. This doctrine depends upon the truth that the identity of purpose, and not of form or name, is the true criterion in judging of the similarity or dissimilarity of two pieces of mechanism. The question whether one thing is a mechanical equivalent for another, is a question of fact for the jury, on the testimony of experts, or an inspection of the machines; and it is an inference to be drawn from all the circumstances of the case, by attending to the consideration, whether the contrivance used by the defendant is used for the same purpose, performs the same duties, or is applicable to the same object, as the contrivance used by the patentee.² Hence, two things may be

¹ *Jones v. Pearce*, Webs. Pat. Cas. 122, 124. And if the imitation be so nearly exact as to satisfy the jury that the imitator attempted to copy the model, and to make some almost imperceptible variation, for the purpose of evading the right of the patentee, it may be considered a fraud upon the law and such slight variation will be disregarded. *Davis v. Palmer*, 2 Brock. 298, 309.

² In *Morgan v. Seaward*, Webs. Pat. Cas. 170, Alderson, B. instructed the jury as follows: "The first defence is, that they did not infringe the patent. That is a question of fact, with regard to which, I do not think it is at all material to recapitulate the evidence, for I understand from an intimation you have thrown out, that you entertain no doubt about it, that is, that the one is an infringement of the other. Upon that subject, the question would be, simply, whether the defendants' machine was only colorably different, that is, whether it differed merely in the substitution of what are called mechanical equivalents for the contrivances which are resorted to by the patentee. I think when you are told what the invention of the plaintiff's really is, you will see that those differences which Mr. Donkin and others point out as existing between the one machine and the other, are in truth differences which do not affect the principle of the invention. Therefore, the two machines are alike in principle, one man was the first inventor of the principle, and the other has adopted it, and though he may have carried it into effect, by substituting one mechanical equivalent for another, still you are to look to the substance, and not to the mere form, and if it is in substance an infringement, you ought to find that it is so. If in principle it is not the same, but really different, then the defendants cannot be said to have

mechanical equivalents for each other under some circumstances, which would not be so under different circumstances. Hence, also, the names as well as the forms of things are of comparatively little importance. The question to be determined is, whether, under a variation of form, or by the use of a thing which bears a different name, the defendant accomplishes in his machine, the same purpose, object, or effect, as that accomplished by the patentee; or whether there is a real change of structure and purpose.¹

infringed the patent. You will, however, when you are considering that subject, remember, that when the model of Mr. Stevens's paddles was put into the hands of Mr. Donkin, he said, at first sight, that it was exactly like the plaintiffs'; and so like was it as to induce him to say that it was precisely the same in principle, till I pointed out to him a material difference in it, and then it appeared, that though there was a similarity of execution, there was a real difference in principle, therefore it was not similar to the plaintiffs' wheel, though at first sight it had the appearance of being similar. So you see you ought to look always to the substance, and not to the form." In *Webster v. Lowther*, before Lord Tenterden, the jury, upon the evidence of *sportsmen* that the lock with a sliding bolt was more readily used in the field, particularly in wet weather, than the screw and washer, found that the alteration was a material and useful improvement; and upon evidence *by mechanics*, that a spring in a bolt was the same thing as a bolt sliding in a groove, they found that the defendant had infringed the patent of the plaintiff. *Godson on Patents*, 232, 233. Here an important advantage was gained, but it was gained by the use of a mechanical equivalent, and consequently the new advantage did not prevent the defendant's lock being an infringement on the plaintiffs'.

¹ Thus, in the old mode of making chains, the different parts of the chain were held together by one branch of the chain being linked within another, or else the different branches were connected together by holes perforated through each, and connected by a pin or screw. Subsequently, a party united these two modes, by inserting one link within the other, and perforating both by a pin. A second inventor then made a chain which united both these principles of support, but in a different manner, by using a piece of metal, called a pin, for a totally different purpose, not performing the same duties, or applicable to the same object; and it was held that he was well entitled to a patent for his invention. In the matter of *Cutler's patent*, *Caveat at the Great Seal*, *Webs. Pat. Cas.* 418, 430. In *Morgan v. Seaward*, *Webs. Pat. Cas.* 167, Sir L. Shackwell, V. C. said, "The question in the

§ 224. If the change introduced by the defendant constitutes a mechanical equivalent, in reference to the means used by the

case is simply whether the eccentric motion is produced by the adoption of the same combination of machinery by the defendants as the plaintiffs are entitled exclusively to use. Upon reading the specification, it appears that a particular combination, insisted on, is described under the item rods, bent rods, disc, and crank. If Mr. Galloway had been asked, at the time he gave this description, whether he meant the disc should revolve on a crank only, or that it should be made to revolve by any other suitable means, his reply might have been general; but as he has thought proper to specify a crank, the question to determine is, whether the eccentric axis, with a collar in the defendants' contrivance, is the same as a crank in that of the plaintiffs'. The term crank is a relative term, and might have reference to some particular piece of machinery. The arrangement adopted by the defendants is a most important variation from the invention, for instead of weakening the action of the paddle wheel, that is preserved entire, unbroken, and unincumbered. That perpetual vibration or destroying power, as it might be termed, on the outer part of the frame work that supports the wheel, is entirely avoided, and the vibration at the centre of the disc within the wheel is transferred from a part of the machinery least able to bear it to the side of the vessel, that is made strong for the purpose; and although it might be said the action of the rods on one side of the float boards might distort them a little, that inconvenience might be more than counterbalanced by other advantages. The alteration is, therefore, not merely colorable, but *prima facie* a decided improvement by the introduction into a combination of three things of that which is not noticed at all in the specification."

In *Gray v. Osgood*, Peters's Circ. C. R. 394, 398, may be found a clear illustration of the doctrine of mechanical equivalents. Washington, J., said, "In the former [the plaintiff's machine] we find the two jaws of a vice, the one fixed, and the one movable on a pivot at the top, which connects them together. In each of these jaws is fixed a cutter, the use of which is to cut off from the bar of iron as much as will be necessary to form the nail, which, being separated, falls by its own gravity into a die, which holds it by a firm gripe until the head is formed, by what is called the set, or heading die. The power which produces this double operation, is a lever of the first order, acting upon a toggle joint, which compresses the two jaws, and consequently the cutters together, and also the set in such a manner as to head the nail. But the whole is performed by the same movement of the lever.

It is impossible to describe the parts of the defendant's machine, and its operation, without using the same expressions, except that his is inverted, the pivot of the vice being below, and a lever of the second order embracing

patentee, and besides being such an equivalent, it accomplishes some other advantage beyond the effect or purpose accomplished by the patentee, it will still be an infringement, as respects what is covered by the patent, although the further advantage may be a patentable subject as an improvement upon the former invention.

the jaws with a friction roller, acting on an inclined plane made on the moving jaw of the vice, instead of the lever of the first order, and the toggle-joint. But it is in full proof, that these differences as to the lever and the friction roller, are the necessary consequences of the machine being inverted. After having made this comparison, and ascertained the mode of operation by each machine, connected with the result of each, the jury can find little difficulty in deciding whether they are the same in principle or not.

The witnesses have differed in opinion as to the comparative merit of the toggle joint in Perkins's machine, and the friction roller in Read's. If their operation is precisely the same, the difference in form does not amount to an invention of any kind.

If the friction roller is better than the toggle-joint, which seems to be the opinion of some of the defendant's witnesses, then Read has the merit of having discovered an improvement on Perkins's machine, and no more.

If the jury should be of opinion, that the parts of the two machines which I have noticed are the same in principle, and that each will by the same operation cut and head nails; then it will follow, that the forcing slide, the proximity of the cutters and dies to each other, the balance wheel, and some other additional parts in Read's machine, which give it a great and acknowledged preference over Perkins's, are merely improvements, but do not change the principle of the machine. If improvements only, what is the legal consequence? Most clearly this, and no more: that Perkins, and those claiming under his patent, have no right to use those improvements without a license from the inventor. But on the other hand, neither Read nor any other person, can lawfully use the discovery of Perkins of the principal machine without a license from him. The law wisely and with justice, discriminates between, and rewards the merit of each, by granting an exclusive property to each in his discovery, but prevents either from invading the rights of the other. If then the jury should be of opinion, that the two machines are the same in principle, it is no defence for the defendant's for using Perkins's discovery, that they have improved it, no matter to what extent." So too it is wholly immaterial that the defendant's invention is better than that of the plaintiff, unless there is a substantial difference in principle. *Alden v. Dewy*, 1 Story's R. 336, 337.

§ 225. Where the subject-matter of the patent is a manufacture, the same test of substantial identity is to be applied. In many cases of this kind, it will not be by varying in form, or in immaterial circumstances, the nature of the article, or the process by which it is produced, that a party can escape the penalties of infringement. The question will be, whether in reality and in substance the defendant has availed himself of the invention of the patentee, in order to make the fabric or article which he has made. If he has taken the same plan and applied it to the same purpose, notwithstanding he may have varied the process of the application, his manufacture will be substantially identical with that of the patentee.¹

¹ *Walton v. Potter*, Webs. Pat. Cas. 585, 607. In this case Erskine, J., said, "then there remains the first plea, by which it is denied that the defendants had infringed the patent of the plaintiff, and that depends upon whether the plan which the defendants have employed, is in substance the same as the plaintiff's, and whether all the differences which have been introduced by them in the manner of making their cards, are not merely differences in circumstances not material, and whether it is not in substance and effect a mere colorable evasion of the plaintiff's patent. The jury, it appears to me, have come to the right conclusion, that this was in effect and substance the same as the plan of the plaintiff. The plaintiff's plan is, the insertion of the teeth through India rubber, giving to the teeth the additional elasticity of the India rubber, beyond what the wire had of itself. The defendant's plan is for the same purpose. The only difference is, that the plaintiff in employing the India rubber, takes a slice either from the original block, as it is imported into this country, or from the improved block as it is used after it has been compressed, and places it upon a piece of holland, for the purpose of keeping the teeth more firmly in their places, and then afterwards placing it on the engine, by nailing that holland on the engine, or taking away the holland, and cementing the India rubber to the cylinder, giving an elasticity to the teeth of the card by the India rubber, which is next to them. The defendant's plan is to saturate a piece of cloth with India rubber dissolved, and then to lay upon the surface a further layer of India rubber on both sides, and then to insert the teeth through the substance of the cloth and the India rubber. But what is the principle upon which this becomes useful to the card, and the person who employs those cards in the carding of wool? Why it is, that there is upon the surface and the substance of the cloth the elasticity of the India rubber; that the India rubber is there in its natural

§ 226. But in regard to another class of cases, it not unfrequently happens, that the sole evidence of infringement consists in the similarity of the articles, without any direct evidence of their having been made by the same process. Similarity in appearance and structure will not of itself always establish an infringement; because the patent, though it covers the manufactured article itself, may be for the process of the manufacture. In such cases, the inference that the same process was used must be drawn from the evidence; and the rule was laid down by Lord Ellenborough, that the similarity of structure of two things is presumptive evidence of their being made in the same way.¹

state, having been brought back into its natural state by the evaporation of the material in which it had been first dissolved, for the purpose of first laying it on. The only difference, therefore, is in the mode of laying on the India rubber for the purpose of having it pierced by the teeth. That appears to me not to be a difference in principle, or a matter which so varies the plan of the defendants from the plan of the plaintiff, as to entitle them to call it a new invention, or different from the plaintiff's. It seems to me a mere difference in circumstances not material, and therefore it is an infringement of the plaintiff's right, and the verdict of the jury ought to stand."

¹ *Huddart v. Grimshaw*, Webs. Pat. Cas. 85, 91. This is a very instructive case. The plaintiff's patent was for "a new mode of making great cables and other cordage, so as to attain a greater degree of strength therein, by a more equal distribution of the strain upon the yarns." Pieces of cordage made by the defendant, were put into the hands of the plaintiff's witnesses, and from the fact that the same effect was produced in them, and from the similarity of structure, they gave the opinion that they were made by the same process as the plaintiff's. This was the question at issue, on the point of infringement. The object to be accomplished, the making a stronger rope, was clearly open to the public. Lord Ellenborough said that it had happened to him in the same morning, to give, as far as he was concerned, his consent to the granting of three different patents for the same thing; but the modes of attaining it were all different. But it did not follow that the plaintiff's *method of attaining the object* was open to the public; and therefore the question for the jury was, whether the defendant had used the plaintiff's method, or some other.

§ 227. In such cases, where the object to be accomplished is open to the public, notwithstanding the patent, provided it can be accomplished in several modes, which, as processes, are substantially different, an infringement must be in respect of the process used by the patentee. But unless it appears that the article itself could be produced by another process, constituting an independent discovery, then an infringement may be proved by the making of the article. The burthen of proof is always on the plaintiff, to show that his process has been infringed; and in the absence of direct evidence, the similarity of the effect produced will generally be sufficient to establish an infringement, and if this is aided by evidence of the use of similar apparatus, the presumption of a use of the same process will be still stronger.¹ Or, to state this in other words, where the invention, or subject-matter of the patent, is a manufacture, it is immaterial by what process it is produced, since the infringement must consist in making the same thing, whether by one process or another. But where the invention or subject-matter is the process of making a particular thing, which may or may not be made by more than one process, the inquiry will be whether it has been made by the use of the process covered by the patent. In such cases, the identity of the manufactured article is, with all the other circumstances, competent evidence, from which the jury are to infer that it was made by the process of the patentee; although there may be cases, where, from the nature of the article, this proof would be less strong, according as it appeared to be possible or probable that the article could

¹ See the preceding note and the case there cited. See also the more recent case of *Hall v. Boot*, Webs. Pat. Cas. 100, 102. Hall's patent was for a new method of singeing off the superfluous fibres upon lace, by means of the flame of gas. The evidence to show the infringement, consisted of proof that the defendant had secretly prepared a gas apparatus, similar to that used by the plaintiff, and *that lace left with the defendant to be dressed had been returned in the state to which it would have been brought by the plaintiff's process, and that similar lace had been offered for sale by the defendant.* The plaintiff had a verdict.

be made by more than one process. The burthen of proof of the infringement is upon the plaintiff throughout ; and although it does not appear that the article could be made by another process, the jury must still draw the inference, from the identity of the manufacture, if that is all the evidence, or from that and the other evidence, that it was made by the patentee's process.

§ 228. But a much more difficult class of cases arises under those patents where the subject-matter is the application of a principle, by means of a process or method, in order to produce a particular effect. We have already had occasion to consider when such an invention or discovery is the proper subject-matter of a patent. We have seen that under some circumstances, the discovery of a principle may, by application in the arts, be protected by a patent ; and we have now to consider how far the proprietor of such a patent may protect himself against the use of the same principle by others ; or in other words, what will constitute an infringement of his right.

§ 229. In this inquiry, the first thing to be attended to is the subject-matter of the patent. A clear idea is to be formed of the object of the patent ; and provided the specification properly points out what the claim of the patentee is, it is not material in what form his claim is presented, or whether, in form, the patent purports to be for a process or a manufacture. Wherever the real subject covered by the patent is the application of a principle, in arts or manufactures, the question, on an infringement, will be as to the substantial identity of the principle, and of the application of the principle ; and consequently the means, machinery, forms, or modifications of matter made use of will be material, only so far as they affect the identity of the application.

§ 230. Thus in Forsyth's patent, the subject-matter was the use and application of detonating powder as priming, for the

explosion of gunpowder; and it was held that whatever the construction of the lock by which the powder was to be discharged, the use of detonating mixture as priming was an infringement.¹ So, too, where the claim of the patentee was for "the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight and the seat act as a counter balance to the pressure against the back of such chair," it was held, that a chair made in any way upon this principle, was an infringement.² In like manner, where the principle of the invention was the welding of iron tubes by pressure of the edges of the iron, when heated, without the use of a maundrill, or other internal support, it was held that a variation from the plaintiff's mode of applying the pressure, the application of the principle being the same, was still an infringement.³

§ 231. Clegg's patent was for the application of a law of natural science respecting the motion of fluids and solids, and the alternate filling and discharging of a vessel of gas, by means of that application; the object being to obtain an instrument for measuring the quantity of gas supplied to the consumer. The scientific witnesses said, that the moment a practical scientific man had got that principle, he could multiply without end the forms in which it could be made to operate. The instrument used by the defendant was different in form and construction from that used by the patentee; but the application of the principle, by means of a varied apparatus, was the same in both; and it was held an infringement.⁴

¹ Forsyth's Patent, Webs. Pat. Cas. 95; Forsyth v. Riviere, Ib. 97, note.

² Minter v. Wells, Webs. Pat. Cas. 127, 134.

³ Russell v. Cowley, Webs. Pat. Cas. 459, 462. See the extracts in the note, *ante*, § 79, p. 69.

⁴ Cited in *Jupe v. Pratt*, Webs. Pat. Cas. 146. Alderson, B. said, "It was for measuring the quantity of gas that was supplied to every individual, in order that they might not take it without being known. 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 suc-

§ 232. In Neilson's patent, the invention consisted in the application of hot air to the blowing of furnaces by heating the air between its leaving the blowing apparatus and its introduction into the furnace, in any way, in a close vessel, exposed to the action of heat. The defendant's apparatus for this purpose was confessedly superior to what would be constructed according to the directions in the plaintiff's specification; but it was held to be an infringement.¹

ceeded. 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 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 that 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."

¹ Neilson v. Harford, Webs. Pat. Cas. 310. Parke, B. said to the jury, "If the specification is to be understood in the sense claimed by the plaintiffs, the invention of heating the air between its leaving the blowing apparatus and its introduction into the furnace, in any way, in any close vessel, which is exposed to the action of heat, there is no doubt that the defendant's machinery is an infringement of that patent, because it is the use of air which is heated much more beneficially, and a great improvement upon what would probably be the machine constructed by looking at the specification alone; but still it is the application of heated air, heated in one or more vessels between the blowing apparatus and the furnace, and, therefore, if it should turn out that the patent is good, and the specification is good, though unquestionably what the defendants have done is a great improvement upon what

§ 233. These cases show that when a party has invented some mode of carrying into effect a law of natural science, or a rule of practice, it is the application of that law or rule which constitutes the peculiar feature of his invention ; that he is entitled to protect himself from all other modes of making the same application ; and consequently, that every question of infringement will present the question, whether the different mode, be it better or worse, is in substance an application of the same principle. The substantial identity, therefore, that is to be looked to, in cases of this kind, respects that which constitutes the essence of the invention, viz., the application of the principle. If the mode of carrying the same principle into effect, adopted by the defendant, still shows only that the principle admits of the same application in a variety of forms, or by a variety of apparatus, the jury will be authorized to treat such mode as a piracy of the original invention. But of course where the variations adopted by the defendant show that the application of the principle is varied, that some other law or rule of science, or of practice, is made to take the place of that which the patentee claims as the essence of his invention, then there will be no infringement, but a substantial invention.¹

§ 234. And this brings us to the consideration of another test of the fact of infringement, viz., that which shows on the part of the defendant a substantive invention sufficient to support a patent, as for a new thing.

§ 235. There may be many different modes of obtaining the same object, and consequently if, after a patent has been obtained for a particular thing, another party, without borrowing from that patent, has invented a new mode of accomplish-

would be the machinery or apparatus constructed under this patent, it appears to me that it would be an infringement of it." See, also, the observations of the Lord Justice Clerk Hope, cited *ante*.

¹ See the cases cited, *Ante*, Part I., Ch. II.

ing the same object, he will be entitled to a patent for his discovery.¹ The fact that a party is entitled to a patent for a substantive invention, becomes a test of his infringement of a prior patent, in this way. He cannot have become entitled to a patent without the invention of something material and new, that goes to the essence and substance of the subject-matter. If what he has done is only to make a variation in certain particulars, which do not affect the principle of the invention, the subject-matter remains the same, notwithstanding such variation. But if he has produced a new subject-matter, whether it be in the mode of accomplishing a common object, or in the object itself, he has not infringed upon the subject-matter of another which was materially and essentially different.

§ 236. The application of this test is seen in a striking manner in the facts of a recent English case. The plaintiff had obtained a patent for "an invention of improvements in cards, for carding wool, cotton, silk, and other fibrous substances, and for raising the pile of woollen cloths." In his specification, he stated his invention to consist in "the application and adaptation of caoutchouc or India rubber as a substitute for the fillets

¹ Sir N. C. Tindall, C. J. in *Walton v. Potter*, Webs. Pat. Cas. 590, thus states the general principle, "Now there can be no doubt whatever that, although one man has obtained a patent for a given object, there are many modes still open for other men of ingenuity to obtain a patent for the same object; there may be many roads leading to one place, and if a man has, by dint of his own genius and discovery after a patent has been obtained, been able to give the public, without reference to the former one, or borrowing from the former one, a new and superior mode of arriving at the same end, there can be no objection to his taking out a patent for that purpose. But he has no right whatever to take, if I may so say, a leaf out of his neighbor's book, for he must be contented to rest upon his own skill and labor for the discovery, and he must not avail himself of that which had before been granted exclusively to another; and, therefore, the question again comes round to this — whether you are of opinion that the subject-matter of this second patent is perfectly distinct from the former, or whether it is virtually bottomed upon the former, varying only in certain circumstances, which are not material to the principle and substance of the invention."

or sheets of leather that were commonly used in the construction of ordinary cards, and thus giving a superior elasticity and durability to cards ;” and in describing the mode of preparing the article, stated that “the regularity of distance and uniformity of the dents or teeth of the cards were found to be better preserved by a piece of linen commonly called brown holland, or other like cloth, well glazed and cemented on to the back of the caoutchouc or India rubber ;” that the cloth so placed rendered the action of the dents or teeth less uncertain in their elastic movements ; that the cloth so cemented to the India rubber or caoutchouc was to be affixed to the cylinder or board of the ordinary carding engine by nails, but if it was to be affixed by cementing, (which he recommended as the best mode of applying the cards,) then it was desirable to remove the cloth ;” and he then proceeded to show the ordinary mode of pricking or piercing holes for the reception of the dents or teeth, the mode of cutting the India rubber, &c. The defendants subsequently obtained a patent also for “an improvement or improvements in cards for carding various fibrous substances, part of which improvements may be used as a substitute for leather ;” and in their specification they stated their invention to consist in the manufacture of a new material or substance for receiving the wire teeth, which they described to be a woven fabric of a peculiar construction, soft and porous, saturated with a solution of India rubber by being repeatedly passed through it, and then dried and submitted to pressure ; the object being to render the fabric so dealt with “extremely elastic in the direction of the thickness of the fabric, so as to impart, as it were, elasticity to the wire teeth when set.”

§ 237. The question as to the infringement was, whether the defendants had added anything material, not covered by the plaintiff’s patent, which could be considered as constituting a subject-matter distinct from that of the plaintiffs. It appeared that the difference between the article manufactured under the plaintiff’s patent, and that under the defendant’s patent,

which was complained of as an infringement, was, that in the former the caoutchouc or India rubber was cemented in slices cut from the solid block to linen cloth, or cloth made of linen and cotton, in the manner described in the plaintiff's specification, and that the latter consisted of cloth of a peculiar fabric saturated or impregnated by passing it through a liquid composed of caoutchouc or India rubber dissolved in naphtha or oil of turpentine and highly rectified coal tar oil, and afterwards drying and submitting it to pressure. The plaintiff's evidence tended to show that the article made by the defendants was a colorable imitation of that made under the plaintiff's patent; the cloth being merely placed in the centre between two strata of India rubber or caoutchouc, instead of at the back, and the India rubber, though applied in solution or in the form of a cement, being capable of being reproduced by evaporation of the solvent, and the principle and the result of both methods being the same, viz., the acquisition of an increased elasticity, though the modes of attaining that result were somewhat different. It was also sworn, that, for the purpose of the plaintiff's patent, caoutchouc or India rubber might be used either in the state in which it is imported, or in a manufactured state, that is, dissolved by certain known solvents, and afterwards by evaporation of the solvents, restored to solid blocks; but that, if free from air-holes, (in which state it was *possible* to obtain it,) it was more desirable to have it in its natural state, its elasticity being somewhat diminished by the artificial process.

§ 238. On the part of the defendants, several witnesses, as well practical as scientific, were called, who stated that the principle of the manufactures respectively described in the specifications of the plaintiff and defendants, was essentially different, as well in the materials used and the mode in which they were put together, as in the operation or result of their combination; the one process being wholly mechanical, the other strictly chemical, and the effect of the former being to give *elasticity*, and of the latter to give strength and *flexibility* or

pliancy, but imparting only a very slight additional elasticity to the card; that the proportion which the India rubber bore to the cloth as used by the plaintiff, was generally about three to one, whereas the proportion of India rubber solution used by the defendants was from twenty to forty per cent. only; and that India rubber as imported was wholly unfit for the purpose described in the plaintiff's specification, never being sufficiently free from imperfection.

§ 239. Upon the issue of not guilty, the jury found a verdict for the plaintiff, thereby establishing that the defendant's card was an infringement of the plaintiff's, both employing the elasticity of caoutchouc next the teeth, and the defendant's practising by a circuitous mode that which falls within the claim of the plaintiff's patent.¹

¹ *Walton v. Potter*, Webs. Pat. Cas. 585, 597; 4 Scott's N. R. 91. On the application for a new trial, Maule, J. said, "With respect to the issue of not guilty, in order to determine whether or not the verdict has been correctly found for the plaintiff on that issue, it is necessary to consider what is the subject of the defendant's patent; for it is quite clear that what the defendants have done they claim to do under their patent. By their specification the defendants claim to be the inventors of a new material for forming the backs of cards; and they describe the mode of preparing it thus, viz., 'by repeatedly passing a woven fabric of a peculiar construction through, and saturating it with, a solution of caoutchouc or India rubber, and then drying it in order to evaporate the solvents, and leave the fabric impregnated and coated with caoutchouc or India rubber, and afterwards submitting it to pressure;' and the object they describe as being to render the fabric so dealt with, 'extremely elastic in the direction of the thickness of the fabric, so as to impart, as it were, elasticity to the wire teeth when set.' That is, in effect, producing by a circuitous process a cloth with a layer of caoutchouc or India rubber on each side of it, so as to give a great degree of elasticity to the basis of the dents or teeth of the card. The plaintiff, by his specification, claims the exclusive right of making cards with caoutchouc or India rubber, as the fillet, or sheet, or medium in which the dents or teeth are to be set; the object being, like that of the defendants, the attainment of a superior degree of elasticity and durability; and in describing his mode of attaining that object, he states that he inserts the wire dents or teeth in a foundation, or fillet of caoutchouc or India rubber—a slice of India rubber

§ 240. But, if the defendants, in this case, could have succeeded in showing that the materials of which they made their cards, and the mode in which they were put together were different from the materials and method of construction used by the plaintiff; if they could have satisfied the jury that the difference expressed by saying that the one process was mechanical and the other chemical, was a real and substantial, and not a colorable difference; then they would, notwithstanding the former patent of the plaintiff, and notwithstanding that the objects of both were the same, have appeared to be the authors of a substantive invention, because they would have produced a distinct subject-matter, new in all material respects, of a useful character, and therefore capable of supporting an independent patent. But it appeared that the plaintiff's patent covered the use of India rubber combined with cloth, as a fillet or sheet, for the backs of cards, in which to insert the teeth, in order to accomplish certain purposes; and that the mode in which the defendants brought these same materials into combination, for the same purposes, was only a circuitous mode of doing what the plaintiff had done, and therefore that they had produced nothing new, material to the principle and substance of the invention.

§ 241. On the other hand, where the plaintiff had a patent

in its natural state — and that with a view to preserve the regularity of distance and uniformity of the dents or teeth, and to render their action less uncertain, he cements to the back of the caoutchouc or India rubber a piece of brown holland or other like cloth. The plaintiff does not confine his claim to using India rubber by means of slicing it; he claims the exclusive right of making cards, by fixing the dents or teeth in India rubber, using for that purpose cloth, some texture of linen or cotton. In some instances he says, the cloth may be removed. That does not, in point of fact, make it less a part of the process, by which he applies cloth, for the putting the dents into the layer of India rubber. If that be so, I think it is evident the defendants claim to do a thing falling within the generality of the plaintiff's claim. Taking that to be so, the evidence is abundant to justify the jury in finding; and it seems to me to require them to find for the plaintiff." See also the observations of Erskine, J. cited *ante*.

for producing an effect in the manufacture of iron, said to be altogether new, by a mode or process, or series of processes unknown before, it being for a combination of processes altogether new, leading to one end; and the defendants had used the same ingredients, but in different proportions, which constituted a mode of working essentially different from that pointed out in the specification, it was held that there was no infringement. The plaintiff's invention in this case consisted in rendering available the slags or cinders produced in the manufacture of iron; and also in the use and application of lime, subsequent to the blast furnace, in order to prevent the quality called "cold short;" and his specification pointed out the proportion of slags, mine rubbish, coke and limestone, to be used for the production of the effect. To prove the infringement, a witness in the employ of the defendants was called, who stated that he had seen the plaintiff's specification; that since the date of the patent the defendants preserved cinders, which they had not done before, and produced pig-iron, by mixing them with mine rubbish, and that in the subsequent processes they applied quick-lime to prevent the iron from being "cold short." But he stated that the defendants did not work by the plaintiff's specification, but used very different proportions, viz. lime in the refinery furnace in about the proportion of one hundred and twentieth part to the whole charge of pig-iron, and that they used none in the puddling furnace, and that the defendants had used slags in the puddling furnace for years before the date of the patent. He also proved that the proportions of mine rubbish, as laid down in the specification, were not essential to the success of the process; that the defendants had been in the habit of varying those proportions, and that they once entirely omitted mine rubbish, when the result was most successful.¹

§ 242. Now, this patent was one of that class in which proportions or degrees, when specified as the mode in which a par-

¹ Hill v. Thompson, Webs. Pat. Cas. 225, 232, 233.

ticular effect is to be produced, make a part of the essence of the invention. A discovery may consist in the effect produced by the union of certain ingredients or agents; but if a particular proportion is supposed to be necessary to the effect, and is claimed as entering into the production of that effect, the subject-matter of the patent will be the use of the particular ingredients in that particular proportion; and if the same ingredients in different proportions, or a part of the same ingredients in other proportions, are used by another person to produce a similar beneficial effect, more or less advantageous, that person will have discovered a new subject-matter, and consequently will not have infringed the right of a patentee, whose invention depends on the proportions which he has specified. Accordingly it was held in this case that, the defendant's mode of working being essentially different from the specification of the plaintiff, they had not infringed his patent; and if we apply to the reasoning of the court, the test of a sufficiency of invention on the part of the defendants to support a patent, as for a new discovery, it will be seen that the same facts will lead to that result, which show that the plaintiff's patent had not been infringed.¹

¹ Dallas, J., delivering the judgment of the court, said: "To prove the infringement, one witness only was called; and this part of the case depends, therefore, entirely upon his testimony. And, before adverting to the evidence in question, it will be necessary to look to the patent, as far as it relates to this part of the subject. It has not been contended that it is a patent introducing into use any one of the articles mentioned, singly and separately taken; nor could it be so contended, for the patent itself shows the controversy; and if it had been a patent of such a description, it would have been impossible to support it; for slags had undoubtedly been made use of previously to the patent, so had mine rubbish, and so had lime. But, it is said, it is a patent for combinations and proportions, producing an effect altogether new, by a mode and process, or series of processes, unknown before; or, to adopt the language made use of at the bar, it is a patent for a combination of processes altogether new, leading to one end; and this being the nature of the alleged discovery, any use made of any of the ingredients singly, or any use made of such ingredients in partial combination, some of them being omitted, or any use of all or some of such ingredients, in proportions essentially different from those specified, and yet producing a result equally beneficial (if not

§ 243. The superior utility of one thing over another, will sometimes furnish an important test upon this question of iden-

more so,) with the result obtained by the proportions specified, will not constitute an infringement of the patent.

“ It is scarcely necessary here to observe, that a slight departure from the specification, for the purpose of evasion only, would, of course, be a fraud upon the patent, and, therefore, the question will be, whether the mode of working by the defendant has, or has not, been essentially or substantially different. For this, we must look to the evidence of E. Forman; and he being the single witness to the point, by his testimony this part of the case must stand or fall. It may be difficult entirely to reconcile different parts of his evidence with each other, if his answers to the several questions be taken separately and detached; but looking to the result, it seems to be clear. On the part of the plaintiff he proves, that, before the patent was taken out, the defendants were not in the habit of making use of slags, and that his attention being called to the subject by the patentee in the first instance, and then by the patent itself, he has made use of them uniformly since; he has since also, at times, used mine rubbish, and also lime, which last, he also admits, was used to prevent the ‘cold short,’ which defect he allows was and is thereby prevented. So far, therefore, he proves separate use and occasional combination. He is next asked, as to the proportions mentioned in the patent: ‘Did you apply the lime in these proportions?’ — his answer is — ‘I say, no, to that.’ ‘Have you worked by the specification?’ — ‘No, we did not.’ He then explains in what respects they departed from the specification. This is his evidence on the examination-in-chief. On the cross-examination, he says, that the proportions used were very materially different, and that the proportions in the patent are not essential; that it would make no difference to him if he were to be restrained from using these proportions, and that the result would be better obtained by materially departing from them; indeed, by almost losing sight of them altogether. With respect to slags, on reconsideration, he states that the defendant had used slags previously to the patent, in the puddling furnace, for months together. As to mine rubbish, he says, we varied the proportions, and we found, in experience, that the use of it was best without reference to the preparations and restrictions pointed out in the specification, and when omitted, the result was best of all. It is true, he afterwards states, that this omission took place when he was absent from home, and that, on his return, he ordered the mine rubbish to be restored; and in this respect, and going to this single point, there appears to be an inconsistency. But still, as the case stands on his single evidence, if, in substance and result, it proves a mode of working essentially different from the specification, the foundation of the plaintiff’s case is altogether gone. And the rule is, in this respect, strict, as stated by

tity. It is not always true that one machine, for instance, is not an infringement upon another, because it is better than the other; for it may contain the whole substance of that other machine, and something in addition which makes it better; or the patent may have been taken for an entire machine, substantially new in its structure, and the machine complained of may contain some substantial operating part of the machine patented, and so infringe. But where the patent is for some one operating part of a machine, designed to effect a particular end, and the machine complained of effects that end materially better, by the use of means which are in point of fact different, then the two modes of operation are not the same under the patent law. In other words, when the means employed are, in point of fact, not the same, or a known mechanical equivalent, and the ques-

Mr. Justice Buller, in the case of *Turner v. Winter*, (Webs. Pat. Cas. 77.) In that case, the learned judge expressed himself in these words: 'Whenever the patentee brings an action on his patent, if the novelty or effect of the invention be disputed, he must show in what his invention consists, and that he procured the effect proposed, in the manner specified (Webs. Pat. Cas. 81);' and in another part of the same case, he adds: 'Slight defects in the specification will be sufficient to vacate the patent (Webs. Pat. Cas. 82);' and speaking of degree and proportion, he says: 'The specification should have shown by what degree of heat the effect was to be produced.' In that case, as in a great variety of others, instances may be found to show the strictness of the law, as bearing upon this point, either in regard of omission, or of superfluous addition, or of uncertainty or insufficiency in quantities proposed. But, further, the evidence so applied does not confine itself to this point only; for it disproves also utility, as far as it depends on combination and proportion, leading and conducing to a specific result. Neither can it be justly said, that the use of the separate ingredients, or some of them partially combined, is a use made of the invention in part, so as to support the counts adapted to such partial use; because, as it has been already observed, and will more particularly be adverted to hereafter, each of the ingredients had before been separately used, and had been used, more or less, in partial combination.

"On the whole, our opinion is, as to this part of the case, that, considering the evidence of *Forman*, in its substance and result, and with reference to the peculiar nature of the patent, an infringement of the patent is not thereby proved." *Hill v. Thompson*, Webs. Pat. Cas. 244, 245, 246.

tion to be determined is, whether they are, under the patent law, the same in substance, or, as it is usually called, the same in principle, superior utility settles that question. Two things are not the same under the patent law, when one is practically, substantially better than the other, and this improvement is not gained by the use of known mechanical equivalents.

§ 244. This view of the patent law relieves it in a great degree from the uncertainties which have arisen from the loose and indeterminate sense, in which the word "principle" has been employed; and, at the same time, it is in exact accordance with the great purposes, as well as with the particular provisions of that system of law. Its leading purpose was to encourage *useful* inventions. Practical utility was its object; and it would be strange, if, with such object in view, it should consider two things as substantially the same, which, practically and in reference to their respective utility, are substantially different. And although this test has not seldom been lost sight of, in the trial of patent causes, yet there is nowhere any authority opposed to it, and there is certainly much in its favor.¹

¹ Thus, in *Davis v. Palmer*, 2 Brock. 310; Mr. Chief Justice Marshall states the principle clearly. He was commenting on the clause in the old patent law, that "simply changing the form or the proportion of any machine, shall not be deemed a discovery;" and he says, "in construing this provision, the word 'simply' has, we think, great influence; it is not every change of form and proportion, which is declared to be no discovery, but that which is simply a change of form and proportion, and nothing more. If by changing the form and proportion a *new effect* is produced, there is not simply a change of form and proportion, but a *change of principle also.*" To the same effect are the following cases: *Earle v. Sawyer*, 4 Mas. 1, where the substitution of a circular saw, in place of a reciprocating saw, in a shingle machine, was held to be a patentable improvement. — *Davol v. Brown*, 1 Woodb. & M. 53, where the arrangement of bowed flyers, in a fly-frame, in two rows, was held to be patentable, although open-bottomed flyers had previously been arranged in two rows, and geared in the same way, and bowed-flyers had been arranged in the one row with like gearing. — *Russell v. Cowley*, Webs. Pat. Cas. 464, where it was held, that tubes having been welded by grooved rollers on a maundrill, it was a patentable improvement to weld them by grooved rollers without a maundrill; and Lord Lyndhurst