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THE

Infringement of Patents

FOR INVENTIONS, NOT DESIGNS,—

WITH SOLE REFERENCE TO THE OPINIONS OF THE SUPREME COURT OF THE UNITED STATES.

BY

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OF THE CLEVELAND BAR.

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"A question arising in regard to the construction of a statute of the United States concerning patents for inventions can not be regarded as judicially settled when it has not been so settled by the highest judicial authority which can pass upon the question. . . . No question arising in any such case reviewable by this court, can be regarded as finally settled, so as to establish the law for like cases, until it has been determined by this court."—*U. S. Supreme Court*, 1888.

PREFACE.

The doctrine of the Supreme Court of the United States, touching the subjects herein considered, is presented without personal discussion.

THOS. B. HALL.

CLEVELAND, O., *March* 1, 1893.

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THE INFRINGEMENT OF PATENTS.

PATENT INFRINGEMENT.

§ 1. Question touching the matter of infringement of a patent involves the consideration of four subjects, as follows:

Subject I: License under the Patent.
Subject II: Identity of the Invention.
Subject III: Validity of the Patent.
Subject IV: Recovery for Infringement.

SUBJECT I.

LICENSE UNDER THE PATENT.

§ 2. This subject may be considered under ten heads, as follows:

Head I: License—Before Patent Application.
Head II: License—By Damage Recovery.
Head III: License—In Sold Article.
Head IV: License—To Repair.
Head V: License—Duration of.
Head VI: License—Assignability of.
Head VII: License—Annulment of.
Head VIII: License—By Patent Part Owner.
Head IX: License—By Sectional Grantee.
Head X: License—Of Foreign Law.

HEAD I OF SUBJECT I.

License—Before Patent Application.

§ 3. It has been held that, under premises previous to our present legislation hereon, employers of an inventor could legally use his patented invention,—such premises being: Experiments of the invention conducted wholly at the employers' expense, while the inventor is receiving wages which latter are subsequently increased on account of the successful invention; the inventor permitting the employers to use his improvement for about three months, and not giving them notice not to use it until upon some misunderstanding between them touching another subject, and his leaving their employ; the application for patent being made subsequently to said three months' use by the employers.

§ 4. Under the 1839 statute hereon, it was held: that a surreptitious making of an invented machine, prior to the patent application thereon, did not give right to use such machine after the date of the patent; and also, that if such machine was built under the impression sanctioned by the inventor, that the latter gave his consent thereto,—then such machine could legally be used after date of the patent. Our present form of statute—first enacted in the Patent

3. McClurg *v.* Kingsland, 1843, 1 How. 202.

Act of 1870, and continued in the Revised Statutes of 1874—provides in its terms that the purchase must have been from the inventor, or the construction have been with the inventor's knowledge and consent,—in order to give right to use the machine after issue of the patent.

§ 5. An implied license in favor of an implement-manufacturing corporation to manufacture and sell for use a certain patented implement, is the utmost that can be made out of the following premises: The superintendent of the corporation being engaged on a salary, to make improvements in the class of implements which such corporation was manufacturing and selling as its business; he inventing the patented implement under such class, during such engagement, in the factory of the corporation, during regular working hours; his helpers and workmen in perfecting such invention, being at the expense of the corporation, and all material used being that of the corporation; he permitting the corporation to enter upon and continue for many months the manufacture of such implement previously to his application for patent, and without intimation of any exclusive right on his part to the use of the invention.

§ 6. It has been said that under the 1839 statute, it might well be a surreptitious purchase, construction,

4. Kendall *v.* Winsor, 1859, 21 How. 322.
5. Hapgood *v.* Hewitt, 1886, 119 U. S. 226.

or use of an invention, prior to the patent application, did not give licensē touching such invention after the patent issued.

§ 7. A specific machine, which embodies the patented invention of one member of a business firm, and which was built by the firm, with the knowledge and consent of the inventor, before his application for patent thereon,—is property of such firm, clear from and outside of the monopoly of said patent.

§ 8. An employer may, notwithstanding a patent, continue to use, without charge, the specific machines, built and put in use in his business place by the inventor, knowingly and willingly, while the latter was an employee, previously to his application for patent thereon.

§ 9. If an employee makes an invention for carrying on the work in which he is employed, and consumes the property of his employer and the work of other employees to embody such invention, and clearly acquiesces in his employer using the latter,—such employer has an irrevocable license to use said invention, notwithstanding a patent thereon be granted to such inventor.

6. Andrews *v.* Hovey, 1888, 124 U. S. 694.
7. Wade *v.* Metcalf, 1889, 129 U. S. 202.
8. Dable Grain Shovel Co. *v.* Flint, 1890, 137 U. S. 41.
9. Solomons *v.* United States. 1890, 137 U. S. 342.

HEAD II OF SUBJECT I.

License—By Damage Recovery.

§ 10. Full damages in a judicial recovery are usually given for the making and the selling of the patented thing to be used,—and not, merely for the making or the selling of the patented thing, without the using thereof.

§ 11. Infringement damages should not be estimated for the entire term of the patent, but merely for the time of the infringement. A recovery of infringement damages does not give the infringer a right to continue his use of the infringing thing.

§ 12. Recovery of damages, *per se*, in an infringement suit, does not work an implied license under the patent, touching future use of the infringing article in suit. If a money recovery in an infringement suit provides full satisfaction for all infringement on the part of the specific article in suit, throughout the life of the patent,—then such article is thereby cut from out the monopoly of the patent.

10. Hogg *v.* Emerson, 1850, 11 How. 587.
11. Suffolk Co. *v.* Hayden, 1866, 3 Wall. 315.
12. Birdsell *v.* Shaliol, 1884, 112 U. S. 485.

HEAD III OF SUBJECT I.

License—In Sold Article.

§ 13. This head does not consider any matter of license under extension of a patent.

§ 14. When a patentee, or a person acting under his authority, unconditionally sells an article which embodies the patented invention, his exclusive right to the latter, in so far as concerns said sold article, is thereby parted with,—and the purchaser may treat such article as his own property in every particular.

§ 15. A sale of a patented machine, by one who at the time of such sale does not own the patent, but who, subsequently to such sale, becomes the owner of the patent,—estops him from then saying that a use of said sold machine by the vendee is an infringement of said patent.

§ 16. If a party owns a patent for machinery commonly used for carrying out one of the three

14. Bloomer *v.* McQuewan, 1852, 14 How. 539.
Chaffee *v.* Boston Belting Co., 1859, 22 How. 217.
Bloomer *v.* Millinger, 1864, 1 Wall. 340.
Mitchell *v.* Hawley, 1873, 16 Wall. 544.
Adams *v.* Burke, 1873, 17 Wall. 453.
Birdsell *v.* Shaliol, 1884, 112 U. S. 485.

15. Gottfried *v.* Miller, 1882, 104 U. S. 521.

steps constituting a process invention, upon which process said party owns an independent patent,—a sale of such patented machinery, without any thing being said about the process, does not give consent of said party to a use of his patented process, the use of such sold machinery not necessarily involving the use of said process invention.

16. Lawther *v.* Hamilton, 1888, 124 U. S. 1.

HEAD IV OF SUBJECT I.

License—To Repair.

§ 17. A purchaser of a patented machine or article may lawfully repair or restore the same, but he can not make it anew, nor reconstruct nor replace it. Temporary parts wearing out in the machine can be replaced to preserve the machine. The sale of a planing machine having cutting knives, which latter wear out and must be replaced every sixty or ninety days, while the machine lasts for several years of use, authorizes the purchaser to replace the worn knives by new ones.

§ 18. If a patent owner makes an unconditional sale of one of the patented machines, the buyer may repair such machine or improve it, the same as he could if not patented.

§ 19. A patented cotton-tie, consisting of a buckle and band, is not repaired under the doctrine of the right to repair a patented article, when—the band having been voluntarily severed, and thus the function of the tie for use designedly destroyed—the severed pieces are then cold-rolled and riveted together, and combined with the old buckle.

17. Wilson *v.* Simpson, 1850, 9 How. 109.
18. Chaffee *v.* Boston Belting Co., 1859, 22 How. 217.
    Mitchell *v.* Hawley, 1873, 16 Wall. 544.
19. Cotton-Tie Co. *v.* Simmons, 1882, 106 U. S. 89.

HEAD V OF SUBJECT I.

License—Duration of.

§ 20. A license to a person to make, and to use, and to license to others the right to use, certain patented machines for certain express period of time only, and limiting all right of use of such machines to said period,—is not good beyond such time, on behalf of a purchaser of said machines from said licensee.

§ 21. A license may be of such character, that if its terms be for a certain express period of time, without words which extend it to an executor, administrator or assignee, voluntary or involuntary,—it is to be construed as though it read that it was to continue throughout such period, provided the licensee or the patent should not previously expire; and the death of such licensee, before the termination of said express period, can not continue the license beyond the life of the licensee, for the benefit of his estate.

§ 22. A license from the patent owner to make, use and sell the patented machines, continues for the life of the patent.

20. Mitchell *v.* Hawley, 1873, 16 Wall. 544.
21. Oliver *v.* Rumford Chemical Works, 1883, 109 U. S. 75.
22. Birdsell *v.* Shaliol, 1884, 112 U. S. 485.

§ 23. Notwithstanding a license under a patent be not an exclusive license, yet if the terms thereof make no provision as to length of time it is to run, —such contract of license continues until the expiration of the patent.

23. St. Paul Plow Works *v.* Starling, 1891, 140 U. S. 184.

HEAD VI OF SUBJECT I.

License—Assignability of.

§ 24. If a license be merely to a party, without terms in favor of his assigns, or language to show that it was intended to be assignable,—such license is personal only, and can not be transferred.

§ 25. It has been said that a license whose terms were that A, his executors, administrators and assigns should have right to use the patented invention at A's own establishment for certain specified purpose only, and that such license should not be disposed of to others for that purpose without the consent of the licensor,—gave A no right to license others to use the invention together with himself, or otherwise, without the licensor's consent; and that the invention was to be used at A's own establishment, in distinction from an establishment of himself and others.

§ 26. A license may be of such character that, if its terms read for a certain definite period, without language which extends the licensed right to an executor, administrator or assignee, voluntary or involuntary—and if such licensee dies before the expira-

24. Troy Iron and Nail Factory *v.* Corning, 1852, 14 How. 193.
25. Rubber Co. *v.* Goodyear, 1870, 9 Wall. 788.

tion of the licensed period, the license is not good for the personal representative of the licensee during the balance of said express license period.

§ 27. If a corporation merely has an implied license to make, use and sell a patented invention,—such corporation can not upon its dissolution, effectually transfer such license to a second corporation, notwithstanding the stockholders of the latter be the same as those of the licensed corporation, and such second corporation be the business successor of the licensed corporation, and the assignee of all its assets, —including said license.

26. Oliver *v.* Rumford Chemical Works, 1883, 109 U. S. 75.

27. Hapgood *v.* Hewitt, 1886, 119 U. S. 226.

HEAD VII OF SUBJECT I.

License—Annulment of.

§ 28. In a certain case, the bill set forth: that complainant had given a license to defendants to use a patented machine,—which license provided in terms that if any one of certain promissory notes, given as part of the consideration for the license, was not punctually paid when due,—then all right of such license should revert to the licensor, and the latter should be re-invested the same as if said license had not been made; that certain of said notes were not paid when due, and that payment had been demanded and refused previously to the bill; that the license was thereby forfeited, and the licensed right was re-invested in the licensor; that defendants were using said machine, and were thus infringers of the patent. The bill prayed for injunction, for an accounting of profits subsequent to such forfeiture, for a re-investiture of title to the license in complainant, and for other relief. Our Supreme Court decided that the suit was not an infringement suit, inasmuch as the injunction asked for against further use of the machine as an infringement,—was to be the consequence of a decree sanctioning forfeiture of the license; and such matter in dispute, not arising under the federal patent laws, could not be heard upon appeal from the decree

below, dismissing the bill, because the amount in contention did not exceed two thousand dollars.

§ 29. If, under a subsisting oral contract between A and B touching B's use of A's patented process, A has sold to B a machine of no use other than for said process, and B has bought other machinery valueless except for same use, and has paid royalty to A for use of said process during certain past time, and neither denies the validity of the patented invention nor his use thereof, but desires to continue royalty payment under the contract, and A and B differ about minor terms of said contract,—neither one can of his own will rescind the latter, but annulment thereof can be effected only by their mutual agreement or by the decree of a court.

§ 30. A patent license, which has nothing on its face touching its termination, can not be annulled during the life of the patent, solely by the licensee. It has been said that, except by agreement or fault of the licensor, the licensee can not rescind the license; and that otherwise, the license can only be disposed of under a suit to set it aside; but that if a licensee renounce his license, the licensor may acquiesce in such renunciation, and treat said licensee as an infringer regarding all further employment of the patented invention.

28. Wilson *v.* Sandford, 1850, 10 How. 99.

29. Hartell *v.* Tilghman, 1879, 99 U. S. 547.

30. St. Paul Plow Works *v.* Starling, 1891, 140 U. S. 184.

HEAD VIII OF SUBJECT I.

License—By Patent Part Owner.

§ 31. This head is confined to a technical part-owner of a patent,—owning an undivided part of the entire right of the patent throughout our entire federal territory.

§ 32. It has been decided that A was not an infringer of a patent, by use of one of the patented machines under the following premises: A bought the machine of B, who then did not own any right under the patent, but who subsequently became one of three part-owners of the patent; the two other part-owners, C and D, gave B a release of all claim which they might have against him or any one whom he had licensed to use the invention. In rendering such decision, the Court said that it did not undertake to decide that C and D were precluded from recovery against A, by reason of the license in the sale of the machine, by B,—without said release on their part.

§ 33. It has been said that if certain ones of the part-owners of a patent give their assent to the transfer, and license for use, of a patented machine

32. Gottfried *v.* Miller, 1882, 104 U. S. 521.

by the remaining part-owner,—they are thereafter in no position to claim adversely to the use of such machine by the party taking title under such transfer and license.

33. Paper-Bag Cases, 1882, 105 U. S. 766.

HEAD IX OF SUBJECT I.

License—By Sectional Grantee.

§ 34. This head considers to what extent, and under what circumstances, a license given by a sectional grantee under a patent, is good outside of the specific territory covered by his sectional grant,—the latter term being understood in its technical sense of the entire exclusive right of the patent for a prescribed territory less than the whole federal territory.

§ 35. It is an infringement for any one, including the patentee, to make, use or sell the patented invention within the territory of a sectional grantee, without license under the latter's right.

§ 36. A sectional grant under a patent on a machine, restricts the sectional grantee to use of such machine within his given territory.

§ 37. It has been decided that a patented article which after its first use is incapable of further use—like a coffin—and which is made and sold by a sectional grantee within his territory, may be lawfully used by the purchaser, within the territory of another sectional grantee. The case was as follows: Lock-

35. Wilson *v.* Rousseau, 1846, 4 How. 646.
36. Simpson *v.* Wilson, 1846, 4 How. 709.

hart and Seelye jointly owned a sectional grant for certain territory under a patent on a coffin; Adams owned a sectional grant for independent territory under the same patent, by a deed made subsequently to Lockhart and Seelye's deed; Burke purchased certain of the patented coffins from Lockhart and Seelye, said coffins having been made by the latter within their territory and there unreservedly sold to Burke; Burke carried such coffins into Adams' territory, and there used them in his business as an undertaker. A majority of our Supreme Court decided that said use by Burke was not an infringement of Adams' right under the patent. The court opinion undertook to deal only with the particular case in hand, and narrowly restricted itself to the peculiar character of the patented article, capable of but a single use,—but made no mention of the relative dates of the two sectional grants in question.

§ 38. It has been decided that an egg transportation case, which is made and sold by an earlier sectional grantee within his territory, may be received, when filled with eggs, by a commission merchant, who sells the eggs, within the territory of a later sectional grantee, without infringement of the latter's right. The case was as follows: Billings was a sectional grantee for certain territory under a patent for an egg transportation case; McKay was a sectional grantee for independent territory under the same patent, by

37. Adams *v.* Burke, 1873, 17 Wall. 453.

a deed made subsequently to Billings' deed; Billings made certain of said transportation cases within his territory, and there unreservedly sold them to Evans; Wooster received such transportation cases, filled with eggs, from Evans, within McKay's territory, and there sold the eggs on commission. The court below dismissed the bill of infringement, brought by McKay against Wooster; the ground of such dismissal, as set forth in the opinion, being that Billings' sectional grant was prior in time to McKay's sectional grant. Our Supreme Court, December 15, 1873, affirmed such decree below, without opinion,—and the appealed case does not appear in any reports.

38. McKay *v.* Wooster, 1873. No report.

HEAD X OF SUBJECT I.

License—Of Foreign Law.

§ 39. A certain article, embodying a United States patent invention, lawfully made and sold in a foreign country, can not be brought within our country, and be here sold, without a license from the owner of the United States patent. The case was as follows: Previously to the grant of the United States patent in suit, a German patent had been granted for the same invention, to the same joint inventors who subsequently secured the grant of the United States patent; the German law provided that a patent should not affect any person who, at the time of the patent application, had prepared to use the invention in that country; a German court had decided that under such law, a certain German manufacturer could continue to make, use and sell the patented article, without infringement of the German patent; A, residing in the United States, purchased in Germany certain of the patented articles, made and sold by said German manufacturer in Germany; A imported such purchased articles into our country, and here sold them, without license under the United States patent,—which sale was an infringement of the latter patent.

39. Boesch *v.* Graff, 1890, 133 U. S. 697.

SUBJECT II.

IDENTITY OF THE INVENTION.

§ 40. The identity of the invention covered by a patent, is determined by four factors, as follows:

Factor I: The Patent Claim.
Factor II: The Patent Specification.
Factor III: The Patent Application Record.
Factor IV: The Rule of Equivalents.

§ 41. This subject may be resolved into six heads, as follows:

Head I: The Patent Claim.
Head II: Claim,—Narrow.
Head III: Claim,—Broad.
Head IV: The Patent Specification.
Head V: The Patent Application Record.
Head VI: The Rule of Equivalents.

HEAD I OF SUBJECT II.

The Patent Claim.

§ 42. If a patentee contends that certain mechanical construction, described in the specification, is not a substantial or essential part of his invention,—the question is whether such construction is claimed. If it is claimed, it is in law a material part of the patented invention.

§ 43. The drawings, specification and claims of a patent are to be construed together, as constituting one written instrument; but such drawings and specification are to be considered, only to aid in proper understanding of the claim.

§ 44. The distinction between what the patentee admits to be old and what he holds to be new with him, is effected by the claim. He, in law, says that, so far as concerns the patent in question, every thing which is not pointed out in the technical summary of claim at close of the specification, is public property. The claim may in terms refer to the specification, as setting forth the substantial form of the invention; and such reference is frequently needful to restrict or to widen the form of the claim.

42. Carver *v.* Hyde, 1842, 16 Pet. 513.
43. Brooks *v.* Fiske, 1853, 15 How. 212.
44. Corn Planter Patent, The, 1874, 23 Wall. 181.

§ 45. The claim must be definite and plain, so that the public may know what is, and what is not, included under the patented invention.

§ 46. A claim must be construed according to reason, in like manner as other written provisions are construed; and if its meaning is in itself doubtful, resort must be had to the specification to aid in discovering the meaning of its terms.

§ 47. If the construction and attendant advantage of the invention which is set forth in the claim of a patent, be not found in the alleged infringing article,—it is immaterial if the latter has certain construction and advantage which is disclosed in the patent, but not distinctively claimed thereby.

§ 48. To claim a certain improvement, and omit to claim other improvement apparent in the patent, is in law a statement that the improvement which is not claimed, either is not the patentee's invention, or is dedicated to the public.

§ 49. The claim is a solemn notice to the world that, so far as concerns the particular patent, every thing not specifically set forth in its technical claim, is

45. Merrill *v.* Yeomans, 1877, 94 U. S. 568.
46. Bates *v.* Coe, 1878, 98 U. S. 31.
47. Burns *v.* Meyer, 1880, 100 U. S. 671.
48. Miller *v.* Brass Co., 1882, 104 U. S. 350.

thereby disclaimed. Even if such unclaimed matter be the lawful invention of the patentee,—the same thereby becomes public property.

§ 50. A claim is not like a nose of wax, to be shaped in any direction by reference to the specification,—inasmuch as the latter can not make a claim mean any thing different from that which its words express. But the specification may enable the meaning of the terms of the claim to be the better understood.

§ 51. A claim is to be construed, but not changed, by the specification.

§ 52. Nothing can be an infringement of a patented invention, which is not according to the statement which the patentee has employed in electing statement to set forth his invention.

49. Mahn *v.* Harwood, 1884, 112 U. S. 354.
50. White *v.* Dunbar, 1886, 119 U. S. 47.
51. Howe Machine Co. *v.* National Needle Co., 1890, 134 U. S. 388.
52. McClain *v.* Ortmayer, 1891, 141 U. S. 419.

HEAD II OF SUBJECT II.

Claim,—Narrow.

§ 53. The patent itself furnishes distinct evidence of the thing invented,—and the latter does not depend upon what part of the specification and claim a jury might deem material.

§ 54. If a party entirely omits from the construction of his machine, one of the elements of the patented combination, without substituting any other element,—he does not infringe.

§ 55. A person is not an infringer of a patented combination, if his combination does not use one of the elements of the patented combination,—but uses a substantially different element therefrom.

§ 56. It has been said that the law does not construe a patented invention, broader than is clearly pointed out and distinctly stated in the patent claim.

§ 57. A combination is a complete thing; a part

53. Vance *v.* Campbell, 1862, 1 Black. 427.
54. Gould *v.* Rees, 1872, 15 Wall. 187.
55. Dunbar *v.* Myers, 1876, 94 U. S. 187.
56. Keystone Bridge Co. *v.* Phœnix Iron Co., 1877, 95 U. S. 274.

of it can not be abandoned or held to be immaterial. The claim, as it is made, is fixed.

§ 58. The claim controls as to any limitation of the thing patented, irrespectively of any lawful invention only set forth in the specification.

§ 59. The language of a claim is closely examined in the Patent Office, and the main strife is usually over same. It expresses that which the Patent Office, after a careful search in the prior art, decides to be patentable. The Courts should not amplify, beyond the proper meaning of its phraseology, the claim which the Patent Office has so allowed, and which the patentee has accepted and closed with.

§ 60. Each and every element in a combination claim is material in law, irrespectively of the materiality thereof in fact,—subject to the rule of equivalents.

§ 61. An apparatus which does not have one of the elements of a patented combination, or mechanism which accomplishes its function,—does not infringe the same.

§ 62. An element may be made material to the

57. Schumacher *v.* Cornell, 1878, 96 U. S. 549.
58. Bates *v.* Coe, 1878, 98 U. S. 31.
59. Burns *v.* Meyer, 1880, 100 U. S. 671.
60. Water-Meter Co. *v.* Desper, 1880, 101 U. S. 332.
61. Gage *v.* Herring, 1883, 107 U. S. 640.

combination of a claim, either by being therein in very terms, or by being carried therein by a competent reference to the specification,—reserving only the inquiry, whether the omission of such element is answered in any instance by an equivalent.

§ 63. The mechanism which is set forth in the description and claim of a patent, is not mechanism merely productive of a certain result, but is substantially the mechanism which is set forth. There can not be infringement of a patented invention, except the result in question be accomplished by the mechanism set forth in the description and claim.

§ 64. A process patent, whose specification describes one step in the process as consisting of the admission of small jets of water or steam, may be good in law to cover the admission of spray produced by directing a jet of steam against a small stream of water,—notwithstanding the terms of the claim specify only the admission of steam.

§ 65. It has been said in reference to a certain claim whose elements were qualified by the definite article and by letters of reference,—that said claim excluded any construction other than that shown in the drawings and described in the specification of such patent. It was also stated that the terminal clause

62. Fay *v.* Cordesman, 1883, 109 U. S. 408.
63. Yale Lock Mfg. Co. *v.* Sargent, 1886, 117 U. S. 373.
64. Lawther *v.* Hamilton, 1888, 124 U. S. 1.

—"substantially as shown"—of said claim, confirmed such interpretation of the claim. These statements being supplemented by further statement, that if the foregoing legal construction of the claim required corroboration, the prior state of the art established conclusion that patentable merit did not exist in the claim, outside of said designated elements as specifically shown and described in the patent.

§ 66. It has been said in reference to a certain claim having an element qualified by the definite article and by letter of reference,—that such element must be made according to the description thereof found in the specification of the patent. This statement following two other statements: one being that the claim did not involve patentable invention, the other being that the claim was a mere aggregation of elements.

§ 67. Notwithstanding it may be doubtful as matter of fact, whether the corresponding element of an alleged infringing article falls within an adjective qualification given to the element in certain claims of the patent: yet, if the terms of another claim of the patent have said element without such adjective limitation,—the alleged infringing article may trespass upon the latter claim, irrespectively of the other claims.

65. Weir *v.* Morden, 1888, 125 U. S. 98.
66. Hendy *v.* Golden State and Miners' Iron Works, 1888, 127 U. S. 370.
67. Western Electric Co. *v.* La Rue, 1891, 139 U. S. 601.

HEAD III OF SUBJECT II.

Claim,—Broad.

§ 68. If the patent be for more than the patentee invented, the patent is invalid. An improvement on an old machine is not lawfully patented, if the patent be not limited to such improvement.

§ 69. A claim is too broad to be sustained in law, if it be for matter other than that which is described in the specification.

§ 70. If a patent claim be in terms clearly for certain mechanism, the specification of such patent may not in certain instance read other mechanism into the claim; but such a claim may be broadly for the mechanism expressed therein, and not for a combination with said expressed mechanism, of other mechanism which appears in the specification but not in the claim.

§ 71. Notwithstanding the specification of a patent describe improvements which might have been patentable over the old machine on which they were engrafted,—yet, if the claim is to the old organization, and not to the new, the patent can not be sustained.

68. Evans *v.* Eaton, 1822, 7 Wheat. 356.
69. O'Reilly *v.* Morse, 1853, 15 How. 62.
70. Seymour *v.* McCormick, 1856, 19 How. 96.
71. Phillips *v.* Page, 1861, 24 How. 164.

§ 72. It has been said that the final clause—"substantially as herein described"—of a claim, may furnish groundwork for arguing that such claim, if otherwise bad as being for the function of a machine, is thereby qualified so as to limit the claim to good patentable matter of the machine described in the specification.

§ 73. It has been said that the terminal clause—"substantially as and for the purpose specified"—of a claim, may possibly modify such claim so that, under reference to the specification, it would be sustained for good patentable matter, in view of the prior art, —when the balance of the claim is anticipated by such prior art.

§ 74. It was once held that the final clause—"substantially as specified"—of a certain claim, otherwise too broad to be valid, could qualify said claim, so as to render it valid for limited matter of the specification. But three years thereafter, the same patent claim was construed in reverse of such earlier construction,—as appears in section 76.

§ 75. It has been decided that the final qualifying clause—"substantially as herein set forth"—of a claim of one of several patents in suit, should in certain

72. Burr *v.* Duryee, 1864, 1 Wall. 531.
73. Burr *v.* Duryee, 1864, 1 Wall. 579.
74. Klein *v.* Russell, 1874, 19 Wall. 433.

instance include means and other limiting matter described in the specification, but not in the terms of the claim; and thus save a claim which otherwise might be void as covering a mere result. The same opinion decided that a claim of one of the other patents in suit was invalid, because: (a) if its final clause—"substantially as and for the purpose described"—did not restrict the claim to the specific mode and means described in the specification, then said claim was anticipated by prior machines set up by the defense; (b) if said final clause did restrict the claim to limiting matter described in the specification, not in the terms of the claim,—then said claim lacked patentability in view of a prior patent to the same inventor.

§ 76. It has been held that the final clause—"substantially as specified"—of a certain claim, otherwise too broad to be valid, could not qualify such claim, so as to render it valid for limited matter of the specification; such limiting matter of the specification being not therein set forth as essential, but only as preferable. This position being taken in substantial reversal of the position taken three years previously in reference to the same patent claim,—as appears in section 74.

§ 77. It has been decided that a certain claim, in terms for an article of certain material, might be

75. Corn-Planter Patent, The, 1874, 23 Wall. 181.
76. Russell *v.* Dodge, 1877, 93 U. S. 460.

read in the light of limiting matter in the specification, so that the process of making such article might be construed into the claim, under the qualification of the final clause—"substantially as described"—of the claim, the same as if expressed in terms in such claim.

§ 78. A patent claim which possibly might have been sustainable, as covering the mechanism shown in the drawings and particularly described in the specification, may be rendered invalid, by statement in the specification that such particular mechanism is only a preferable form, and by indicating a broad construction for the patent,—thereby causing the claim to be answered by the prior art.

§ 79. If the terms of a claim be anticipated by the prior art, the premises may be such that the description of the patented invention in the specification can not be resorted to, for construing into the claim limiting matter to distinguish the patented invention from such prior art.

§ 80. A claim is invalid, if its terms be broadly for a construction which is not patentable.

§ 81. A claim may in certain instance be con-

77. Smith *v.* Goodyear Dental Vulcanite Co., 1877, 93 U. S. 486.
78. Matthews *v.* Machine Co., 1882, 105 U. S. 54.
79. Yale Lock Mfg. Co. *v.* Greenleaf, 1886, 117 U. S. 554.
80. Thatcher Heating Co. *v.* Burtis, 1887, 121 U. S. 286.

structively restricted to limitations not found in its terms,—by the statement in the specification of the object of the invention, and by the description in the specification of the construction of certain elements named in the claim.

§ 82. It has been held that premises may be such that a claim may have construed into it certain limitation, expressed in the specification, but not in the terms of the claim.

§ 83. A claim may, in view of certain limitation of the specification, be restricted to a mechanical construction not in the terms of such claim.

§ 84. A claim may be so broad, that it can not have imported into it certain limitation described in the specification; and hence the patented invention, as the terms of the claim read, may not involve good patentable matter.

§ 85. If the claim of a patent be for non-patentable matter, aside from consideration of a certain patentable feature shown in the drawings of the patent, but not referred to in terms, either in the specification or in the claim,—such non-described and non-claimed

81. Snow *v.* L. S. & M. S. R. Co., 1887, 121 U. S. 617.
82. Lawther *v.* Hamilton, 1888, 124 U. S. 1.
83. Joyce *v.* Chillicothe Foundry, 1888, 127 U. S. 557.
84. Day *v.* Fairhaven and Westville Railway Co., 1889, 132 U. S. 98.

patentable feature is not an essential part of the patented invention, and the patent is invalid. Notwithstanding an alleged infringing device be essentially similar to the construction shown in the drawings of such patent,—yet there is no trespass on any legal right under the patent.

§ 86. A claim, as it in terms reads, may be anticipated; and certain limitation described in the specification, not be construed into such claim.

85. Roemer *v.* Bernheim, 1889, 132 U. S. 103.

86. Howe Machine Co. *v.* National Needle Co., 1890, 134 U. S. 388.

HEAD IV OF SUBJECT II.

The Patent Specification.

§ 87. The second factor in determining the identity of a patented invention, is the description of the latter as set forth in the specification.

§ 88. The substance of a certain mechanical construction is a material part of the patented invention, when the claim specifies a device formed so as to answer a certain purpose; and the specification describes that such purpose is to be accomplished by said mechanical construction.

§ 89. A patentee, having based his claim on his specification, can not change the same.

§ 90. If a claim does not designate the elements which compose the combination, but declares that the latter consists of so much of the described machinery as produces a certain effect,—it is a question of fact what mechanical parts, described in the specification, are necessary to produce such effect.

§ 91. A patent can not lawfully cover ground of

88. Prouty *v.* Ruggles, 1842, 16 Pet. 336.
89. Le Roy *v.* Tatham, 1852, 14 How. 156.
90. Silsby *v.* Foote, 1852, 14 How. 218.

invention broader and other than that which is described in the specification.

§ 92. The specification and drawings are to be considered, in order to properly interpret the claim, and the whole patent is to be construed together.

§ 93. If the title of a patent be for a machine, and the specification describe a machine, and yet the claim be so ambiguous that it might be either for the machine or for its function,—the legal construction will be favorable to the patent, and the claim be construed to be for the machine.

§ 94. A patent specification may not in certain instance read into a claim, mechanism not expressed in the latter; and hence such a claim whose terms are clearly to certain mechanism, may not be construed for a combination with such expressed mechanism, of other mechanism which appears in the specification but not in the claim.

§ 95. The claim of a patent should be construed in the light of the specification of such patent.

§ 96. It has been said that the final clause—

91. O'Reilly *v.* Morse, 1853, 15 How. 62.
92. Brooks *v.* Fiske, 1853, 15 How. 212.
93. Corning *v.* Burden, 1853, 15 How. 252.
94. Seymour *v.* McCormick, 1856, 19 How. 96.
95. Turrill *v.* Railroad Co., 1864, 1 Wall. 491.

"substantially as herein described"—of a claim, may furnish groundwork for arguing that such claim, if otherwise bad as being for the function of a machine, is thereby qualified so as to limit the claim to good patentable matter of the machine described in the specification.

§ 97. It has been said that the terminal clause —"substantially as and for the purpose specified"— of a claim, may possibly modify such claim so that, under reference to the specification, it would be sustained for good patentable matter, in view of the prior art,—when the balance of the claim is anticipated by such prior art.

§ 98. It has been held that certain patent claims were each for means, and not for an effect,—in view of said claims respectively having the phrase "substantially as described" or "substantially as set forth"; and that if such phrase had been omitted, there would have been presented a very different question.

§ 99. It has been held that a certain claim was not for a process of using a certain structure, and that its final clause "substantially as set forth" did not cause the claim to include such process; but that said claim, when read in connection with a certain part of the specification immediately preced-

96. Burr *v.* Duryee, 1864, 1 Wall. 531.
97. Burr *v.* Duryee, 1864, 1 Wall. 579.
98. Seymour *v.* Osborne, 1871, 11 Wall. 516.

ing it, left no doubt that the claimed invention was the structure itself, without the process described in the specification.

§ 100. It was once decided touching a process patent, that a certain claim having broad terms, was restricted to the particular mode described in the specification,—and that defendant did not infringe; but such limited construction of the claim was reversed seven years later, and a broad construction was given to the same claim,—as more fully appears in section 114.

§ 101. It was once held that a claim might, under the premises, be limited by its final clause—"substantially as specified"—to certain matter of the specification. The position of the Court, more specifically, being that a reissue patent claim to,—"The employment of fat liquor, in the treatment of leather, substantially as specified",—covers only *heated* fat liquor, because; the specification mentioned heated liquor, the original patent was for heated liquor, and a patent claim should be favorably considered. The same claim was however, three years subsequently, again before the Court, and then received a materially different legal construction,—as more fully appears in section 108.

99. Railroad Co. *v.* Dubois, 1871, 12 Wall. 47.
100. Mitchell *v.* Tilghman, 1874, 19 Wall. 287.
101. Klein *v.* Russell, 1874, 19 Wall. 433.

§ 102. If the specification be obscure, and the claim be not precise, no certain determination can be had as to the right construction of the patent.

§ 103. It has been said that a claim whose terms were certainly too broad to be sustained, was probably intended by its clause—"as substantially described"—to be restricted to the means described in the specification. Such statement being followed by the finding that defendant did not employ the means so described in the patent in suit and therefore did not infringe.

§ 104. Although drawings be referred to in the specification, yet they may be only for illustration, if the patentee describes that his invention is not limited to the form shown. In certain instance, other proof that the form shown is not essential, may be found in further statement of the specification.

§ 105. It has been held that the concluding clause—"substantially as and for the purpose set forth"—of a claim, may place certain qualification on the latter and its different members; the mechanism set forth in terms in the claim being thereby considerably narrowed, in view of the description of the specification touching the purpose and adaptation of the

102. Garratt *v.* Seibert. 1874, 131 U. S. cxv.
103. Hailes *v.* Van W. .mer, 1874, 20 Wall. 353.
104. Rubber-Tip Pencil Co. *v.* Howard, 1874, 20 Wall. 498.

mechanism sought to be patented. A claim need not be restricted to certain specific description of the specification, not found in the terms of such claim,—where the fair meaning of the whole specification shows that the invention was not intended to be confined to such specific description.

§ 106. A patentee has the advantage of every use of which his patented invention is susceptible; and it therefore makes no difference whether or not the specification describes a certain use.

§ 107. It has been said that a mere recommendation in a specification, is not a description of an essential part of the invention, and can not be considered as of the substance of the patent.

§ 108. It has been held that a statement in the specification, of a desirable or preferable step in the process, is not a necessary feature of the patented invention, but is simply an accessory which can be adopted or abandoned at will. Such position having been taken, upon a reconsideration of the patent claim referred to in section 101; and the Court, upon such reconsideration, holding that the invention of the claim in question was not restricted to heated fat

105. Corn-Planter Patent, The, 1874, 23 Wall. 181.
106. Roberts *v.* Ryer, 1875, 91 U. S. 150.
107. Sewall *v.* Jones, 1875, 91 U. S. 171.

liquor, as held three years previously,—but comprehended fat liquor, cold or heated.

§ 109. It has been decided that a certain claim, in terms for an article of certain material, might be read in the light of limiting matter in the specification, so that the process of making such article might be construed into the claim, under the qualification of the final clause—"substantially as described"—of the claim, the same as if expressed in terms in such claim.

§ 110. It has been said that if the claim directly follows the specification, it may be construed together with the explanation of the latter; and if the claim in terms refers to the specification, it can not be construed otherwise.

§ 111. The clause—"substantially as hereinbefore described"—in a claim, must, by the settled rule of construing an instrument, have some importance. The language of the specification aids in construing the claim.

§ 112. If the actual invention described in the specification exceed the claim, the patent is limited to such claim; but the claim must be construed with reference to the specification.

108. Russell *v.* Dodge, 1877, 93 U. S. 460.
109. Smith *v.* Goodyear Dental Vulcanite Co., 1877, 93 U. S. 486.
110. Fuller *v.* Yentzer, 1877, 94 U. S. 288.
111. Merrill *v.* Yeomans, 1877, 94 U. S. 568.
112. Bates *v.* Coe, 1878, 98 U. S. 31.

§ 113. A process set forth in the specification, may be referred to in the claim, so as to constitute a necessary part of the latter.

§ 114. A process patent may be not merely for the particular mode described in the specification. This decision being made upon a reconsideration of the process patent referred to in section 100; such reconsideration resulting in finding that the process claim in question covered much broader matter than seven years previously it was decided to cover.

§ 115. If the description of the invention be broader in the specification than in the claim, apparently through neglect of the patent applicant to amend the specification correspondingly with his amendment of the claim,—the patented invention is the limited matter of the claim, and not the broader matter of the specification.

§ 116. A patented invention is not limited in extent or effect of its application, because the patentee was not aware of the value of the application of the invention to a certain use; such application of the invention being within the scope thereof,—irrespective of its having been, or not having been, anticipated by the patentee's foresight.

113. Goodyear Dental Vulcanite Co. *v.* Davis, 1880, 102 U. S. 222.
114. Tilghman *v.* Proctor, 1881, 102 U. S. 707.
115. Railroad Co. *v.* Mellon, 1881, 104 U. S. 112.
116. Heald *v.* Rice, 1882, 104 U. S. 737.

§ 117. A patent claim which possibly might have been sustainable, as covering the mechanism shown in the drawings and particularly described in the specification, may be rendered invalid, by statement in the specification that such particular mechanism is only a preferable form, and by indicating a broad construction for the patent,—thereby causing the claim to be answered by the prior art.

§ 118. If a combination claim specifies an element, directly, or by such a reference to the specification as carries the element into the claim,—such element is material to the combination.

§ 119. The specification of a patent may set forth that the invention consists of a plurality of parts, and the different claims may be respectively to said parts of invention: all in such manner that, notwithstanding the elements which constitute one part of the invention, are elements in the combination which constitute a second part of the invention,—yet the latter may not be construed as having such elements restricted to the constructions which they are restricted to in the first part of the invention. But the clause *substantially as specified*, at the end of the claim to said second part of the invention, may mean *substantially as specified in regard to the combination which is the subject of the claim;* and may not limit

117. Matthews *v.* Machine Co., 1882, 105 U. S. 54.
118. Fay *v.* Cordesman, 1883, 109 U. S. 408.

said elements to a construction such as is described in the specification.

§ 120. It has been said that in determining what is the invention which is patented, it is of no moment to consider what might be included under the language of the specification,—inasmuch as nothing but the claims determine the matter in question.

§ 121. It has been held that there is no infringement, if one of the elements of the combination of the claim in question be described in the specification as having one purpose which is not attained by the corresponding element in the alleged infringing combination; and that such corresponding element, not performing one material function of the patented element, could not be the equivalent thereof.

§ 122. It has been said that the clause—"substantially as described"—of a claim, in certain instance properly restricted the latter to the exact mechanism described in the specification and shown in the drawings of the patent,—in view of a certain prior invention which required the invention of said claim to be thus limited.

119. L. S. & M. S. R. *v.* National Car Brake Shoe Co., 1884, 110 U. S. 229.

120. Turner & Seymour Mfg. Co. *v.* Dover Stamping Co., 1884, 111 U. S. 319.

121. Rowell *v.* Lindsay, 1885, 113 U. S. 97.

122. Brown *v.* Davis, 1886, 116 U. S. 237.

§ 123. The scope of a patent must be restricted to that which is set forth in the claim. The claim may be illustrated, but not enlarged, by the specification.

§ 124. The object of an invention is not the invention itself. Such object may be attained in different ways, while the invention constitutes one way. A claim is not like a nose of wax, under reference to the specification. The specification may enable the claim to be the better understood, but it can not change it.

§ 125. It has been said that if a specification sets forth the invention thereof, as relating to a certain form of manufacture,—it is material to such invention that it be made according to said general form. And also that the specification may otherwise make certain feature of construction essential to the patented invention.

§ 126. A patent claim has been said to be for an invention having a certain mechanical limitation,—in view of certain reference of the claim to the specification.

§ 127. A specification may in certain instance

123. Yale Lock Mfg. Co. *v.* Greenleaf, 1886, 117 U. S. 554.
124. White *v.* Dunbar, 1886, 119 U. S. 47.
125. California Paving Co. *v.* Schalicke, 1886, 119 U. S. 401.
126. Worden *v.* Searls, 1887, 121 U. S. 14.

restrict a claim to limitations not found in the terms of the latter,—by a statement in said specification as to the object of the invention, and by a description in said specification of the construction of certain elements named in the claim.

§ 128. It has been held that: one claim of a certain patent could be restricted to certain limitation not in its terms, in view of the specification,—the so construed claim being valid and infringed; also that another claim of the same patent could not be restricted to certain limitation in its terms, in view of the specification,—the so construed claim being valid and infringed.

§ 129. It has been said in reference to a certain claim, whose terms included members preceded by the definite article and identified by letters of reference,—that said claim excluded any other construction of such members than that shown in the drawings and described in the specification; and that the terminal clause—"substantially as shown"—of the claim, confirmed such exclusion. This statement being supplemented by the further statement, that if this legal construction of said claim needed corroboration, the proof of the prior state of the art would show that patentable merit did not exist outside of such members, as specifically shown and described in the patent.

127. Snow *v.* L. S. & M. S. R. Co., 1887, 121 U. S. 617.
128. Lawther *v.* Hamilton, 1888, 124 U. S. 1.
129. Weir *v.* Morden, 1888, 125 U. S. 98.

§ 130. A patent for an art does not necessitate the invention of the patent to be for the means to use the art. The description of any means in such patent merely being to enable others to use the art covered by the patent.

§ 131. It has been said in reference to a certain claim having an element qualified by the definite article and by letter of reference,—that such element must be made according to the description in the specification of the patent. Such statement following two other statements in the opinion: one being that the claim did not involve patentable invention, the other being that there was no patentable combination between the elements of the claim.

§ 132. If a patent specification contain a statement as to the object of the invention, and also a statement as to the operation of the invention: such two statements may in certain instance constructively place a limitation upon the terms of the claim, not expressed therein.

§ 133. The specification of a patent may contain certain matter which will indicate the intent of the patentee in making the invention; and which will also

130. Telephone Cases, The, 1888. 126 U. S. 1.
131. Hendy *v.* Golden State and Miners' Iron Works, 1888, 127 U. S. 370.
132. Joyce *v.* Chillicothe Foundry, 1888, 127 U. S. 557.

discover his understanding of the character and breadth of the invention.

§ 134. If the claim of a patent be for non-patentable matter, aside from consideration of a certain patentable feature shown in the drawings of the patent, but not referred to in terms, either in the specification or in the claim,—such non-described and non-claimed patentable feature is not an essential part of the patented invention, and the patent is invalid. Notwithstanding an alleged infringing device be essentially similar to the construction shown in the drawings of such patent,—yet there is no trespass on any legal right under the patent.

§ 135. The specification of a patent may be resorted to for disclosing the breadth of application contemplated for the invention,—in considering whether a claim of the patent covers such invention, when applied in an instrument other than the instrument only specified in said claim.

§ 136. It has been said that it is doubtful if a patentee considered a certain feature of his described invention as of any distinctive merit, if he described it in the patent specification only as being *preferable*, and did not restrict the invention thereto.

133. Sargent *v.* Burgess, 1889, 129 U. S. 19.
134. Roemer *v.* Bernheim, 1889, 132 U. S. 103.
135. Western Electric Co. *v.* La Rue, 1891, 139 U. S. 601.
136. Ansonia Brass and Copper Co. *v.* Electrical Supply Co., 1892, 144 U. S. 11.

§ 137. It has been said that, in view of a prior invention, a certain patent claim was not sustainable without its terminal qualification—"substantially as set forth",—limiting it to mechanism not expressed in the body of the claim.

§ 138. It has been said that a certain detail construction may constitute an essential feature of the patented device, though it be not claimed.

§ 139. A claim may contain terms, descriptive of the completed article made by the method described in the specification,—so as to restrict the making of such article to said method.

§ 140. The specification of a patent may set forth a certain theory of purpose, operation and result,—so that the claim of the patent is restricted to mechanism such as will work according to said theory.

137. Pope Mfg. Co. *v.* Gormully & Jeffery Mfg. Co., 1892, 144 U. S. 248.
138. Derby *v.* Thompson, 1892, 146 U. S. 476.
139. Royer *v.* Coupe, 1892, 146 U. S. 524.
140. Weatherhead *v.* Coupe, 1893, 147 U. S. 322.

HEAD V OF SUBJECT II.

The Patent Application Record.

§ 141. The third factor in determining the identity of a patented invention, is any limitation which the record of the application for patent alone discloses, and which is not in terms a part of the patent.

§ 142. Notwithstanding the legal construction of a patent depends on its own terms, yet if the latter are ambiguous,—circumstances may have great influence in expounding such terms. The intention of the parties is of great consideration, if such intention can be gathered from competent source.

§ 143. In the early development of the doctrine on the present subject, it was said that correspondence between the Patent Office and the patent applicant could not vary the terms of the patent; but that the legal construction of the face of the patent may be confirmed by the record of the applicant,—the understanding of a party to a contract being important in the latter's interpretation.

§ 144. Amendments made by the applicant for a patent, may furnish conclusive evidence for the de-

142. Evans *v.* Eaton, 1818, 3 Wheat. 454.

143. Goodyear Dental Vulcanite Co. *v.* Davis, 1880, 102 U. S. 222.

fense of a suit on said patent against an alleged infringer.

§ 145. Limitations, introduced into a patent application for a mechanical combination, following repeated rejection of the application, are construed against the applicant,—being akin to disclaimers.

§ 146. A patent claim can not be enlarged by the omission of an element in the patented combination, which element was included in order to obtain the patent, after the rejection of the application without such element.

§ 147. The application of a patent compared with such patent, may clearly fix the boundary to which the claims of such patent must be restricted.

§ 148. In view of the procedure in the application for patent, the claims of the latter may in certain instance be construed only as covering the exact mechanism set forth in their terms, as described in the specification and shown in the drawings.

§ 149. The claims of a patent may be restricted to certain special construction and arrangement therein

144. Mfg. Co. *v.* Corbin, 1881, 103 U. S. 786.
145. Sargent *v.* Hall Safe and Lock Co., 1885, 114 U. S. 63.
146. Shepard *v.* Carrigan, 1886, 116 U. S. 593.
147. Sutter *v.* Robinson, 1886, 119 U. S. 530.
148. Crawford *v.* Heysinger, 1887, 123 U. S. 589.

set forth, in view of specific limitations imposed by the Patent Office, as conditional to the patent grant.

§ 150. Amendments to the specification of a patent, made during the application for such patent, may operate in legal intendment to disclaim an alleged infringing apparatus,—the claim of the patent not, under the premises, covering said apparatus as an equivalent of its narrow terms.

§ 151. If the original specification of a patent application was amended, subsequently to the rejection of the application by the Patent Office, so as to state that the invention dispensed with a certain feature,—the patent can not be construed so as to comprehend said feature.

§ 152. If a claim in a patent application be modified under requirements of the Patent Office, such claim, when patented, can not have for itself the extended construction which the Patent Office refused.

§ 153. If a patent application be rejected by the Patent Office, and said application be thereupon amended by limitation or restriction, for the purpose

149. McCormick *v.* Graham, 1889, 129 U. S. 1.

150. Watson *v.* C., I., St. L. & C. R. Co., 1889, 132 U. S. 161.

151. Roemer *v.* Peddie, 1889, 132 U. S. 313.

152. Phœnix Caster Co. *v.* Spiegel, 1890, 133 U. S. 360.

of securing a patent,—the patentee can not contend that the patent should be construed as it otherwise would have been construed.

153. Royer *v.* Coupe, 1892, 146 U. S. 524.

HEAD VI OF SUBJECT II.

The Rule of Equivalents.

§ 154. The fourth factor in determining the character of a patented invention, relative to the alleged infringing thing, is the rule of equivalents. The position which the patented invention occupies as an advance in the art in question, gives rise to the rule, —which, though simple in principle, is difficult in application.

§ 155. The principle of the rule is,—that in considering the identity of a patented thing, as regards its infringement, a subsequent thing which does substantially the same work thereof, in substantially the same way therewith, is the patented thing. The two may not be the same thing, either as concerns validly patentable merit of the second over the first, or as concerns right of the owner of the first to employ the second; but they are the same thing, so far as concerns question of infringement of the first by the second.

§ 156. The application of the rule covers inventions of all grades. If a valid invention exists, then the patent thereof constructively covers not only the

expressly claimed thing, but also every other thing which in law is the equivalent thereof. The range of equivalents is wide or narrow, according to the character of the specific patented invention, viewed in relation to the departure which it has successfully made from the old way.

§ 157. A patent can not cover a certain end to be attained, but can cover means of obtaining it.

§ 158. In instance of a patent for a process, irrespective of machinery,—the test of infringement thereof, is whether the alleged infringing process be substantially the same, and produce the same result, as the patented process.

§ 159. The result attained by a patented invention, may be lawfully attained by one not acting under the patent,—if he employ means substantially different from the means set forth in the patent.

§ 160. A combination of three known elements is not substantially the same as a combination of two of said elements with a third element, which latter is substantially different from the omitted original third element, in arrangement and connection with the two remaining original elements.

157. Carver *v.* Hyde, 1842, 16 Pet. 513.
158. Le Roy *v.* Tatham, 1852, 14 How. 156.
159. O'Reilly *v.* Morse, 1853, 15 How. 62.
160. Brooks *v.* Fiske, 1853, 15 How. 212.

§ 161. A patent may protect the principle of the patented invention, not alone as to the specific form therein set forth,—but also as to all other forms in which such principle may be embodied. A patented invention may be infringed, even though the infringing thing be totally unlike the patented thing as to form or proportions.

§ 162. If a patentee be the original inventor of a machine adapted to perform desired functions, and such new principle of invention be properly patented, —any improved machine which performs the same functions as the patented one, by equivalent means, is an infringement. But if the patented thing be a mere change of form or combination of parts from that which previously existed, it is not infringed by a different form or combination performing the same functions.

§ 163. A duplicate of a patented combination, excepting one part which is substantially different in its construction and operation from the corresponding patented part, although serving the same purpose as the latter, is not an infringement.

§ 164. It is an abuse of the term *equivalent*, to assume that the latter is every mechanism which pro-

161. Winans *v.* Denmead, 1853, 15 How. 330.
162. McCormick *v.* Talcott, 1857, 20 How. 402
163. Eames *v.* Godfrey, 1864, 1 Wall. 78.

duces the same effect as does the patented mechanism.

§ 165. It has been said that while the term *equivalent* has definite meaning in reference to machinery; yet that in reference to chemical action of such fluids as can be discovered only by experiment, said term only means *equally good*.

§ 166. A change of form and not of substance —preserving exactly the same mode of operation in mechanism,—constitutes no defense to a charge of infringement.

§ 167. It has been said that though a patentee can always invoke the doctrine of equivalents,—yet he can never do so to such extent as to suppress all other substantial improvements.

§ 168. The state of the art may properly be considered in construing a patent, and ascertaining that which is claimed therein.

§ 169. It has been held that a patentable combination of old elements is not infringed by a combination wherein one element is a substitute for an

164. Burr *v.* Duryee, 1864, 1 Wall. 531.
165. Tyler *v.* Boston, 1869, 7 Wall. 327.
166. Morey *v.* Lockwood, 1869, 8 Wall. 230.
167. Seymour *v.* Osborne, 1871, 11 Wall. 516.
168. Railroad Co. *v.* Dubois, 1871, 12 Wall. 47.

element omitted from the patented combination,—if such substituted element be a new element, or be an old element which was not known at the date of the patent as a proper substitute for said omitted element.

§ 170. The history of the art may be required to be known, to understand how narrow the claim of a certain patent is.

§ 171. It was once decided that a certain claim for a process was restricted to a scope less than that expressed therein. It being then held that though the claim had broad terms, yet it should be so restricted to the specification, that the alleged infringing process which attained the same result as the patented process, could not be within the lawful construction of the claim. The same patent claim was again before the court seven years thereafter,—whereupon a broad legal construction was given to the claim, and the position of the court was then substantially different from this earlier one,—as more fully appears in section 193.

§ 172. A certain structure is essentially different from a patented structure, if it be incapable of the same use therewith.

169. Gould *v.* Rees, 1872, 15 Wall. 187.
Fuller *v.* Yentzer, 1877, 94 U. S. 288.
Fuller *v.* Yentzer, 1877, 94 U. S. 299.
170. Carlton *v.* Bokee, 1872, 17 Wall. 463.
171. Mitchell *v.* Tilghman, 1874, 19 Wall. 287.
172. Washing-Machine Co. *v.* Tool Co., 1874, 20 Wall. 342.

§ 173. It has been held that, in reference to a valid patent for a new combination of old elements, an equivalent for an omitted element in such combination, must be one which was known at the date of the patent, as a proper substitute for said omitted element.

§ 174. Notwithstanding generally a mere handle is not an equivalent of a lever,—yet it is an equivalent therefor, if it performs the same function of said lever in substantially the same way therewith.

§ 175. Though the form of an alleged infringing device be unlike the patented one, or though its mode of attachment be different,—yet such points are immaterial, provided the same function be performed in substantially the same way as in the patented device.

§ 176. In a process patent, the purpose of the claim is to patent the process, not to enumerate the materials to which said process might be applied. If such materials have been previously described in the specification, there is no necessity for mentioning any in the claim, and notwithstanding one material be so mentioned,—the patented process is not limited in application to such one material.

173. Gill *v.* Wells, 1874, 22 Wall. 1.

174. Corn-Planter Patent, The, 1874, 23 Wall. 181.

175. Mason *v.* Graham, 1875, 23 Wall. 261.

176. Wood-Paper Patent, The, 1874, 23 Wall. 566.

§ 177. He, who invents a machine, has right to all its uses, irrespectively of his conception or want of conception of such use.

§ 178. An infringement of a patent must substantially embody the patented mode of operation, and thereby attain the same kind of result therewith. It is not needful that the same advantage be obtained, or that the result should be the same in degree,—but it must be the same in kind.

§ 179. In mechanics, a broken line deflected at one or more points, and performing the office of a curve, is clearly an equivalent of the latter. Attaching the lower end of a saw to a pitman, below instead of above the cross-head, is no change in principle,—the same movement being attained by reversing the crank motion.

§ 180. It has been said, in deciding that a certain patented combination was not infringed,—that the elements thereof were all old, and that none of them could be substituted by any element in the alleged infringing combination, without reconstruction and invention, so as to maintain the successful accomplishment of the object of such patented combination.

177. Roberts *v.* Ryer, 1875, 91 U. S. 150.
178. Sewall *v.* Jones, 1875, 91 U. S. 171.
179. Ives *v.* Hamilton, 1876, 92 U. S. 426.
180. Fuller *v.* Yentzer, 1877, 94 U. S. 288.

§ 181. In considering matter of alleged patent infringement, it is important to consider the object, as well as the construction, functions of the parts, and mode of use,—alike of the patented machine, and of the alleged infringing machine.

§ 182. If an alleged infringing machine has embodied a certain patented invention, it is immaterial whether certain supplemental mechanical features found in such machine be good or bad,—the machine is nevertheless an infringement.

§ 183. If a process patent be not restricted to certain mechanism for carrying out a certain step in such process, infringement of such patent can not be evaded by the use of mechanism other than that set forth in the patent for carrying out said step,—if the general process used remain the same as that of the patent. Whilst one certain device may be an equivalent of a certain patented device, in a general combination,—yet, in considering said two devices singly, apart from their combinations, they may not be equivalents. Even though some of the elements in a patented combination be not the same in form as the corresponding elements in an alleged infringing combination, and singly considered, could not be regarded as equivalents thereof,—yet, if they have the same object in the combination, and attain such object in

181. Cawood Patent, 1877, 94 U. S. 695.

182. Robertson *v.* Blake, 1877, 94 U. S. 728.

substantially the same manner, they are the equivalents of each other in that regard,—assuming that the patent claim does not limit such elements to any particular form thereof.

§ 184. If a patented invention in plows be for a combination having as one element an adjustable wheel or roller for determining the angle at which the plow point should enter the ground; and if the use of the base of a plow as a fulcrum for the plowman to raise or lower the point of the plow be old,—there is no infringement in a plow which rests upon a plain iron shoe as a fulcrum for the plowman, without mechanical device, to determine the angle at which the plow shall penetrate the ground.

§ 185. In instance where form is the essence of a patented invention, such form is necessarily material, and a difference of form is not infringement. To constitute infringement, it is not sufficient that the alleged infringing construction attain the result which is accomplished by the patented construction,—but the same service must be done in substantially the same way.

§ 186. Unless form is essential to a patented invention, similarity or difference, in a comparison of the latter with an alleged infringing machine, is not to be

183. Cochrane *v.* Deener, 1877, 94 U. S. 780.
184. Eddy *v.* Dennis, 1877, 95 U. S. 560.
185. Werner *v.* King, 1877, 96 U. S. 218.

governed by names or forms, but by offices or functions, and how the latter are performed; one thing being substantially the same as another thing, if it performs substantially the same function in substantially the same way to obtain substantially the same result.

§ 187. Notwithstanding difference in construction, an alleged infringing machine may perform the function in question substantially the same as does the patented invention,—and thus be an infringement thereof. And this is true, even if the operation of such infringing machine be better than that of the patented invention.

§ 188. Assuming a certain good result be developed by different inventors in different forms having a general likeness,—if one invention anticipates the others as to the underlying principle, the later ones may be equivalents thereof; but if the different inventions together gradually make advance, so that no one invention first attained the complete result in question, then no one of said different forms is an equivalent of another.

§ 189. Notwithstanding the members of one machine may have the same names as the members of another machine, yet if they perform different func-

186. Machine Co. *v.* Murphy, 1878, 97 U. S. 120.
Bates *v.* Coe, 1878, 98 U. S. 31.
187. Marsh *v.* Seymour, 1878, 97 U. S. 348.
188. Railway Co. *v.* Sayles, 1878, 97 U. S. 554.

tions,—they are not the same mechanical devices in law.

§ 190. Every element stated in a claim, is material to the patented invention. If such an element be omitted in an alleged infringing structure,—the only question is if such omitted element has been supplied by its equivalent.

§ 191. It has been said that, while a combination of old elements was entitled to the doctrine of equivalents, an equivalent in such an invention was different from what it was in an invention consisting of a new device or a new machine; and that an equivalent in a combination of old elements, was any other element which in the same combination would accomplish the same office, provided it was known at the date of the patent as a substitute for the element described in the patent.

§ 192. A patent is entitled to equivalents, whether or not it claims them in terms. But if a patented product be made by certain definite procedure, nothing can be equivalent for certain features of the invention, not working in the same way to accomplish the same office.

189. Bates *v.* Coe, 1878, 98 U. S. 31.
190. Water-Meter Co. *v.* Desper, 1880, 101 U. S. 332.
191. Imhaeuser *v.* Buerk, 1880, 101 U. S. 647.
192. Goodyear Dental Vulcanite Co. *v.* Davis, 1880, 102 U. S. 222.

§ 193. It has been decided that a patented process may be not merely for the particular mode of applying and using the process, which is described in the specification; but may be broadly for such a process, irrespective of the specific means which may carry it into effect. Such decision being made in an opinion which reconsidered the process patent referred to in section 171.

§ 194. A machine is not an infringement of a patented invention, if it omit certain elements of the latter, and accomplish by natural causes—for instance, gravity—that which the patented invention accomplished by mechanical devices; said machine thereby attaining the result in question, without mechanical equivalents for the omitted elements of the patented invention.

§ 195. A lawful patentee is entitled to his claimed invention for all its purposes and benefits; and it is immaterial whether he knew of and mentioned all such benefits.

§ 196. A patent is not limited because the patentee at the time of the invention, was not aware of the value thereof as applied to certain use,—such use being within the invention, whether or not the patentee had tried or thought of same.

193. Tilghman *v.* Proctor, 1881, 102 U. S. 707.
194. Wicke *v.* Ostrum, 1881, 103 U. S. 461.
195. Stow *v.* Chicago, 1882, 104 U. S. 547.
196. Heald *v.* Rice, 1882, 104 U. S. 737.

§ 197. If the prior state of the art restrict the patented invention to its specific arrangement, and if the alleged infringing device be not the specific form of the patented invention, and most nearly resemble a device which is older than the patented invention,—there is not infringement.

§ 198. The state of the art may be sufficient in certain instance, to limit the construction of the patent under examination, to the precise form described and claimed therein.

§ 199. If a patented invention be the first to employ a device of any kind for a certain purpose, any device adapted to such purpose is an equivalent,—provided the same function be performed in substantially the same way, and such substituted device was a known equivalent for the device shown in the patent.

§ 200. If an alleged infringing mechanism be different from the patented invention, and be adapted to work under conditions where the patented one can not work,—there is no infringement. So too, if an alleged infringing mechanism be different from the patented one, and does not perform the function thereof, and if such patented invention could not work

197. Matthews *v.* Machine Co., 1882, 105 U. S. 54.

198. Bridge *v.* Excelsior Co., 1882, 105 U. S. 618.
Zane *v.* Soffe, 1884, 110 U. S. 200.

199. Clough *v.* Barker, 1882, 106 U. S. 166.

successfully in the same position as the alleged infringing mechanism,—then the latter is not an equivalent for the patented invention in mechanism or function.

§ 201. If a patented invention be not a pioneer, but merely a new form of accomplishing an old result, —the public may lawfully use another form which is not a merely colorable, but a substantial departure from the patented one.

§ 202. There is not infringement in a combination which differs from the patented combination, by the omission of a mechanical device, which is one element in the latter; the function of such omitted element being performed by manual labor,—not a mechanical equivalent for the automatic action of the patented element.

§ 203. All elements specified in a combination claim, are material to the integrity of the invention patented thereby,—subject only to the inquiry whether or not an element which is omitted, is substituted by an equivalent.

§ 204. It has been said that a contention on behalf of a certain patent that an alleged infringing device is merely the patented disk of such patent, with a large part of the disk circumference removed,

200. Hoffheins *v.* Russell, 1883, 107 U. S. 132.
201. Duff *v.* Sterling Pump Co., 1883, 107 U. S. 636.
202. Gage *v.* Herring, 1883, 107 U. S. 640.
203. Fay *v.* Cordesman, 1883, 109 U. S. 408.

defeats itself,—for if a large part of the disk be removed, the structure is no longer a disk.

§ 205. The filing of a statutory disclaimer, limiting a certain patented element A to being stationary, concludes all after question as to any mechanical equivalent of said stationary element being found in the same device existing as movable instead of stationary. And the matter is not open for consideration, whether the patented invention, having such stationary element A and co-operating movable element B, is infringed by a machine having said element A movable and said co-operating element B stationary.

§ 206. It has been held that a certain device in an alleged infringing combination is not an equivalent of one element of the patented combination in question, if such substituted element does not perform one of the material functions of the patented element.

§ 207. When the ideas necessary to successful result are made known by a patented invention, it is easy for a skillful mechanic to vary the form of such patented invention by equivalent mechanism,—which infringes.

204. McMurray *v.* Mallory, 1884, 111 U. S. 97.

205. Union Cartridge Co. *v.* U. S. Cartridge Co., 1884, 112 U. S. 624.

206. Rowell *v.* Lindsay, 1885, 113 U. S. 97.

207. Consolidated Valve Co. *v.* Crosby Steam Guage Co., 1885, 113 U. S. 157.

§ 208. If the prior art have a variety of devices for accomplishing the same thing which the patented invention in question accomplishes,—the patent may be restricted to the specific device described and claimed.

§ 209. To cause infringement, an alleged infringing combination must produce the same result accomplished by the patented combination. And if the means used by the patented invention be a combination of known elements, the elements of the alleged infringing combination must be the same, and be combined in the same way so that each element shall perform the same function, as in the patented invention,—excepting merely colorable differences.

§ 210. The human hand may not be an equivalent for a lever which works a rod in a patented machine,—although in the latter, said lever is itself worked by the human hand.

§ 211. If the description in the patent and claim require a variation of eccentricity between certain rollers in themselves,—the same result is not produced by the same means, if alleged infringing rollers be of the same eccentricity and form relative to one another, and effect a variation of eccentricity with

208. Blake *v.* San Francisco, 1885, 113 U. S. 679.

209. Electric Railroad Signal Co. *v.* Hall Railway Signal Co., 1885, 114 U. S. 87.

210. Brown *v.* Davis, 1886, 116 U. S. 237.

reference to their operating cam, during their revolution.

§ 212. The fact that an alleged infringing device is in some respects better than the patented invention in question, does not relieve such alleged infringing device from infringement, if it be substantially like the patented invention.

§ 213. In view of devices prior to a certain patented invention in agricultural implements for raising certain parts of the implement by a brake and a hinged board, a friction band in an alleged infringing implement may not be the equivalent of the brake in the patented invention, and a crank axle in said alleged infringing implement may not be the equivalent of the hinged board in the patented invention.

§ 214. If it be essential to a patented invention in pavements, that the latter be so laid in sections that the sections may be independent of each other —the patent disclaiming the forming of pavement sections without interposing any thing between their joints while being made,—an alleged infringing pavement does not infringe, if marked with a blunt marker to the depth of one-sixteenth of an inch, no sections being thereby produced.

211. Yale Lock Mfg. Co. *v.* Sargent, 1886, 117 U. S. 373.
212. Cantrell *v.* Wallick, 1886, 117 U. S. 689.
213. Newton *v.* Furst & Bradley Co., 1886, 119 U. S. 373.
214. California Paving Co. *v.* Schalicke, 1886, 119 U. S. 401.

§ 215. A certain combination claim having as one element "a suspending device operating substantially as described", may be limited to its exact mechanism by the prior art; and if the alleged infringing mechanism produce a different result from that of said patented mechanism, the one is not an equivalent of the other.

§ 216. It may be necessary to examine the prior state of the art, to ascertain the exact scope of the patent in question.

§ 217. A complete whip-socket, having a lever pivoted in a side slot therein, does not in certain instance have its equivalent in a whip-socket consisting of two sectional halves hinged together,—notwithstanding the result of each of the two sockets is to hold a whip firmly therein.

§ 218. A patented invention may be so preceded by a series of improvements striving for the same general end,—that the patent claims must be construed solely for the specific mechanism described in the specification, and to the purposes therein set forth.

215. Grier *v.* Wilt, 1887, 120 U. S. 412.
216. Plummer *v.* Sargent, 1887, 120 U. S. 442.
Hoff *v.* Iron Clad Mfg. Co., 1891, 139 U. S. 326.
217. Worden *v.* Searls, 1887, 121 U. S. 14.
218. Bragg *v.* Fitch, 1887, 121 U. S. 478.

§ 219. A patent may have such limitations in its claim, particularly if demanded by the Patent Office, that it can not be construed under the doctrine of equivalents, as covering other than the exact mechanism set forth in the patent.

§ 220. Notwithstanding a contention on behalf of a patent, that because the patented invention was the first machine which accomplished a certain result, it should cover all forms of mechanism which attain such result,—yet the patent must be restricted to the claimed mechanism or its equivalent, and can not cover all mechanism for the result attained, nor can it cover the operation of the mechanism described in the patent.

§ 221. A patent for an art does not necessitate that the patent should be for the particular means for using such art.

§ 222. If a patent on a honey-frame-blank include as a necessary element a groove for a guide strip which makes a secure point of attachment for the comb,—an alleged infringing structure does not have a mechanical equivalent for said groove, if such structure is to be used with the comb foundation or attach-

219. Crawford *v.* Heysinger, 1887, 123 U. S. 589.

220. Dryfoos *v.* Wiese, 1888, 124 U. S. 32

221. Telephone Cases, The, 1888, 126 U. S. 1.

ment made by the putting, by the user, of pieces of wax thereon.

§ 223. A patent on a pioneer invention, consisting of a machine which was the first one capable of automatically accomplishing the general result in question, is entitled to a liberal construction of its claims. Such an invention being of a primary character, and as a whole performing entirely new mechanical functions, —the special devices set forth in the patent are not necessary constituents of the claims, if the latter be commensurate with the invention. Assuming such a patent, covering a combination of three main groups of mechanical devices, it is infringed by a machine having three main groups of mechanical devices combined to produce the result in question, each group of which performs the same function as the corresponding group in the patented invention, in substantially the same way,—notwithstanding one group be more simple than, and the two other groups be different in mechanical construction from, the corresponding groups of the patented combination. In considering the question of equivalents under such premises, an infringing machine may use certain mechanism not before known in a machine for attaining the general object of the patented invention, but recognized in mechanics as a proper substitute for the patented mechanism, to effect the same result; and

222. Forncrook *v.* Root, 1888, 127 U. S. 176.

in this sense, said certain mechanism of the infringing machine is a known equivalent for the patented mechanism,—the same being the proper meaning of the term *known equivalent*, in the consideration of such a pioneer patented invention. If this were not so, an alleged infringing machine which differed from such a patented machine as is here considered, so far as concerns specific mechanism for attaining a certain result thereof, would be clear of infringement provided only said specific mechanism was new in such a machine; because, if the patented invention presented the first machine for accomplishing the result in question, said specific mechanism of the alleged infringing machine could not have been known in such a machine prior to the patented invention.

§ 224. A pioneer invention in an art, can not cause the patent therefor to be construed for a composition and process beyond the composition and process set forth in the patent.

§ 225. If the prior art be subject to certain disadvantage not found in the patented invention,—the latter is entitled to the benefit in question, notwithstanding the specification of the patent make no mention thereof.

223. Morley Sewing Machine Co. *v.* Lancaster, 1889, 129 U. S. 263.

224. Bene *v.* Jeantet, 1889, 129 U. S. 683.

225. Brown *v.* District of Columbia, 1889, 130 U. S. 87.

§ 226. The temporary use of a trowel to divide a course of cement into blocks, in constructing a pavement, is the equivalent of tar paper between adjoining blocks of a patented concrete pavement,—if the proper legal construction of such patented invention is that it covers a division of the pavement into blocks, by either a permanent or temporary interposition of something between the blocks.

§ 227. A rectangular clamp, surrounding a rectangular carbon rod in an electric arc lamp, is the equivalent of an annular clamp surrounding a cylindrical rod in an electric arc lamp,—notwithstanding the former be not as good as the latter.

§ 228. A patent on a freight car door may be so affected by its application record, and the terms of its specification and claim, as to prevent a door sliding in grooves being an equivalent of the patented door sliding on rods and staples.

§ 229. A claim which has a "collar-bearing" as one of its elements, may in certain instance be construed to have a collar as a necessary element,—because a collar-bearing implies a collar. In view of the prior state of the art, the term "the rocker-formed collar-bearing or its equivalent" in a claim, may be

226. Hurlbut *v.* Schillinger, 1889, 130 U. S. 456.
227. Brush *v.* Condit, 1889, 132 U. S. 39.
228. Watson *v.* C., I., St. L. & C. R. Co , 1889, 132 U. S. 161.

required to be restricted to such a bearing as is specifically shown in the patent.

§ 230. Two devices may be equivalents of each other, notwithstanding they are respectively used for purposes which differ principally in name, if the later device be for a new or double use, such as would occur to an ordinary mechanic after seeing the earlier one. A patent may cover a new but analogous use of the patented invention, as truly as though such use were in the terms of the patent claim. Even though an alleged infringing device may not attain one certain object of a patented device, yet if it attains another certain object of such patented device, it may be an equivalent thereof.

§ 231. It is immaterial, so far as concerns infringement of a combination claim, if one of the elements of such combination be not new with the patentee,—provided such element had not been previously combined in a combination which operated in the same way, for the same purpose, as obtains in the patented claim.

§ 232. A patentee may be so closely restricted to the terms of his patent,—that there is not infringe-

229. Phœnix Carter Co. *v.* Spiegel, 1890, 133 U. S. 360.
230. Western Electric Co. *v.* La Rue, 1891, 139 U. S. 601.
231. St. Paul Plow Works *v* Starling, 1891, 140 U. S. 184.

ment in mechanism different from the exact form of such patent.

§ 233. If a patented invention be a very narrow one, and differ no more from the prior art than does the alleged infringing structure differ from the patented one, and if the alleged infringing structure be different from the patented one in construction and operation,—there is not infringement.

§ 234. If a patented invention be a pioneer in the art in question, and comprehend a practical principle which has gone into very extensive use, the patent is entitled to a liberal construction of its claim. Infringement of such a patent is found in an article which differs from the patented invention, more in outward appearance than in substantial features,—the latter being the same.

§ 235. Infringement of a patent obtains, if the object of the mechanical construction set forth therein be accomplished in the same way by the alleged infringing structure. And this is true, notwithstanding a technical reading of the specification of the patent undoubtedly require a different mechanical construc-

232. Clark Thread Co. *v.* Willimantic Linen Co., 1891, 140 U. S. 481.

233. Pope Mfg. Co. *v.* Gormully & Jeffery Mfg. Co., 1892, 144 U. S. 238.

234. Sessions *v.* Romadka, 1892, 145 U. S. 29.

tion from that of the alleged infringing device,—and the operation of the latter be not as the claim of the patent literally specifies.

§ 236. An alleged infringer may dispense with one of the elements of a patented combination, and form one of the remaining elements so that it obviates the need of such omitted element,—in certain instance without infringement.

§ 237. If the office and operation of the patented mechanism be not performed by the alleged infringing mechanism,—the latter is not an equivalent.

235. Hoyt *v.* Horne, 1892, 145 U. S. 302.
236. Derby *v.* Thompson, 1892, 146 U. S. 476.
237. Weatherhead *v.* Coupe, 1893, 147 U. S. 322.

SUBJECT III.

VALIDITY OF THE PATENT.

§ 238. The differe' premises which may present themselves, in considering the validity of the grant of a patent, may be resolved into twenty-four heads, as follows:

Head I:	Suggestions to Inventors.
Head II:	Date of Invention.
Head III:	Mechanical Skill.
Head IV:	Substitution of Material.
Head V:	Degree.
Head VI:	Double or Analogous Use.
Head VII:	Aggregation.
Head VIII:	Useful Invention.
Head IX:	Prior Invention, Knowledge, Use.
Head X:	Prior Foreign Knowledge or Use.
Head XI:	Prior Patent, Printed Publication.
Head XII:	English Patent,—Prior.
Head XIII:	In Public Use or on Sale.
Head XIV:	Abandonment, before Application.
Head XV:	Abandonment, after Application.
Head XVI:	Abandonment, by Prior Patent.
Head XVII:	Sufficient Specification.
Head XVIII:	Amendment of Patent Application.
Head XIX:	Joinder of Inventions.
Head XX:	Patent Grant,—To Whom.
Head XXI:	Term affected by Foreign Patent.
Head XXII:	Statutory Disclaimer.
Head XXIII:	Reissue Patents.
Head XXIV:	Reissue Procedure.

HEAD I OF SUBJECT III.

Suggestions to Inventors.

§ 239. A person may obtain information and advice from other parties and from books, without impairing his legal position as being the inventor of the matter in question. This is especially true, where high scientific knowledge and fine mechanical skill assist in the successful result.

§ 240. It has been said, that if an employer conceive of the principle of an invention, and be experimenting thereon, he may adopt as his own, any suggestion from his employee,—unless such suggestion sets up a different principle, and constitutes the substance of the subsequently patented invention.

§ 241. If A is the first to think that it would be desirable to produce an article having certain qualities, and he employ B, a specialist in the art in question, to produce such desirable article, without describing to B how to produce the same,—A is not the inventor of that which B thereupon produces.

239. O'Reilly *v.* Morse, 1853, 15 How. 62.

240. Agawam Co. *v.* Jordan, 1869, 7 Wall. 583.

241. Collar Co. *v.* Van Dusen, 1875, 23 Wall. 530.

§ 242. It is apparent that if an alleged inventor derived his whole idea from the suggestions of another, —he can not be regarded as the inventor in law.

242. Atlantic Works *v.* Brady, 1883, 107 U. S. 192.

HEAD II OF SUBJECT III.

Date of Invention.

§ 243. The origin of an invention may be fixed, as to date, at least as early as any conversation of the inventor which described the object and nature of the invention. An invention may be so far completed, as to be entirely arranged in the inventor's mind, before commencement of mechanical work thereon.

§ 244. It has been held that where it is established by testimony that the inventor had invented his plan in question at a certain date, although it was not disclosed to the witness until afterward; and where reasonable ground for belief exists that the inventor had at that date arranged the steps and mechanism of the invention in his own mind, and that the delay in bringing out the invention arose from his lack of financial means,—the invention is justly entitled to sáid date.

§ 245. Touching question of novelty, a patent relates back to the date of the invention, and not to the date of the application for the patent.

243. P. & T. R. Co. *v.* Stimpson, 1840, 14 Pet. 448.
244. O'Reilly *v.* Morse, 1853, 15 How. 62.
245. Klein *v.* Russell, 1874, 19 Wall. 433.

§ 246. Defense-matter prior to the date of the patent in suit, will be held to be prior to the date of the patented invention in suit, unless the patent be accompanied by its application, or unless proof shows the invention was prior to the date of the patent or prior to the date of the patent application.

§ 247. The date of the patent in suit must be taken as constructively constituting the date of the patent application, in the absence of the date of the patent application being shown in either the bill or evidence.

§ 248. A machine-invention may be illustrated by a drawing, or by a model, of such character as to cause a person skilled in the art in question to understand the invention,—so as to entitle such step in the history of the invention to a date as early as such drawing or model.

§ 249. It has been said, that a mental conception is not an invention, until shown in corporeal form.

§ 250. The date of a patented invention, made by a person in England, may be established by ex-

246. Bates *v.* Coe, 1878, 98 U. S. 31.

247. Worley *v.* Tobacco Co., 1882, 104 U. S. 340.

248. Loom Co. *v.* Higgins, 1882, 105 U. S. 580.

249. Clark Thread Co. *v.* Willimantic Linen Co., 1891, 140 U. S. 481.

hibits attached to a United States patent application, filed by the same person previously to his filing of the application for the patent in question; certain fabric similar to that used in the patented invention in question having, previously to the filing of said exhibits, been ordered by and shipped to said person in England.

250. Gandy *v.* Main Belting Co., 1892, 143 U. S. 587.

HEAD III OF SUBJECT III.

Mechanical Skill.

§ 251. The thing patented must be invented, in distinction from being merely new: that is,—it must be so out of the expected line, as to evidence the suggestion of a faculty, higher than the good judgment or the trained skill of an expert in the specific art. A department of industrial science develops, according to the need of the hour; and patent law contemplates that corresponding improvements will thus be made, in the normal course of new works.

§ 252. That degree of ingenuity which is essential to invention, is more than the ingenuity of an ordinary mechanic in the particular art.

§ 253. Simply mechanical skill is involved in substituting an old figured roller for a plain roller, or in stamping the figure of an old figured roller on a smooth roller, in a machine for pebbling leather by pressure,—the old figured roller having previously been used for the same purpose.

§ 254. An elastic, erasive pencil head was not patentable as a new article of manufacture in the

252. Hotchkiss *v.* Greenwood, 1850, 11 How. 248.

253. Stimpson *v.* Woodman, 1870, 10 Wall. 117.

year 1867,—in view of the following specification-premises: the rubber head was to be attached to a pencil, or other like article; the shape of the head was to be of any desirable external form; the longitudinal end-socket of the head was to be of any proper shape, smaller than the pencil, so that the head could be held on the pencil by the elasticity of the rubber. The idea of the patentee, that rubber thus attached to a pencil, would be convenient for use as an eraser, was a good idea; and his device to give effect to such idea was useful, but not new,—because it was generally known that rubber was erasive, and also that a piece of rubber would cling to a solid substance inserted into a hole of the rubber smaller than such substance.

§ 255. Mere mechanical skill would provide a peg or stop, to guard the rear portion of a machine from tipping sufficiently to throw the driver off.

§ 256. It has been said, that a new commercial article is not patentable, except it calls for invention exceeding that which was needful to make the apparatus for manufacturing such article.

§ 257. Increase of convenience, extension of use, or diminution of expense, through perfection of work-

254. Rubber-Tip Pencil Co. *v.* Howard, 1874, 20 Wall. 498.
255. Corn-Planter Patent, The, 1874. 23 Wall. 181.
256. Collar Co. *v.* Van Dusen, 1875, 23 Wall. 530.

manship, does not confer patentability upon such workmanship-perfection.

§ 258. The mechanism set forth in a process patent, for carrying out the patented process, may or may not be patentable; and yet the process may be patentably new, and productive of a wholly new result.

§ 259. Invention is not involved in substituting a meter-wheel pump for an air-forcing apparatus, in an apparatus for carbureting air.

§ 260. An improved chain may not be patentable, even though the spiral gold tubing be thereby more elastically free, by reason of the release of the link from the solder; and though the chain can thereby be freely taken apart, without injury thereto.

§ 261. If it be old to provide a vessel with water tanks for settling her, and it also be old to clear out a river by the propeller screw of a propeller boat moving stern foremost,—it does not call for invention to provide a propeller dredge boat with water tanks for settling her, and with a dredging screw at

257. Reckendorfer *v.* Faber, 1876, 92 U. S. 347.

258. Cochrane *v.* Deener, 1877, 94 U. S. 780.

259. Gilbert & Barker Mfg. Co. *v.* Walworth Mfg. Co., 1879, 12 Brodix, 281.

260. Pearce *v.* Mulford, 1880, 102 U. S. 112.

her forward end for clearing out a river. And this is true, notwithstanding that the dredging screw of the patented boat has longer blades than a propeller screw, and said dredging screw blades are sharpened at their points.

§ 262. If it be old to form a penetrating point with a bevel, so that the point will drive away from the bevel; and if it be old to form a bevel on the upper side of the upper leg of a staple, and a bevel on the lower side of the lower leg, so as to clinch the two legs together as the staple is driven,—it is merely mechanical skill to form a bevel on the same side of each leg of a staple, so as to direct the two leg points in the same direction, and use the device to fasten a bail to a pail.

§ 263. Only mechanical skill is involved in making a pavement, by placing wooden blocks vertically, as was old in wood pavement, and with them making a pavement in a way previously used in connection with cobble stones or bricks.

§ 264. To remedy a defect in a machine or article, may simply display the proper skill of the artisan, and not call upon that intuitive faculty of the mind termed inventive genius,—which faculty, in the

261. Atlantic Works *v.* Brady, 1883, 107 U. S. 192.
262. Double-Pointed Tack Co. *v.* Two Rivers Mfg. Co., 1883, 109 U. S. 117.
263. Phillips *v.* Detroit, 1884, 111 U. S. 604.

search for new results or new methods, brings a new creation into existence, or unfolds the covering from that which had been concealed. The expected development of each art involves due comprehension of special art knowledge, and high degree of execution, attendant upon constant and intelligent practice of such art.

§ 265. Notwithstanding important likeness may exist between a patented article and prior ones, yet such likeness may be that of a corpse-anatomy to a living being,—the prior articles not effecting the result attained by the patented article in question, because they lacked that which gave the latter its success.

§ 266. Our constitution and statute alike demand that the patented thing shall not merely be new in fact, and useful,—but that it shall involve invention.

§ 267. Even a low grade of mechanical skill would think of changing irregular apertures in the wheel rims of a combination lock, so that the key could fit snugly in the lock, and thus prevent motion of the wheel rims, while the combination of the lock was being changed,—if such end were desirable.

264. Hollister *v.* Benedict & Burnham Mfg. Co., 1885, 113 U. S. 59.

265. Consolidated Valve Co. *v.* Crosby Steam Guage Co., 1885, 113 U. S. 157.

266. Thompson *v.* Boisselier, 1885, 114 U. S. 1.

267. Yale Lock Mfg. Co. *v.* Greenleaf, 1886, 117 U. S. 554.

§ 268. Only mechanical skill is required to make the guide frame smaller than the rack, that is, to make the guide frame and the rack of proper relative size,—in a cheese former for cider presses.

§ 269. If the combination of a patent claim be, in law and in fact, simply a mechanical equivalent for a prior invention,—the claim is invalid.

§ 270. If a patented process be new, and productive of a new result, the patent may be valid, notwithstanding the apparatus for carrying out the process be old,—such apparatus being of secondary consequence.

§ 271. Notwithstanding the apparatus used for carrying out a patented process be old, and the only matter in consideration be an improvement on a former process, by the omission of one step therein, —yet valid invention may reside in such improvement, if the latter be highly useful, and be discovered after careful experiment and much ingenuity.

§ 272. A bond and coupon book does not involve invention, by the provision of spaces for the bonds, and by grouping the coupons together with

268. Pomace Holder Co. *v.* Ferguson, 1886, 119 U. S. 335.

269. Hartshorn *v.* Saginaw Barrel Co., 1887, 119 U. S. 664.

270. New Process Fermentation Co. *v.* Maus, 1887, 122 U. S. 413.

271. Lawther *v.* Hamilton, 1888, 124 U. S. 1.

their respective bonds, instead of grouping such coupons according to their dates of payment.

§ 273. It has been held that, after an application is filed for a patent on a certain article, produced by a purely mechanical method,—there is no patentable invention in said method, upon which a subsequent application for patent by the same inventor may lawfully rest.

§ 274. Invention is not involved in mounting an ore stamp mill on rollers, so as to easily move the mill about, when desirable.

§ 275. Invention is not required to provide a tube having a plurality of slots, an interior screw thread and an outer sleeve,—if it be old to provide a tube with a plurality of slots and an outer sleeve, and it also be old to provide a single slotted tube with an inner screw thread,—all in lead-holding tubes for pencils.

§ 276. Invention is not involved in providing bearing surface on one mechanical member, to support and strengthen the latter in its connection with a second mechanical member,—by increasing the quan-

272. Munson *v.* Mayor of New York, 1888, 124 U. S. 601.
273. Mosler Safe & Lock Co. *v.* Mosler, 1888, 127 U. S. 354.
274. Hendy *v.* Golden State & Miners' Iron Works, 1888, 127 U. S. 370.
275. Holland *v.* Shipley, 1888, 127 U. S. 396.

tity of metal in said first mechanical member at the point in question.

§ 277. There is not invention in supporting the step plate of a wrench by a nut, and thereby maintaining such step plate in fixed position,—in view of a prior wrench having its step plate and nut formed integral, and successfully attaining the result in question.

§ 278. Simple mechanical skill is involved in cutting a wooden paving block, so as to cause the grain of the wood to run in a certain line, and also to prevent loss of material.

§ 279. It being known that co-acting dies will swage metal to the form of the space between them, and it also being known that co-acting dies will weld two pieces of iron together: the premises may be such, that no invention rests in dies adapted to simultaneously swage and weld two pieces of iron of different contour, the opposing faces of said dies having the shape desired in the article to be made by them.

§ 280. If flexible or rigid car doors, outside or inside, be old; and if the combination of outside and inside rigid car doors be old, the inside door filling only part of the door opening: nothing but mechani-

276. Peters *v.* Hanson, 1889, 129 U. S. 541.
277. Collins Co. *v.* Coes, 1889, 130 U. S. 56.
278. Brown *v.* District of Columbia, 1889, 130 U. S. 87.
279. Peters *v.* Active Mfg. Co., 1889, 130 U. S. 626.

cal skill is required to provide a car with a flexible sliding inside half door, together with an ordinary outside door,—notwithstanding such construction may be new and useful.

§ 281. To provide a box creamery on legs with a lower compartment, does not constitute patentable matter.

§ 282. Merely mechanical skill is concerned in making a single die to cut dough on a flat surface into bretzels,—a bretzel being taken as the pattern, and dies having previously existed for cutting cake into the capital letter "B" and into the character "&". Notwithstanding many persons may have previously made unsuccessful attempts to produce a bretzel cutting machine, on a different principle from the above, and may have therein expended money and time,—yet their want of success does not impute invention to the successful bretzel cutting machine, consisting of old mechanism used with the bretzel die operating on the above principle.

§ 283. Adapting a somewhat unfamiliar spring to a new use, and thus simplifying mechanism, may constitute invention in certain case,—though the invention be not very important.

280. Watson *v.* C., I., St. L. & ' R. Co., 1889, 132 U. S. 161.
281. Hill *v.* Wooster, 1890. 132 U. S. 693
282. Butler *v.* Steckel, 1890, 137 U. S. 21.
283. Western Electric Co. *v.* La Rue, 1891, 139 U. S. 601.

§ 284. A vulcanized rubber packing possesses patentable invention, notwithstanding it combines the packing of one prior patent with a vulcanized rubber backing, and a second prior patent shows a rubber backing,—the combination producing a new and useful article, constituting one homogeneous mass, by the vulcanization of the front and back portions of the packing.

§ 285. The question as to what constitutes invention, in patent law, has been largely discussed in the courts. To say that invention is akin to genius, in distinction from mechanical skill, approaches the desired definition, but does not comprehend it. A definition of invention can not really be given.

§ 286. If the substance of the patented article in suit be old,—the bill, charging infringement, should be dismissed.

§ 287. Notwithstanding the inventor of the widely used barbed wire fence did not first use twisted wire, nor wire barbs, nor the combination of the two,—yet he made a valuable improvement, by combining a coiled barb with the twisted wire which clamps it in normal position. Such a patented invention being different from the preceding art, in that its barb

284. Magowan *v.* New York Belting & Packing Co., 1891, 141 U. S. 332.
285. McClain *v.* Ortmayer, 1891, 141 U. S. 419.
286. Myers *v.* Groom Shovel Co., 1891, 141 U. S. 674.

is a coil of wire about one fence wire, which coil is maintained fixed by a second fence wire, twisted about the first fence wire; the slight difference of such construction over the old fence, in which a perforated flat metal prong was strung upon one of two fence wires twisted together, but not thereby held immovable, apparently caused the wonderful success of the barbed wire fence. With such premises, a patent is sustainable for that last step which converted failure into success. In patent law, the final step wins.

§ 288. A certain patented canvas belt, in view of previous failures to make a practical canvas belt, and the inventor experimenting thereon for several years, —required more than mechanical skill to develop the change in question from the old structure of canvas.

§ 289. A patent which represents a mechanical adaptation, rather than an invention, and whose object seems to have been principally to forestall competition, rather than to guard a true invention,—does not fall under the protection of our patent system.

§ 290. A patented invention may in certain instance not be invalid, in view of a series of prior inventions, no one of which contain the peculiar com-

287. Barbed Wire Patent, The, 1892, 143 U. S. 275.

288. Gandy *v.* Main Belting Co., 1892, 143 U. S. 587.

289. Pope Mfg. Co. *v.* Gormully & Jeffery Mfg. Co., 1892, 144 U. S. 254.

bination in question,—no one of which, had the patentee known of them, would have suggested his invention to him.

§ 291. A patented invention may be valid as against a prior device, provided the prior device was not intended, nor adapted, nor used to accomplish the function of the patented invention in question, —and if the prior device would have to be modified in order to accomplish said function, and such modification would not suggest itself to a mechanic not examining the prior device for that purpose.

§ 292. Patentable novelty must rise above the skill of a mechanic,—as the latter may make a new thing in fact, by adapting an old construction to new circumstances.

§ 293. In certain instance, if the patentee be not the inventor of three elements, either separately or in combination, out of the four elements which comprise his patented combination, and if the fourth element be abandoned by him,—the addition of such fourth element to the prior combination of the three elements may be not sufficient to support the patent.

290. Sessions *v.* Romadka, 1892, 145 U. S. 29.
291. Topliff *v.* Topliff, 1892, 145 U. S. 156.
292. Ryan *v.* Hard, 1892, 145 U. S. 241.
293. Derby *v.* Thompson, 1892, 146 U. S. 476.

HEAD IV OF SUBJECT III.

Substitution of Material.

§ 294. If it be old to connect a door knob of metal or wood with a metallic shank in a certain manner, and if a door knob of clay be also old,—it is not patentable to connect a clay door knob with a metallic shank, in the same old way by which the metal or wood knob was connected to its metallic shank. If a better and cheaper article be thereby produced, it does not result from new mechanism, but from the better adaptability of the clay to the purpose in question.

§ 295. A wagon-reach made entirely of iron, in form the same as a reach previously made of wood strengthened by straps of iron—although less bulky, requiring less repair, and of greater solidity—is not patentable. A mechanical element, made of one material instead of another, which element performs the same office as it did previously to the substitution of material, does not change the mechanism.

§ 296. If a certain old material be employed in substantially the same way and with like result, as attained with certain other materials previously used

294. Hotchkiss *v.* Greenwood, 1850, 11 How. 248.

295. Hicks *v.* Kelsey, 1874, 18 Wall. 670.

for the purpose in hand,—no invention is involved in such substitution. It has been said that invention may, however, reside in using one material for another, provided a new manner of construction is thereby involved, or the resulting article possess new functions or qualifications.

§ 297. The substitution of metal for wood, is destitute of patentable invention.

§ 298. Notwithstanding a certain patented article may be commercially a good article, as first made out of an old material, yet if the object, form, manner of use and accompaniments of such new article be the same as in an old article,—the patent is not valid.

§ 299. Pavement blocks of wood, of the same shape as prior blocks of stone, develop nothing substantially new.

§ 300. The substitution of one material for another, without change of method, and without novelty of use, even though the resulting article may be superior, is not a patentable invention.

§ 301. If it be old to form an article in a certain

296. Smith *v.* Goodyear Dental Vulcanite Co., 1877, 93 U. S. 486.
297. Terhune *v.* Phillips, 1879, 99 U. S. 592.
298. Gardner *v.* Herz, 1886, 118 U. S. 180.
299. Brown *v.* District of Columbia, 1889, 130 U. S. 87.
300. Florsheim *v.* Schilling, 1890, 137 U. S. 64.

shape out of paste-board, it does not involve invention to form an article in the same shape out of metal,— if the manner of manufacture be practically the same in the two instances.

301. Hoff *v.* Iron Clad Mfg. Co., 1891, 139 U. S. 326.

HEAD V OF SUBJECT III.

Degree.

§ 302. Enlarging a machine is not invention.

§ 303. A corded fabric having greater tightness of weaving, a firmer grasp of the elastic cords, and greater beauty and value, stands on too narrow ground for a patent. Improved results are not sufficient to establish patentability in the thing itself.

§ 304. A patent can not be sustained for a construction, which merely increases the capacity of a machine for usefulness.

§ 305. It would be difficult to find patentable invention in a head or hair net, composed of a main set of meshes fabricated of coarse thread combined with an auxiliary set of meshes fabricated of fine thread,—in view of it having been old to make certain fabrics with cords of different size, and with different spaces between them.

§ 306. Comminuted glue has advantages over

302. Phillips *v.* Page, 1861, 24 How. 164.
303. Smith *v.* Nichols, 1875, 21 Wall. 112.
304. Roberts *v.* Ryer, 1875, 91 U. S. 150.
305. Dalton *v.* Jennings, 1876, 93 U. S. 271.

flake glue, namely: more rapid solution, greater convenience for packing and retailing, a white appearance and enhanced salableness,—advantages previously known to attend the division of soluble matter into smaller form. But to make a patentably new article, in distinction from a commercially new article, it is not sufficient to effect a mere change of form by mechanical division,—and a patent for such comminuted glue is invalid.

§ 307. Notwithstanding a certain prior machine could not perform as heavy work as the patented machine,—yet, if the patented invention be found in such prior machine, and producing results differing from the patented machine only in degree, the latter does not constitute invention.

§ 308. It is not invention to add metal or other substance to stiffen the leather cross-piece of a shawl-strap, in view of a cross-piece having previously been made as stiff as it could be by the leather being doubled and stitched. It is merely employing a known equivalent for a part of an article, to better the latter.

§ 309. Assuming that it be old to make a pavement composed of blocks in rows on an earth foundation, the spaces between the rows being filled with

306. Glue Co. *v.* Upton, 1878, 97 U. S. 3.
307. Planing-Machine Co. *v.* Keith, 1880, 101 U. S. 479.
308. Crouch *v.* Roemer, 1881, 103 U. S. 797.

gravel rammed therein,—it is questionable if invention be involved in so compactly ramming the gravel in the spaces between the rows, as to drive the gravel into a sand foundation beneath the pavement.

§ 310. Assuming that it be old to form a road pavement composed of stone blocks whose side surfaces are rough in a certain measure,—a patent is not sustainable for a pavement of blocks having rough side surfaces, whose joints furnish a good foot-hold for horses; notwithstanding the old pavement blocks had side surfaces comparatively smoother than the sides of the blocks of the patented pavement, and sand had been employed to keep the old pavement blocks apart. Such a patented pavement merely carries forward the old idea of forming open joints between the blocks; accomplishing, in substantially the same way, that which had been previously done, but with not as good a result as by the patented pavement.

§ 311. In view of the art in reed organs, invention is not involved in making the valve opening in a reed organ, of an absolute length and size. The desired quantity of air, the work-resistance of the valve, and the objection of air leaking—factors in considering the desirable dimension of a valve opening and its valve—do not fall within the purview of patent law.

309. Stow *v.* Chicago, 1882, 104 U. S. 547.
310. Guidet *v.* Brooklyn, 1882, 105 U. S. 550.
311. Estey *v.* Burdett, 1884, 109 U. S. 633.

§ 312. A patent can not be sustained for a fountain hose-reel, under the qualification of the reel being of such large diameter as to permit the water to pass through the hose when partially wound thereon.

§ 313. There is not invention in a guide-frame smaller than the rack, in a cheese former for cider-press.

§ 314. A patent for a machine is invalid, if such patented machine be the same as a prior machine, excepting as to one feature,—the action of which feature is substantially the same in the two machines; such prior machine being a comparatively smaller machine than the patented one, and having been used only for work on a smaller and a different article than is true of the patented machine.

§ 315. A cylindrical carbon rod surrounded by an annular clamp, in an electric lamp, differs only in being superior to and more useful than a rectangular carbon rod surrounded by a rectangular clamp,—the means being substantially the same.

§ 316. A patented water-tight shoe may perform no new function over the prior art, notwithstanding

312. Preston *v.* Manard, 1886, 116 U. S. 661.

313. Pomace Holder Co. *v.* Ferguson, 1886, 119 U. S. 335.

314. Peters *v.* Active Mfg. Co., 1889, 129 U. S. 530.

315. Brush *v.* Condit, 1889, 132 U. S. 39.

the vamp, the quarters and the gore flap be cut differently from heretofore,—such patented shoe subserving the same purpose as did the prior art, and constituting change of degree, not a new principle.

§ 317. If the roof stones of a building be wide, the ridge stone may be narrower; while if the roof stones are narrow, a wider ridge stone is necessary. In the latter case, the cap stone must rest upon the gable stones; but in the former case, it need not. The question is degree, and not invention,—in each instance, the vertical seam of the roof is closed against water, and the roof holds the building together.

§ 318. A patented invention may embody the good points of prior inventions, and improve upon them in degree,—without developing patentable matter.

§ 319. Inasmuch as common dental science protects the dentine of a tooth from food and fluid, it is merely expected professional work of degree to perfect a tooth cap, by closing a very. small hole therein.

§ 320. Assuming that prior endeavors to make a practical canvas belt had failed, and that the inventor had experimented several years before he discovered

316. Burt *v.* Evory, 1890, 133 U. S. 349.
317. French *v.* Carter, 1890, 137 U. S. 239.
318. Busell Trimmer Co. *v.* Stevens, 1890, 137 U. S. 423.
319. International Tooth Crown Co. *v.* Gaylord, 1891, 140 U. S. 55.

that it was necessary to increase the strength of the warp or longitudinal fibers or yarns over the weft or cross fibers of the canvas,—such change is more than degree, and is patentable.

§ 321. A more thorough doing of that which had previously been done, does not involve invention.

320. Gandy *v.* Main Belting Co., 1892, 143 U. S. 587.

321. Ansonia Brass & Copper Co. *v.* Electrical Supply Co., 1892, 144 U. S. 11.

HEAD VI OF SUBJECT III.

Double or Analogous Use.

§ 322. Invention does not reside in old parts adapted to a new use, but may reside in new means of adapting old parts to a new use.

§ 323. It is doubtful if it is patentable matter to make a door-lock case with two faces in duplicate, and finished so that either face may be presented outward.

§ 324. If a prior patent discloses a machine adapted to do work, which in its nature is the same as the work done by the invention of a later patent; and if the construction and operation of the machine of such earlier patent would suggest to a mechanic skilled in the art in question, the machine of the second patent, without material change of the first patented machine,—then such adaptation of the old machine to the new use is not invention.

§ 325. A method of preserving fish or other articles in a close chamber, by means of a freezing mixture, having no contact with the atmosphere of

322. Phillips *v.* Page, 1861, 24 How. 164.
323. Jones *v.* Morehead, 1864, 1 Wall. 155.
324. Tucker *v.* Spalding, 1872, 13 Wall. 453.

the preserving chamber,—may not possess patentable invention in view of a certain corpse preserver. Neither is there any substantial diversity between such a fish preserving method and the well-known ice cream freezing method. An application of an old process to a new object, is not good matter for a patent.

§ 326. If a patented refrigerator, adapted to subject the contained articles to a descending current of cold air, employs substantially the same construction found in the patented refrigerator of an earlier inventor who expected to use principally the ascending current of cold air instead of the descending current,—there is not patentable invention in the later refrigerator. He who invents a machine, may use it in whatever manner it may be used, irrespectively whether he had thought of such use or not.

§ 327. If it be old to use one deflecting plate on one side of a circular saw in a lumber sawing machine, a patent can not be sustained for two deflecting plates, one on each side of the saw,—the two plates respectively performing precisely the same duty as the single plate previously in use.

§ 328. It is not patentable to change the posi-

325. Brown *v.* Piper, 1875, 91 U. S. 37.
326. Roberts *v.* Ryer, 1875, 91 U. S. 150.
327. Dunbar *v.* Myers, 1876, 94 U. S. 187.

tion of a spout-wheel, so that it may operate under water as a turbine wheel.

§ 329. Applying to an old cupola furnace a cinder notch, old in a blast furnace, to accomplish the same end—drawing off the cinder—as was accomplished by its use in the blast furnace, is not invention. The same work is performed, in the same manner, by the same means.

§ 330. A patent claim may be anticipated by matter disclosed in a foreign patent, if the latter shows that its inventor invented the device in question,—it being immaterial whether he knew of and described all its benefits.

§ 331. Assuming that a prior patent disclosed a straw feeding attachment applied to the furnace door of a fire box boiler,—invention does not reside in combining a straw feeding attachment with a furnace door of a return flue boiler. And this is true, notwithstanding the said prior patentee did not know of the superior value of applying such an attachment to a return flue boiler, instead of a fire box boiler. Such an application of the straw feeding attachment is within the boundary of the prior patented inven-

328. Mfg. Co. *v.* Ladd, 1880, 102 U. S. 408.
329. Vinton *v.* Hamilton, 1882, 104 U. S. 485.
330. Stow *v.* Chicago, 1882, 104 U. S. 547.

tion, irrespectively of it having been tried by said prior patentee, or having been foreseen by him.

§ 332. Invention is not required to make a solid conical bolt having a screw thread, in the construction of safes,—if a solid conical bolt be old, and a cored conical bolt having a screw thread be old.

§ 333. Premising that it be old to form a street car fare box with a glass panel next to the driver, invention is not involved in putting an additional pane of glass in such fare box, opposite to the side next the driver, so that the passengers can see within the box,—notwithstanding such double-pane fare box be better than the single-pane fare box. The same conclusion applies to lighting the interior of a street car fare box at night, by a light obtained from the head lamp of the car thrown by a reflector through an opening in the head lamp box, into the fare box, —in view of the elements of said claim—the fare box, the head light, the reflector—all being old; merely a proper opening being made, and the rays of the head lamp being reflected through it,—the same being done by a new application of devices old in the use of reflectors.

§ 334. A bale of distinct parcels of plastering

331. Heald *v.* Rice, 1882, 104 U. S. 737.
332. Hall *v.* Macneale, 1883, 107 U. S. 90.
333. Slawson *v.* Grand Street Railroad Co., 1883, 107 U. S. 649.

hair compressed into a unitary package, possesses no invention, in view of plug tobacco having been previously so packed; the outer leaves of each plug forming a part of the latter as well as its covering, and such plugs being compressed into a compact mass for market.

§ 335. Assuming that in stove construction, a detachable base-pan be old, and hearths and ash-pans have been previously attached by lugs and hooks,—invention is not involved in connecting a detachable base-pan to a stove by lugs and hooks the same as had been previously used with said hearths and ash-pans.

§ 336. Applying to the forward truck of a locomotive engine with fixed driving wheels, a truck previously in use on railroad cars, is not patentable matter.

§ 337. It is not invention to apply, by an old mechanical arrangement of shafts and cog-wheels, the power of an engine on a boat, to rotate a capstan instead of rotating a windlass,—as previously.

§ 338. If a certain machine or article be old in

334. King *v.* Gallun, 1883, 109 U. S. 99.
335. Bussey *v.* Excelsior Mfg. Co., 1884, 110 U. S. 131.
336. Pennsylvania Railroad *v.* Locomotive Safety Truck Co., 1884, 110 U. S. 490.
337. Morris *v.* McMillin, 1884, 112 U. S. 244.

its use for a certain purpose, invention is not involved in using such old thing for another purpose. It has been said that if there be any modification of this doctrine, it is that if a new and different result follow a new application of an old thing, the new application may be patentable, provided such new result be different in character from the old result.

§ 339. If it be old to open and close the rear door of a street car by mechanism operated by the driver on the front platform of the car, and if it be also old to open and close outside house shutters by certain intermediate mechanical devices,—there is no patentable invention in opening and closing the rear door of a street car by the driver on the front platform, by intermediate mechanism the same as employed with said house shutters.

§ 340. It is not patentable to apply to tobacco at a later stage of its process of manufacture, a process of stamping previously used in manufacturing the same tobacco.

§ 341. Inventive genius is not required to apply a fire-pot to a different kind of circular stove from that in which it has previously been used.

338. Blake *v.* San Francisco, 1885, 113 U. S. 679.
339. Stephenson *v.* Brooklyn Cross-Town R. Co., 1885, 114 U. S. 149.
340. Miller *v.* Foree, 1885. 116 U. S. 22.
341. Hailes *v.* Albany Stove Co., 1887, 123 U. S. 582.

§ 342. If it be old to give "age" to wine by heat from the outside of wine casks, and if it be old to heat water and high wines by heating-apparatus located inside of the casks,—it is not patentable to apply said old inside heating-apparatus for giving "age" to wine.

§ 343. Notwithstanding a crossing of railroad tracks is a different thing from a railroad switch, yet the use of channel iron is analogous in the two cases. An ordinary mechanic could transfer the channel irons, previously used upon a railroad crossing, to a railroad switch; and such channel irons would, in each instance, hold railroad rails firmly in proper position.

§ 344. A patent can not be sustained for simply applying an old apparatus to a new use, without change of elements or operation.

§ 345. A patent for a machine is invalid, if such patented machine be the same as a prior machine, excepting as to one feature,—the action of which feature is substantially the same in the two machines; such prior machine being a comparatively smaller machine than the patented one, and having been

342. Dreyfus *v.* Searle, 1888, 124 U. S. 60.
343. Weir *v.* Morden, 1888, 125 U. S. 98.
344. Crescent Brewing Co. *v.* Gottfried, 1888, 128 U. S. 158.
Peters *v.* Hanson, 1889, 129 U. S. 541.

used only for work on a smaller and a different article than is true of the patented machine.

§ 346. The application of a diagonal brace to a car track scraper, to prevent lateral displacement of such scraper, does not involve patentable invention. Such a brace for such an office would readily occur to a mechanic, and its use in such instance falls under analogous experience.

§ 347. It does not require invention to apply to a fulling machine, an old shifting device.

§ 348. Patentable novelty is not found in applying to the art of turning metal, substantially the same construction as has been previously used in the art of turning wood articles.

§ 349. Upon the assumption that a billiard cue rack be old, a revolving billiard cue rack is but the application of old revolving devices, such as found in a table caster, to the novel and similar office of holding and carrying billiard cues about a circle, —under such adaptations merely as would be readily

345. Peters *v.* Active Mfg. Co., 1889, 129 U. S. 530.

346. Day *v.* Fairhaven and Westville Railway Co., 1889, 132 U. S. 98.

347. Royer *v.* Roth, 1889, 132 U. S. 201.

348. Howe Machine Co. *v.* National Needle Co., 1890, 134 U. S. 388.

devised by an artisan, in changing a stationary rack to a revolving circular one.

§ 350. Merely double use is involved in applying old mechanism to use with a prison door, in connection with a grating barrier interposed between the jailer and the prisoners at every stage of opening or shutting the door. The purpose of the grating barrier is not properly in the question of patentable invention.

§ 351. Notwithstanding torsional springs had previously been used in clocks, doors and perhaps some other articles of domestic furniture, yet the adaptation of the principle of such torsional spring to telegraphic instruments, with its attendant simplification of mechanism, to serve as a support for the lever, in substitution for the prior somewhat objectionable means, —constituted patentable invention. And while the patent thereon set forth such combination in a telegraph key, and defendant applied the combination in a telegraph sounder, yet each such key and sounder has the same elements and practically the same use; the two instruments being used for purposes which differ principally in name, and the new or double use of the combination in a sounder would occur to any ordinary mechanic who had seen the patented key working. It being said that the promotion of

349. St. Germain *v.* Brunswick, 1890, 135 U. S. 227.
350. Fond Du Lac County *v.* May, 1890, 137 U. S. 395.

an old device, such as the torsional spring, to a new field of work in which it performs a new office, involves invention; but the transfer of the same device to a field of work similar to its former field, where it performs substantially the same office which it did previously to such transfer, does not involve invention.

§ 352. It is not invention to reinforce a seam in trousers, by a stay-piece, in a manner similar to that previously employed in strengthening the seam at the angle between the fingers and thumb of a glove.

§ 353. If the construction and the desirable qualification of a patented invention be old, notwithstanding the old construction was not intended to, and perhaps was not known to, possess such qualification, yet the patented invention is without the support of law,—inasmuch as the application of an old thing to a new like use is not invention, even if the result following such new use had not been thought of.

351. Western Electric Co. *v.* La Rue, 1891, 139 U. S. 601.
352. Patent Clothing Co. *v.* Glover, 1891, 141 U. S. 560.
353. Ansonia Brass and Copper Co. *v.* Electrical Supply Co., 1892, 144 U. S. 11.

HEAD VII OF SUBJECT III.

Aggregation.

§ 354. To constitute a patentably new combination, all the elements of which were previously known, —the result thereof must be new and useful, a product of the combination, and not a mere aggregate of the different individual results of the constituents. To simply bring together certain old devices, and then permit them to individually accomplish their respective old results, without the attainment of some new end, does not amount to invention.

§ 355. A valid patent may be for a new combination of old elements, productive of a new and useful result.

§ 356. If the combination of a patented claim be new as a combination, and in its purpose and use, and be productive of a new and useful result,—such claim is valid, notwithstanding some of the elements of its combination are old.

§ 357. Notwithstanding all the members of a combination be old, if the combination thereof be new,

354. Hailes *v.* Van Wormer, 1874, 20 Wall. 353.
355. Gill *v.* Wells, 1874, 22 Wall. 1.
Fuller *v.* Yentzer, 1877, 94 U. S. 299.
356. Corn-Planter Patent, The, 1874, 23 Wall. 181.

producing a new and useful unitary result, and not a mere addition of results,—such combination may be patentable.

§ 358. There is not patentable combination between the lead of a pencil and a rubber eraser, in the holder of a lead pencil; notwithstanding it be more convenient to have the lead and the eraser thus united in a single holder, than to have them respectively provided with distinct holders. The lead and the eraser have no relation in the operation of their respective services, and possess no reciprocal action; when either the lead or the rubber is being used, the same operates precisely as it would, if the other were not present in the same holder. There is no conjoint operation between the two, and no new result accomplished by the two being in the same pencil holder, —there is merely an aggregation of separate elements.

§ 359. It has been said that there is no combined action, in certain instance, between a metal ring and a composition which envelops it,—merely using old methods and materials in an old way.

§ 360. Though every element in the patented Nicholson pavement had been previously used in one

357. Dane *v.* Chicago Mfg. Co., 1875, 131 U. S. CXXVI.
358. Reckendorfer *v.* Faber, 1876, 92 U. S. 347.
359. Rubber-Coated Harness-Trimming Co. *v.* Welling, 1878, 97 U. S. 7.

kind or another of pavements, yet they had never been combined in the manner which Nicholson combined them, and his pavement constituted an invention in law.

§ 361. If no single prior machine substantially embodied the entire legitimate combination of a patent, nor the substance thereof, then such combination is not anticipated by a number of prior machines respectively containing the different individual features of the combination in question.

§ 362. If all the elements of a patented combination be individually old, and no one of them contribute to the combined result any new feature, nor affect the manner or result of action of any other element,—there is no invention. To constitute a patentable combination of old elements, each element must affect every other element; the machine constituting the combination must have a distinctive construction and service, or its work must be attributable to the co-operation of all the elements, in distinction from being simply an aggregate of the different individual work of the elements.

§ 363. A process is not new in law, if all its

360. Elizabeth *v.* Pavement Co., 1878, 97 U. S. 126.

361. Bates *v.* Coe, 1878, 98 U. S. 31.
Imhaeuser *v.* Buerk, 1880, 101 U. S. 647.
Parks *v.* Booth, 1880, 102 U. S. 96.

362. Pickering *v.* McCullough, 1881, 104 U. S. 310.

constituents are old, and develop no new product, nor an old product in a better manner.

§ 364. A patented combination of old devices is not valid, if the combination be an apparent way for attaining the desired end, by a skilled mechanic in the art in question. But if the combination produce a new and beneficial result, and had not been seen by the most skillful persons, although close to their observation,—it argues in favor of invention. After such a combination has succeeded, it may appear to other artisans of the craft that they could have done the same thing,—an appearance which frequently obtains with inventions of great merit.

§ 365. A combination of two elements is not patentable, if neither one modifies nor affects the action of the other. There is mere aggregation in a claim for a certain metallic washer with a certain staple for fastening a bail to a wood pail. The washer would keep the eye of the bail from rubbing the wood of the pail, if it were fastened in other way than by the staple; and in such presumed construction, the staple would operate the same as it does in the patented construction.

§ 366. There is no patentable relation between

363. Packing Co. Cases, 1882, 105 U. S. 566.
364. Loom Co. *v.* Higgins, 1882, 105 U. S. 580.
365. Double Pointed Tack Co. *v.* Two Rivers Mfg. Co., 1883, 109 U. S. 117.

the damper for the middle flue of a three flue stove, and the portability of a base-pan, or the existence of a warming closet,—in a reservoir cooking stove.

§ 367. An alleged combination of old devices, namely, the hood of a street car over the driver's platform provided with a mirror, and a glass panel in the front end of the car over the door, to enable the driver to see by the reflection of the mirror what takes place in the car,—is a mere aggregation. Each of the three devices accomplishes its individual work, the same as if used separately from its companion devices. No one of the constituents of such alleged combination accomplishes any new function, nor affects the function of other constituents; and the assemblage of them does not attain a new end, nor the better attain an old end.

§ 368. A patented combination is not good for two pairs of old dies which operate at different times on the same article, said pairs of dies not combined in one machine, and not co-acting to one end,—each pair of dies operating by itself, and capable of performing its desired work at any interval of time or place from the other pair. Even if two pairs of old dies work at the same place, one pair immediately following the other pair in time of operation,—if the

366. Bussey *v.* Excelsior Mfg. Co., 1884, 110 U. S. 131.
367. Stephenson *v.* Brooklyn Cross-Town R. Co., 1885, 114 U. S. 149.

work of each pair produce its own individual result, without qualification of the operation of the other pair, there is not a legitimate combination.

§ 369. If a number of old mechanical devices be brought together as a machine, constituting a new combination, more effective than the old machine,—such new combination may be matter for a patent.

§ 370. Patentable invention does not reside in assembling old elements to produce a better result than heretofore, if said assembled elements work individually, respectively as they did previously to the assemblage,—the product of the work of the assemblage possessing no qualification which can not be distinctively attributed to the sole work of some one of the different members of the assemblage. But if the above old elements be brought into working relation with each other, so that they work together in one machine, by intermediate mechanism which could not have been devised merely by mechanical skill,—patentable matter would be found in such intermediate mechanism.

§ 371. A patent claim for a feeding cylinder mounted upon timbers which have rollers beneath them,—is for a mere aggregation. Such feeding

368. Beecher Mfg. Co. *v.* Atwater Mfg. Co., 1885, 114 U. S. 523.
369. Cantrell *v.* Wallick, 1886, 117 U. S. 689.
370. Thatcher Heating Co. *v.* Burtis, 1887, 121 U. S. 286.

cylinder, when so mounted, operating the same as if mounted upon timbers not provided with rollers.

§ 372. An alleged combination of an automatic shifting device, with the drum of a fulling machine, is a mere aggregation. Such shifting device operates in connection with a fulling machine, exactly the same as with any other machine,—to reverse the action of the engine.

§ 373. Because an assemblage of prior inventions results in a superior and cheaper article,—the same is not therefore a patentable combination.

§ 374. The combination of certain old elements is not patentable, if the operation and result of a portion of said elements in the patented combination be the same, whether or not the remaining element be present,—said remaining element having no mechanical office and accomplishing no mechanical result.

§ 375. Notwithstanding a patented machine may be better than others of its class, yet if all its constituents be old, and if it does not accomplish a new office, but is merely more perfect because a greater

371. Hendy *v.* Golden State and Miners' Iron Works, 1888, 127 U. S. 370.
372. Royer *v.* Roth, 1889, 132 U. S. 201.
373. Florsheim *v.* Schilling, 1890, 137 U. S. 64.
374. Fond Du Lac County *v.* May, 1890, 137 U. S. 395.

number of elements are employed than heretofore,—the machine is a mere aggregation in law.

§ 376. A patent claim is merely for an aggregation of old devices, if each such old device perform only its own old work, and there be no new jointly-produced result obtained by the bringing together of such old devices,—but merely an aggregation of old results. Hence one of the old elements of the aggregation might be anticipated by one patent, a second element by a second patent, and so on, throughout the entire series of elements. But if a patent claim be a legitimate combination, productive of a new and useful result caused by the qualifying action of one element upon the work of a companion element,—such combination can not be anticipated in the above manner of anticipation applicable to an aggregation.

§ 377. A patent for a combination of old elements is not valid, unless a new result be obtained from such combination, caused by the co-operating offices of all the different elements.

375. Union Edge Setter Co. *v.* Keith, 1891, 139 U. S. 530.
376. Adams *v.* Bellaire Stamping Co., 1891, 141 U. S. 539.
377. Brinkerhoff *v.* Aloe, 1892, 146 U. S. 515.

HEAD VIII OF SUBJECT III.

Useful Invention.

§ 378. A purpose to be attained, is not a patentable invention,—but the new and useful means of such an attainment may be patentable.

§ 379. No one can appropriate a discovered natural power, like the power of steam or electricity. But a discoverer of a process for seizing, changing and collecting natural agencies, may protect such process. Any legal protection touching such matters must reside wholly in the process or means, discovered or invented for applying the elements of such power to useful purpose.

§ 380. The law will not uphold a claim broadly to the use of electricity for marking intelligible characters at a distance,—covering manners and processes of applying electricity which the patent does not describe. A result can not be validly patented, no matter how new, useful and important. The method or means for accomplishing such result can alone be validly patented; and identically the same result may be lawfully attained by method or means substantially different from those first employed.

378. Carver *v.* Hyde, 1842, 16 Pet. 513.
379. Le Roy *v.* Tatham, 1852, 14 How. 156.

This doctrine applies alike to results of mechanical action, chemical action, or action of a principle in natural philosophy. It has been said that if the means described in a patent will not produce the described result, the patent is void.

§ 381. A patent is for a practical method or means of attaining a useful result,—and can not be for such a result itself.

§ 382. Notwithstanding there may be a brilliant discovery of an abstract philosophical principle, it can not be useful unless applied to a practical end; and, short of this, patentable matter is not found.

§ 383. A machine is a concrete entity, having different parts; and for a machine, a patent may be granted. A machine has a principle which may be properly defined as a mode of operation, or that distinctive combination of parts wherein it differs from other machines. But a machine is not a principle, an idea or other abstraction.

§ 384. A patented invention, which, when embodied in a machine, results in unsuccessful experiments, and is finally abandoned, does not deter a

380. O'Reilly *v.* Morse, 1853, 15 How. 62.
381. Corning *v.* Burden, 1853, 15 How. 252.
382. Le Roy *v.* Tatham, 1860, 22 How. 132.
383. Burr *v.* Duryee, 1864, 1 Wall. 531.

second inventor from entering upon the field, and from obtaining, if successful, a valid patent,—he having first adapted the matter in question to practicable use.

§ 385. It has been said that if a patented invention can not, as set forth in the patent, be operated to produce the effect described in the patent as the end in question, the patent is void for want of utility; and that a patented invention is not useful, if it will not permit of being practiced without great physical injury to the operator.

§ 386. If the use of a claimed process as described in the patent, under qualification of the common knowledge of persons skilled in the art in question, would not be injurious to the material subjected to such process,—the claim is not void because the invention lacks utility, in such particular.

§ 387. A patent can not lawfully cover an idea in itself,—but a new construction which renders such idea practically useful.

§ 388. If a patented thing generally supersedes the things previously used for like purpose,—such fact may suffice to resolve, in favor of the patent-

384. Whiteley *v.* Swayne, 1869, 7 Wall. 685.
385. Mitchell *v.* Tilghman, 1874, 19 Wall. 287.
386. Klein *v.* Russell, 1874, 19 Wall. 433.
387. Rubber-Tip Pencil Co. *v.* Howard, 1874, 20 Wall. 498.

ability of the thing in question, a doubt resulting from the other premises in the case.

§ 389. The large number of the patented thing which have been sold, may be conclusive against objection of lack of practical value of such patented invention.

§ 390. A patent can not lawfully be for a mere scientific fact first discovered,—but may be for a process which utilizes same.

§ 391. It has been said that usually, though possibly not always, a new combination of old elements, which accomplishes a novel and useful result, constitutes evidence of invention.

§ 392. Notwithstanding an increased utility over prior devices is generally held, in cases otherwise of doubt, as throwing the question of invention in favor of the patented device in hand,—yet a case may so far show want of patentable invention, as to cause increased utility of the patented thing to fail to settle the question in favor of the patent.

388. Smith *v.* Goodyear Dental Vulcanite Co., 1877, 93 U. S. 486.
389. Robertson *v.* Blake, 1877, 94 U. S. 728.
390. Tilghman *v.* Proctor, 1881, 102 U. S. 707.
391. Loom Co. *v.* Higgins, 1882, 105 U. S. 580.
392. Hollister *v.* Benedict & Burnham Mfg. Co., 1885, 113 U. S. 59.

§ 393. The fact that alleged anticipating devices were not used, and that the patented device met with a quick and large use, harmonizes with evidence that the latter device possesses something which the prior devices did not possess, and supports conclusion that the patented device contains patentable novelty.

§ 394. Notwithstanding an inventor, at the date of filing his patent application, had never actually made a corporeal apparatus which accomplished the object in question,—yet if the patent is such as to enable a person of ordinary skill in the art to make an apparatus adapted to attain the desired result, the patent is not invalid on such score.

§ 395. If an infringer of a patent has made and sold a considerable number of the patented device, he is estopped from contending that the patented invention is useless.

§ 396. In examining the novelty and value of a patented invention, consideration may be had of the fact that such invention went at once into general use,—and this at a price greater than previous articles of the same class, although the cost of production

393. Consolidated Valve Co. *v.* Crosby Steam Guage Co., 1885, 113 U. S. 157.
394. Telephone Cases, The, 1888, 126 U. S. 1.
395. Western Electric Co. *v.* La Rue, 1891, 139 U. S. 601.

of the patented article was less than that of the old article.

§ 397. Great extent of use of a patented thing is not conclusive of its usefulness; and such use is much less conclusive of the thing being an invention in law. Extent of use is not a safe guide to utility, because sales are as frequently made by an effective advertising system, business push and heavy selling commissions,—as by any inherent qualifications of the goods themselves.

§ 398. If a patented thing be without patentable invention,—the fact that such patented thing has practically superseded all other devices in its class, is not a matter of moment.

§ 399. Notwithstanding defense-testimony against the utility of a patented thing may indicate no great advantage in the patented invention,—yet if the latter has been largely adopted, such extent of use may be, in certain case, sufficient evidence of utility in the thing itself.

§ 400. Doubt as to patentable novelty may be resolved in favor of the patent, in view of the pat-

396. Magowan *v.* New York Belting & Packing Co., 1891, 141 U. S. 332.
397. McClain *v.* Ortmayer, 1891, 141 U. S. 419.
398. Adams *v.* Bellaire Stamping Co., 1891, 141 U. S. 539.
399. Gandy *v.* Main Belting Co., 1892, 143 U. S. 587.

ented invention being the first practical improved article of its class, in substitution for the old-fashioned means for attaining the same general result,—and said invention, in improved form, having superseded such old means.

§ 401. Notwithstanding patentable novelty of a patented invention may be doubtful,—yet, if the patented thing has had an extensive use, such doubt may not be sufficient to overthrow the patent.

§ 402. In certain instance, if the patentee be not the inventor of three elements, either separately or in combination, out of the four elements which comprise his patented combination, and if the fourth element be abandoned by him,—the addition of such fourth element to the prior combination of the three elements may be not sufficient to support the patent.

400. Sessions *v.* Romadka, 1892, 145 U. S. 29.
401. Topliff *v.* Topliff, 1892, 145 U. S. 156.
402. Derby *v.* Thompson, 1892, 146 U. S. 476.

HEAD IX OF SUBJECT III.

Prior Invention, Knowledge or Use.

§ 403. It will be understood that the processes, devices or machines mentioned under this head, mean in this country.

§ 404. It has been held that a patent is valid, even though previously to the *bona fide* invention thereof, the same thing had been used for years by an earlier inventor,—if he had not made his invention public, but had used it simply for his own private purpose, and such prior article had finally been forgotten or abandoned.

§ 405. If a person, in unsuccessful endeavor to perfect a machine, relinquish further effort thereon, and enter into other business, the circumstances may be such as to prove the alleged invention to be but an abandoned experiment,—said machine being objectionable to such extent that it could not be used in any good work for which it was intended.

§ 406. It has been said that, notwithstanding other persons may previously have conceived of the machine in question, and experimented in reducing

404. Gayler *v.* Wilder, 1850, 10 How. 477.

405. Appleton *v.* Bacon, 1862, 2 Black. 699.

the conception to practice,—yet he is the real inventor, who first perfects the machine, so that it may usefully operate.

§ 407. Notwithstanding prior unsuccessful experiments of a patented machine, finally abandoned: if, subsequently thereto, another person enters the field and invents a successful machine, he is entitled to a patent therefor,—having been the first one to develop a machine suitable for the purpose in view.

§ 408. A machine not patented, is an abandoned experiment, if after it has been made, and before it is adapted to use, the inventor breaks it up, as demanding more consideration and trial, and places the parts to one side, without intent to re-assemble them.

§ 409. To defeat a patent, an alleged prior invention must have been finished and adapted to attain the end in question. And this must clearly appear, because every reasonable doubt as to it will be resolved in favor of the patent. If such alleged prior invention did not go beyond thought or experiment, if it was incomplete,—there has not been that certainty which the law requires in distinction from conjecture. If the subject-matter be a machine, the idea

406. Agawam Co. *v.* Jordan, 1869, 7 Wall. 583.
407. Whiteley *v.* Swayne, 1869, 7 Wall. 685.
408. Seymour *v.* Osborne, 1871, 11 Wall. 516.

in question must have been placed in a material embodiment, showing its actual usefulness; for until the goal be reached, the race is not won. If one machine, such as the patented one, was complete and capable of working before the patented invention, was then known to several persons, and was used and shown to be successful,—it stands as a good anticipation. It has been said that prior knowledge and use by a single person is sufficient.

§ 410. A patented invention can not be defeated by a prior machine, which was used only in experiment, was incomplete, not adapted to automatically operate to same end as the patented invention, was finally broken up, and a second machine never made. And this is true, notwithstanding an application for patent on such prior machine was once filed in the Patent Office, was subsequently voluntarily withdrawn, and was never renewed. A prior patent application is not, in itself, a bar to a patent. The defense of prior use shoulders the burden of proof, in attempt to defeat a patent. It has been said that if a machine had certain of its parts completed previously to a patented invention, and not subsequently altered, even though such machine in its entirety was not perfected and satisfactory until after said patented invention,—then the latter is not valid so far as concerns said earlier parts, but is valid as to a new combination of

409. Coffin *v.* Ogden, 1874, 18 Wall. 120.

said earlier parts with other devices invented by the patentee.

§ 411. Notwithstanding different persons may respectively have had a conception of the invention, and succeeded to some extent in reducing the same to practice, previously to the finished and successful invention of the patent in question,—yet such experiments may not defeat the patent.

§ 412. To invalidate a patented invention, it does not suffice that a prior experimental thing closely resembled the latter; but such prior thing must also be something more than an experiment, resulting in nothing practical. If such a prior thing had objectionable features, and was soon abandoned by reason thereof; and was neither the same as, nor suggestive of, the patented invention,—it may rightfully be disregarded.

§ 413. It is material to keep in mind the purpose of the machines in question, in deciding whether a patented machine is anticipated by a prior machine. Thereby the manner of working, and the office of the various members of each such machine may be the more intelligently comprehended.

410. Corn-Planter Patent, The, 1874, 23 Wall. 181.
411. Wood-Paper Patent, The, 1874, 23 Wall. 566.
412. Smith *v.* Goodyear Dental Vulcanite Co:, 1877, 93 U. S. 486.
413. Cawood Patent, 1877, 94 U. S. 695.

§ 414. Proof that certain alleged anticipating machines had been seen in a manufactory, previously to the patented invention in question, may not show that such machines were any thing more than abandoned experiments.

§ 415. Notwithstanding a prior machine was not so perfect as the patented one in question, yet if it was used successfully, at least sufficiently so as to support a patent therefor, had one been issued thereon, —then such prior machine may be a valid defense against the patent.

§ 416. A prior accidental process, not understood as to operation or result, and not exciting attention, is not a legal anticipation of a patented process.

§ 417. An operation of a prior machine, which operation was accidental and not within the principle of the mechanical construction—such machine not being intended for such purpose, not showing that it was to be used in such way, and not really so used,—does not amount in law to an anticipation of a patented machine.

§ 418. Notwithstanding certain devices, prior to the patented device in question, were like the latter

414. Marsh *v.* Seymour, 1878, 97 U. S. 348.
415. Railway Co. *v.* Sayles, 1878, 97 U. S. 554.
416. Tilghman *v.* Proctor, 1881, 102 U. S. 707.
417. Clough *v.* Barker, 1882, 106 U. S. 166.

in important corporeal particulars: yet, if such prior devices did not possess that which gave said patented device its success, and therefore did not attain the kind of result first accomplished by it, although a skillful mechanic may adapt the prior devices to produce somewhat of its good result,—they do not constitute valid anticipations.

§ 419. If a prior process was in use for many years, and largely used, even though it was somewhat imperfectly applied,—it may be good as against a patented invention.

§ 420. A prior device, which was put on two machines, and which worked perfectly thereon, may have been a completed invention, and not an abandoned experiment,—even if an allowed application for patent thereon did not issue to patent.

§ 421. Not merely is the burden of proof on him who sets up defense of prior use,—but every reasonable doubt should be resolved against an alleged machine prior to a patented invention.

§ 422. In considering the question of anticipation of a patented invention: prominent factors for

418. Consolidated Valve Co. *v.* Crosby Steam Guage Co., 1885, 113 U. S. 157.
419. Miller *v.* Foree, 1885, 116 U. S. 22.
420. Brown *v.* Davis, 1886, 116 U. S. 237.
421. Cantrell *v.* Wallick, 1886, 117 U. S. 689.

determining against anticipation may be found in the conduct of the alleged anticipator, and in the lack of reliable proof of his successful work, during a series of years when he is alleged to have had the complete invention, and when the importance of the matter was well known; and other like factor may be found in alleged anticipating instruments, the remains of which are not suitable for use as put in evidence, and the reproductions of which fail to successfully operate. The ordinary laws that govern human conduct are regarded, in construing testimony touching said question.

§ 423. A patent for a machine is invalid, if such patented machine be the same as a prior machine, excepting as to one feature,—the action of which feature is substantially the same in the two machines; such prior machine being a comparatively smaller machine than the patented one, and having been used only for work on a smaller and a different article than is true of the patented machine.

§ 424. A clamp surrounding the carbon holder of an electric carbon-pencil lamp, set up in defense to a patented carbon-pencil electric-lamp clamp, was a perfected invention, and not an abandoned experiment,—notwithstanding such prior clamp constituted

422. Telephone Cases, The, 1888, 126 U. S. 1.
423. Peters *v.* Active Mfg. Co., 1889, 129 U. S. 530.

a part of an electric lamp only for two and one-half months, and was then taken from the lamp, and a different clamp substituted therefor; and notwithstanding said prior clamp was never again used with a carbon-pencil lamp, and a duplicate thereof was never made until for use in the suit which held said clamp to be an anticipation of the patented clamp. And this is true, although the electric lamp which contained such prior clamp during said two and one-half months, was burned at different times, and not uniformly, in a mill and shop which were ordinarily lighted by gas,—such electric lamp being also used occasionally out of doors. The use in question being a public one, in the presence of the employees; not to gratify curiosity, nor to experiment with as to the success of the clamp, but being an ordinary use of a complete lamp, to furnish light. The prior clamp having done practical work, and having been in ordinary use, and the fact that it was laid aside not being attributable to any defect in the clamp,—its practical use met with as much success as could be reasonably expected in view of the then existing electrical art. There is no merit in a contention that the mechanism of such prior clamp was concealed from view; inasmuch as there was no more concealment in such prior clamp than was inseparable from legitimate use thereof, and the construction thereof was necessarily known to the workmen who made it. Nor is a contention good, that said prior clamp would not operate as perfectly as the patented clamp,—if substantially the same

means exist in common between the two clamps, and the difference be mere degree.

§ 425. Devices which are not patented, and which are proven only by oral testimony, should be clearly proven beyond a reasonable doubt as against a patented invention,—because of the unsatisfactory character generally of such testimony on such points. Many a valuable patented invention has run the gantlet of witnesses whose imagination or fabrication had set up a similar discovery to defraud the patentee. Notwithstanding it be possible that some experimenter may have crudely made the patented thing in question, previously to the invention of the patentee, yet if the patentee first advertised the patented thing to the world, practically used it, and gave it to most extensive public use,—doubt touching the actual inventor of the patented thing, may be resolved in favor of the patentee.

§ 426. Notwithstanding it be true that a prior article, set up in anticipation of a patented article, was not intended to, and perhaps was not known to, possess a certain feature in question,—yet if such prior article did in fact possess said feature, the latter can not be accredited to the patented invention.

424. Brush *v.* Condit, 1889, 132 U. S. 39.
425. Barbed Wire Patent, The, 1892, 143 U. S. 275.
426. Ansonia Brass and Copper Co. *v.* Electrical Supply Co., 1892, 144 U. S. 11.

§ 427. Notwithstanding a prior patented invention might by a slight modification, perform the function of a second patented invention, yet if the idea of such modification did not appear in said prior patent, and be not such as would have suggested itself to a mechanic not examining the prior patent for that purpose,—the second patent may stand valid. It being said that the prior device was not an anticipation, when it has to be modified to accomplish the function, of a patented invention,—if such prior device was not intended, nor adapted, nor used for such function.

427. Topliff *v.* Topliff, 1892, 145 U. S. 156.

HEAD X OF SUBJECT III.

Prior Foreign Knowledge or Use.

§ 428. A patent is not invalidated because its invention was merely known or used in a foreign country, previously to the making of such invention by the patentee,—provided the latter, at the time of his application for patent, believed himself to be the first inventor.

§ 429. It has been said that mere manufacture and use of the patented invention, in a foreign country, if known to the applicant for the patent, may tend to prove that he is not the inventor; but it will not defeat his patent, if he did not borrow his supposed invention therefrom.

§ 430. Testimony as to prior use in a foreign country, of an invention here patented, is incompetent, —such testimony not showing any thing patented or described in a printed publication.

§ 431. It has been said that in further proof of the date of an invention here patented, testimony

428. Gayler *v.* Wilder, 1850. 10 How. 477.
O'Reilly *v.* Morse, 1853. 15 How. 62.
429. Roemer *v.* Simon, 1877, 95 U. S. 214.
430. Hurlbut *v.* Schillinger, 1889, 130 U. S. 456.

may show that the fabric of which the patentee made use in a foreign country to manufacture the article here patented, was shipped to him there at a certain date.

431. Gandy *v.* Main Belting Co., 1892, 143 U. S. 587.

HEAD XI OF SUBJECT III.

Prior Patent or Printed Publication.

§ 432. It will be understood that mention under this head, of a patent or a patented invention whose validity is considered, means of this country; and that a patent or printed publication prior to said patent in question, may be of our own or of a foreign country.

§ 433. If a patent be granted for a machine, which results in an unsuccessful experiment and is finally abandoned, a second person may take up the matter where it had been left off by the prior patentee; and if such second person succeeds, he may be a lawful patentee for the invention in question,—he having first reduced such invention to practice.

§ 434. A publication, to defeat a patent, must be a description of a finished and operative invention adapted to practically work.

§ 435. To invalidate a patent, the prior patent or printed publication must in itself set forth the invention of the patent in question, so fully and clearly as would enable a person skilled in its art to understand or make or practice such invention. It

433. Whiteley *v.* Swayne, 1869, 7 Wall. 685.
434. Seymour *v.* Osborne, 1871, 11 Wall. 516.

has been said that if the patented invention in question be a certain article, and a prior patent sufficiently describes the latter in itself, it is immaterial if such description is not sufficient to teach a manufacturer how to make said article.

§ 436. The point is not, whether, if certain part of a machine described in a prior patent be omitted, a mechanic would know how to change the remaining portion of such machine, so that said remaining portion would work in the manner and with the result of the patented invention in question. But the point is, whether or not all that is material to the patented invention in question, is described in the prior patent.

§ 437. It suffices to defeat a patent, if either a foreign or a domestic patent was duly patented for the invention in question, or if a complete description of such invention was set forth in a printed publication,—previously to the invention of the patent in question.

§ 438. If certain imperfections of a machine described in a prior patent, concern minor detail con-

435. Cohn *v.* U. S. Corset Co., 1876, 93 U. S. 366.
436. Cawood Paten., 1877, 94 U. S. 695.
437. Cochrane *v.* Deener, 1877, 94 U. S. 780.
Elizabeth *v.* Pavement Co., 1878, 97 U. S. 126.
Bates *v.* Coe, 1878, 98 U. S. 31.
Parks *v.* Booth, 1880, 102 U. S. 96.

struction, not affecting the substance of the patented invention in question, such prior patented machine is not a mere paper machine; such prior patented machine being incapable of successful practical work, so far only as concerns objections which could be removed by mere mechanical skill; and such prior patent is a good defense against the patented invention in question.

§ 439. A prior foreign patent may anticipate the patented invention in question, notwithstanding such prior patent does not state all the advantages of the latter.

§ 440. It does not limit the effect of a prior patent upon the patent under consideration, that the prior patentee was not aware of the use of his invention for the purpose in question, if such use be within the scope of the prior patented invention.

§ 441. A prior printed publication may defeat a patented process, even though such publication does not in terms describe its process as applied to the specific article treated by the patented process. It suffices if it be understood by those skilled in the art, that the article which the publication speaks of as being treated by its process, means the specific article treated by the patented process in question.

438. Pickering *v.* McCullough, 1881, 104 U. S. 310.
439. Stow *v.* Chicago, 1882, 104 U. S. 547.
440. Heald *v.* Rice, 1882, 104 U. S. 737.
441. Downton *v.* Yeager Milling Co., 1883, 108 U. S. 466.

§ 442. A patent may be valid, notwithstanding certain prior patents show inventions which have likeness to material features of its invention, similar to the resemblance between the anatomy of a corpse and that of a living being; the prior patented inventions lacking that which brought success to the patented invention in question, and therefore never effecting the kind of result attained by it,—although a skillful mechanic may, in view of the patented invention in question, adapt said prior patented inventions to attain something of its good result.

§ 443. A patented invention may be valid, notwithstanding a prior patent might, by a slight modification, accomplish the function in question; if the idea be not evidenced in the prior patent, and there be no suggestion therein of such an idea, sufficient to develop same to a mechanic not examining the prior patent for that purpose.

442. Consolidated Valve Co. *v.* Crosby Steam Guage Co., 1885, 113 U. S. 157.

443. Topliff *v.* Topliff, 1892, 145 U. S. 156.

HEAD XII OF SUBJECT III.

English Patent,—Prior.

§ 444. Previously to the English patent statute of 1852, an application for an English patent was proceeded with in quite an elaborate manner. Under the English patent statute of 1852, continuing down to the present English Act of 1883, the English patent was sealed as of the date of the application, —irrespectively of the complete specification being then filed, or not.

§ 445. The doctrine of our Supreme Court concerns time prior to the English 1852 statute, and also concerns the English 1852 statute,—there being no doctrine as yet hereon by our Supreme Court concerning the English Act of 1883.

§ 446. An English patent granted previously to the English 1852 statute, and set up in defense against a patent of this country, must in law take date as a reference against the latter's invention,—not from the date in terms of said English patent, but from the time of the filing of the specification of such English patent. Given: An English patent sealed January 21, 1840, but its specification filed July 21, 1840,—it was not until the latter date, that

said English patent could operate as an anticipation of an invention patented in this country.

§ 447. Although an English patent, granted under the English 1852 statute, may have had its provisional specification filed March 14, 1855,—yet if it did not have its complete specification filed until September 11, 1855, said English patented invention was not, for the purpose of our statute in question, patented until the latter date.

§ 448. If the patented invention in question was made before the enrolling of the specification of an English patent, granted under the English practice previously to the English 1852 statute,—such patented invention is valid as against the English patent.

§ 449. An English patent granted under the English 1852 statute, said patent being dated January 22, 1858, sealed April 30, 1858, and conceded to have been recorded and published July 22, 1858, six months after it was granted and after its date, may furnish defense to a suit on a patent of this country,—unless the invention in suit was made before July 22, 1858, the date of publication of such English patent.

446. O'Reilly *v.* Morse, 1853, 15 How. 62.

447. Smith *v.* Goodyear Dental Vulcanite Co., 1877, 93 U. S. 486.

448. Elizabeth *v.* Pavement Co., 1878, 97 U. S. 126.

449. Clark Thread Co. *v.* Willimantic Linen Co., 1891, 140 U. S. 481.

HEAD XIII OF SUBJECT III.

In Public Use or on Sale.

§ 450. Our statute reads clearly that the invention which is to be patented thereunder, shall be one not in public use or on sale in this country for more than two years prior to the application for patent. The phrase—*in public use or on sale*—is however, in itself, a mere statement of a legal judgment, to be reached by an examination of the conditions of each particular case. And hence, whether or not certain premises of fact fall within such judgment of law, is the question.

§ 451. The statutory language—"for more than two years prior" to the patent application—is not close and exact. It however means what would be better understood, if the language were *earlier than* two years prior to the patent application. Or the phrase may be read as though "for" were omitted. A single instance of sale or use by the inventor, under the statute, is sufficient to overthrow the patent in question.

§ 452. When an invention is being practically tested, such test may be subject to public inspection, without constituting same a public use,—while such

451. Consolidated Fruit-Jar Co. *v.* Wright, 1877, 94 U. S. 92.

use is in good faith, for the purpose of testing the working of the invention. And this is true, even though at the close of such test period of time, possibly several years in continuance, the inventor concludes that the invention, in its embodiment of mechanical form as first made, is good. Provided always, that the invention is retained under his control, is not permitted to be made and used by others, and is not on sale for general use. A small section of a pavement, laid as an experiment in a public highway by the inventor at his private expense, for six years before the application for patent, may not constitute a public use in the meaning of the statute. Durability, capacity to withstand the effect of heavily loaded wagons, and liability to decay, were the points of test for a pavement,—which could only be satisfactorily experimented on a public highway, and during a long period. It was said, that had the inventor allowed a city or other parties to use the invented pavement in other streets and places, then the same might have been public use.

§ 453. It has been remarked that the defense of two years' public use is not sustained by evidence that a person, other than the patentee, had made or patented the invention two years previously to the application for the patent in question, unknown to the patentee of the latter.

452. Elizabeth *v.* Pavement Co., 1878, 97 U. S. 126.

453. Parks *v.* Booth, 1880, 102 U. S. 96.

§ 454. The public use of a single specimen of the patented thing falls under the statute; and if clearly shown, overthrows the patent as completely as though the number of such specimens had been large. Public use is not conditioned upon a plurality of persons who may know of the use in question. Public use may be found in the use of a single person, and the knowledge of such use limited to such single person,—if the inventor gave or sold one specimen of the invented thing to such one person, to be used by the latter without restriction or secrecy. Some inventions are in their nature, such that they can only be used where not seen by the public,—such an invention may be a lever or spring hidden in a watch works, or it may be a small mechanical member practically concealed in the intricacy of a weaving machine; nevertheless, if a watch or a weaving machine, embodying such covered invention, be sold and used without restriction, such use is a public use in law. Where the inventor of certain corset steels, gave two pairs thereof to her who meanwhile became his wife, and following his death, became the owner of his patent thereon; such steels having been given to her to use, without charging secrecy or imposing other condition, and not for experiment or test; the invention being then finished, and not being thereafter changed, and the corset steels being used by the donee for many years previously to the patent application,—such use falls under the statute in ques-

tion, and the patent on the corset steels is thereby voided.

§ 455. A patent was declared void, because its invention was in public use more than two years prior to the patent application, in view of the following: An employee made an invention pertaining to the matter of his employment, which invention was complete and satisfactory five years previously to his application for patent thereon; such invention was used, without change, during said period, in the factory of the employer, without injunction of secrecy laid on the employer by the inventor; there was no exclusion from the factory, and at least one manufacturer adopted use of the invention from observation of it in said factory; the testimony of the inventor was that he told several of the employees to keep silent about the matter, and the testimony of the employer was that there was an outside understanding that the invention was to be kept from the public eye as much as possible,—such testimony being vague, and insufficient to prove that the invention was maintained secret; previously to the patent application, the inventor assigned an interest to the employer.

§ 456. An invention in safe-bolts is subject to the statutory public use provision, does not fall under the category of experimental use, and was a complete

454. Egbert *v.* Lippmann, 1881, 104 U. S. 333.
455. Worley *v.* Tobacco Co., 1882, 104 U. S. 340.

invention,—in view of the following facts: Said invention was, at the time of its use in question, able to produce the end sought, but not so thoroughly as under certain other conditions; the construction, purpose and operation of the bolts were of necessity known to the workmen who made the safes in question; notwithstanding said bolts were concealed after the safes were made, so that they could only be seen by destroying the safes, yet they had no other concealment than such as was necessary to their intended use, and their use was a public use; there was no attempt to test whether the safe plates could be torn free from the bolts, but such safes were sold, without experiment in intent or fact.

§ 457. A public use may be constituted, by the inventor granting permission for the unconditional use of his invention by a business concern.

§ 458. An invention may be experimentally tested in a public exhibition, which furnishes full assurance of the success thereof.

§ 459. A public use of a machine under the statute in question, may be found in a use more than two years previously to the patent application

456. Hall *v.* Macneale, 1883, 107 U. S. 90.
457. Manning *v.* Cape Ann Isinglass & Glue Co., 1883, 108 U. S. 462.
458. Beedle *v.* Bennett, 1887, 122 U. S. 71.

thereon: such use being for profit in the regular routine of the inventor's business, carried on by his operatives in his factory, and successfully employing the specifically claimed combination of the patent in question; such use being subject to view of all persons who visited the factory on matters connected with the latter. If an invention includes an entire machine, as a unit, such invention not being complete until all constituents are embodied in such machine, —then a use of such machine previously to embodiment therein of all necessary elements of the one invention, might not fall under the statute in question. But if a patent has different claims, each claim being to a certain combination, as an independent invention which might be solely infringed,—then a use of a machine embodying any one of such separately claimed combinations, may fall under the statute; and this is true, although during such use, the inventor may have invented some improvement in the machine. If a practically useful machine exists before the addition of mechanism covered by certain claims of the patent other than those in question, and be capable of successful commercial use, and be so used by the inventor for financial profit in his ordinary way of business —such first existing machine stands in law as a complete thing, subject to two years' public use or sale prior to the application for the patent on the final machine with its said addition. A use of a machine may be an experimental use, to develop additional improvement, even if as incident to the

testing use, the product thereof be sold for financial gain. But if the main intent of using a machine is to gather profit therefrom, the use is not an experimental use; even though during such use, certain improvements in the machine are made, as subordinate and tributary to such principal purpose of manufacture and trade.

§ 460. Commencing with our statute of 1839, the question of public use or sale has been irrespective of the consent or allowance of the inventor. Our law has ever since then required the invention to be presented in its application for patent, within two years from its being in public use or on sale, either with or without the consent of the inventor.

§ 461. It has been said that a fraudulent, surreptitious and piratical purchase or use of an invention, previously to the patent application on the latter, might not affect the position of the inventor, under said 1839 statute, in so far as concerns the matter here in question.

§ 462. Publicly teaching an invention to many different persons throughout the country, for profit, without intimation that same was an experiment, is not an experimental use. An experimental use should

459. Smith & Griggs Mfg. Co. *v.* Sprague, 1887, 123 U. S. 249.
460. Andrews *v.* Hovey, 1887, 123 U. S. 267.
46.. Andrews *v.* Hovey, 1888, 124 U. S. 694.

not exceed such limitation, either as to period of time or as to number of instances, as may reasonably be to test the invention.

§ 463. Public use or sale of the invention by the inventor, in a foreign country, for more than two years prior to the application for patent in this country, is not within our statute here in question, —such being manifestly the intention of Congress.

§ 464. If an invention in street railways be regularly and successfully used in the normal business operation of a street railroad, for nearly three and a half years previously to application for patent thereon: such use not being at the inventor's expense nor as a test, neither experiments nor alterations being made, and the inventor evidently not maintaining the invention under his control,—the patent is invalid.

462. International Tooth Crown Co. *v.* Gaylord, 1891, 140 U. S. 55.
463. Gandy *v.* Main Belting Co., 1892, 143 U. S. 587.
464. Root *v.* Third Ave. R. Co., 1892, 146 U. S. 210.

HEAD XIV OF SUBJECT III.

Abandonment, before Patent Application.

§ 465. Our statute enacts that the invention which is good in view of all the requirements appearing under the preceding heads of this subject, may be patented, by due procedure and payment,—unless the same is proved to have been abandoned. Inasmuch as the statute in question contemplates only original patents, no attention is herein given to abandonment of invention in so far as concerns validity of reissue patents.

§ 466. Abandonment of invention, in considering the validity of an original patent, may be resolved into three branches: (1) abandonment, prior to patent application; (2) abandonment, subsequent to patent application; (3) abandonment, by prior patent. The first branch is herein considered,—the remaining two branches respectively following.

§ 467. It has been said: That if an inventor intentionally, desiring to apply it indefinitely and solely for his own benefit, maintain his invention secret,—he is outside of our patent legal provisions; and that if during such secreting, a similar but subsequent invention be made public, such second invention can not be restricted by such earlier invention;

and that an inventor may bestow his invention upon the public, either by express statement, or by an act the equivalent thereof; or that he may lose his right of invention by withholding his claim, or by keeping his invention from the public until the same has been invented and introduced by another.

§ 468. Because an inventor forbears making his patent application while he is experimenting, and until he has perfected his invention,—abandonment of such invention can not be presumed.

§ 469. An interval of nine years between the inventor's completion of his invention and his application for patent thereon, not occurring by reason of the inventor being in lack of necessary financial means,—may be under such circumstances as to clearly prove abandonment of the invention to the public.

§ 470. Abandonment may be shown by the conduct of the inventor, even within two years before his patent application. Notwithstanding an invented pavement be laid on a public highway for six years before the patent application, yet same may be for experiment, constantly under watch of the inventor, and the inventor may never during such time abandon intent to secure patent thereon.

467. Kendall *v.* Winsor, 1859, 21 How. 322.
468. Agawam Co. *v.* Jordan, 1869, 7 Wall. 583.
469. Consolidated Fruit-Jar Co. *v.* Wright, 1877, 94 U. S. 92.
470. Elizabeth *v.* Pavement Co., 1878, 97 U. S. 126.

§ 471. It has been said that an inventor does not lose right to apply for a patent, except another person, while the first inventor is delaying to make his application for patent, invents and patents the same invention.

§ 472. It has been said that, unless an inventor maintain his invention in secrecy,—it is incumbent upon him to be active in securing patent thereon.

471. Bates *v.* Coe, 1878, 98 U. S. 31.

472. Parks *v.* Booth, 1880, 102 U. S. 96.

HEAD XV OF SUBJECT III.

Abandonment, after Patent Application.

§ 473. The Act of 1836, subsequently repealed, provided that if a patent application was rejected, it could either be persisted in, or it could be withdrawn, by the applicant; and in event of its withdrawal, part ($20.00) of the advance government fee should be returned. The Act of 1870 provided that where there was a prior rejected or withdrawn patent application, the applicant could have six months from the date of said Act, to renew his old application or to file a new application.

§ 474. If an inventor withdrew his patent application, under the 1836 Act, with the intent at that time, to connectedly file a new application, and did so file the latter, the two applications were in law as one continuous application,—provided that the second application was for substantially the same invention as that set forth in the first application.

§ 475. Notwithstanding the original application for a patent, under the law existing during 1855–1864, was rejected in the Patent Office for about eight years, without withdrawal of the original application or return of part of the original advance government fee: and

474. Godfrey *v.* Eames, 1864, 1 Wall. 317.

then a new application was filed for the same invention, the premises might be such as to negative abandonment of the invention or of the patent application,—in view of extreme poverty and ill health of the applicant, and his constant effort to obtain the patent.

§ 476. It was not necessary to abandonment of an invention, the original application for patent on which was under the 1836 Act, that the intention to abandon same, be expressed in words; the action of the inventor might in itself be sufficient to establish abandonment of the invention. Eighteen years of inaction, not caused by poverty, following withdrawal of part of the original advance government fee, during which period the inventor applied for and obtained other patents: and while knowing that hundreds of machines embodying his invention in question were being made, sold and used by the public, yet gave no notice of his claim,—constituted an abandonment of the invention, and invalidated a patent granted therefor under the 1870 Act.

§ 477. An inventor could not withdraw an original application for an invention, under the 1836 Act, do nothing for eight years in effort to renew such application, and then file a new application for said invention,—and lawfully secure a patent relating back

475. Smith *v.* Goodyear Dental Vulcanite Co., 1877, 93 U. S. 486.
476. Planing-Machine Co. *v.* Keith, 1880, 101 U. S. 479.

to said prior application, and covering many inventions made by others during such eight years. Such premises constituted an abandonment of the invention, and invalidated the patent.

477. U. S. Rifle & Cartridge Co. *v.* Whitney Arms Co., 1886, 118 U. S. 22.

HEAD XVI OF SUBJECT III.

Abandonment, by Prior Patent.

§ 478. The present branch of abandonment involves a state of facts wherein the inventor of the patented invention in question has disclosed, but not claimed, such invention in another patent of his, issued previously to the patent in question.

§ 479. If the inventor have his application for the patent in question filed in the Patent Office, at the date of the issue of his previously granted patent which described the invention of the patent in question,—the invention of the latter is not an abandoned invention.

§ 480. It has been said that if a patentee describe, without claiming, certain invention in his patent, such unclaimed matter is public property,—unless there be a distinct patent therefor.

§ 481. It has been said that under certain premises, if a patent describe an apparatus, a process and a product: and if the claims cover only the apparatus and the process,—the law provides a remedy, by sur-

479. Suffolk Co. *v.* Hayden, 1866, 3 Wall. 315.
480. Corn-Planter Patent, The, 1874, 23 Wall. 181.

render and reissue, whereby the product may also be patented, if patentable.

§ 482. It has been said that if a patent which discloses certain invention, does not claim the whole thereof,—attempt to correct such error lies on line of reissue procedure.

§ 483. It has been said that an application for a second patent, to cover an invention which was either not sought to be covered, or was abandoned or waived, in taking out a prior patent,—is subject to such rights as the public and other inventors have acquired in the meanwhile.

§ 484. It has been said that if an inventor exhibit a certain broad invention in a patent, without claiming same, and does not then reserve it, and does not make any simultaneous patent application therefor, he can not subsequently patent such broad invention,—but he is thereafter restricted to a patent on such particular invention as may be exhibited in a different form from that disclosed in his prior patent.

§ 485. It has been said that notwithstanding any matter which is described and not claimed in a

481. Merrill *v.* Yeomans, 1877, 94 U. S. 568.
482. Keystone Bridge Co. *v.* Phœnix Iron Co., 1877, 95 U. S. 274.
483. Powder Co. *v.* Powder Works, 1878, 98 U. S. 126.
484. James *v.* Campbell, 1881, 104 U. S. 356.

patent, is solemn notice that the patentee does not claim same in that patent, yet if such patentee has a separate patent for such invention, or has made application therefor, or has reserved the right to make such application,—that is another question.

§ 486. It has been said that an invention which is set forth in a patent, and yet not attempted to be patented therein, must be regarded as abandoned or waived,—subject to the inventor's right to have made a new application therefor. But there is ground for question whether the foregoing statement should not be read in light of certain context,—so as to mean that such new patent application be one made at the time that the first patent was applied for and taken out.

§ 487. It has been said that if a patent first issue to two persons as joint inventors, a second patent to one of said persons as sole inventor for an invention identical with that of said first patent, or only a colorable variation therefrom,—is void, as a patentee can not take out two patents for the same invention.

485. Mahn *v.* Harwood, 1884, *112* U. S. 354.

486. Parker & Whipple Co. *v.* Yale Clock Co., 1887, 123 U. S. 87.

487. McCreary *v.* Pennsylvania Canal Co., 1891, 141 U. S. 459.

HEAD XVII OF SUBJECT III.

Sufficient Specification.

§ 488. As the law stood in 1832, it was a good defense against a patent to prove that its specification was insufficient to distinguish the invention from the prior art, and to enable a person skilled in the art to make and use the invention,—notwithstanding such insufficient specification did not arise from a design to deceive the public.

§ 489. The law requires a degree of certainty in the specification, such that any one skilled in the art may make and use the invention by following the specification, without experiment.

§ 490. If a newly-discovered natural agency or property of matter be applied to useful purpose, the process which adapts such agency or property to useful application is required to be described in the specification with such accuracy that a mechanic skilled in the art in question, may apply and use said process to attain the end set forth in the patent. Such accurate specification being said to be demanded, in order that after the expiration of the patent term, the public

488. Grant *v.* Raymond, 1832, 6 Pet. 218.
489. Wood *v.* Underhill, 1847, 5 How. 1.

may be able to use the described process, to gain the valuable end, and thus profit by the invention.

§ 491. A patent claim is invalid, if it purports to cover all means for producing the result in question,—irrespective of the patent description.

§ 492. It has been said that a patent is invalid, if the result described therein can not be produced by the means therein set forth.

§ 493. A specification of a chemical compound should describe its component elements clearly, and not leave the matter to experiment.

§ 494. The exactness of a specification depends upon its subject, and it may leave something to the skill of the art,—but it should not mislead the latter. A patented process may be sufficiently described, if it fixes the maximum and the minimum temperatures under which the subjected articles are to be treated; and if a proper regard to the object of the patented process would cause persons skilled in the art, to refrain from unduly approaching so near to the maximum temperature as to heat the articles beyond what is necessary.

490. LeRoy *v.* Tatham, 1852, 14 How. 156.
491. O'Reilly *v.* Morse, 1853, 15 How. 62.
492. O'Reilly *v.* Morse, 1853, 15 How. 62.
Mitchell *v.* Tilghman, 1874. 19 Wall. 287.
493. Tyler *v.* Boston, 1869, 7 Wall. 327.
494. Mowry *v.* Whitney, 1872, 14 Wall. 620.

§ 495. A claim for a process is to be construed in the light of the common knowledge of persons skilled in the art in question; so that, if the use of the patented process, under qualification of such common knowledge, would not be injurious to the material subjected thereto,—the claim is not void because the invention lacks utility, in such particular.

§ 496. A recommendation in a specification is not a material part of the description of the invention. The invention only contemplates such matter as is essential thereto, and does not include option of the operator.

§ 497. A patent is not defective for not describing the detail of a mechanical feature,—if a good mechanic in the art could from the patent, adopt the patented improvement and make such mechanical feature in suitable detail. It has been said that if an invention be an improvement on an old machine, it may be well assumed that the latter is understood by the practical mechanic.

§ 498. It has been said that a patent should describe the old thing upon which its invention is engrafted, as well as describe such invention itself; and that if the invention be a new combination of old

495. Klein *v.* Russell, 1874, 19 Wall. 433.
496. Sewall *v.* Jones, 1875, 91 U. S. 171.
497. Ives *v.* Hamilton, 1876, 92 U. S. 426.

things, the patent should describe such old things as well as the new manner of combining them.

§ 499. A specification suffices, if the means and operation in question are thereby obvious to a person skilled in the specific art,—and there need not be supererogatory instruction.

§ 500. If an invention appears from a patent specification, it is immaterial whether or not all the advantages thereof are stated,—as a lawfully patented invention is entitled to all its uses and advantages.

§ 501. It does not injure or restrict a patented invention, if it be shown that the patentee was not aware of the value of such invention as applied to a certain use.

§ 502. It is not needful for a patent to enumerate all the known functions of a certain device, constituting a part of the patented machine.

§ 503. Well-known matter is constructively in a patent, and need not be set forth in fact. In determining whether or not a certain thing can be done in the manner set forth in a patent, notwithstanding

498. Merrill *v.* Yeomans, 1877, 94 U. S. 568.
499. Tilghman *v.* Proctor, 1881, 102 U. S. 707.
500. Stow *v.* Chicago, 1882, 104 U. S. 547.
501. Heald *v.* Rice, 1882, 104 U. S. 737.
502. Matthews *v.* Machine Co., 1882, 105 U. S. 54.

some people allege that it can not be so done,—yet if such thing has been readily and successfully done, it suffices. It has been said that it is not an easy question, in view of our present legislation, to decide whether or not a defense against a patent be good, if the patent description be insufficient, unless such insufficient description was intentionally for purpose of deceiving the public.

§ 504. It suffices if the specification directs touching the detail construction of certain portion of the patented mechanism, in such manner as seems to the court to be sufficient, and if such direction be not shown to be insufficient as a matter of fact.

§ 505. An alleged step in a certain process, which step is not mentioned in the patent in question, can not be construed into the process as patented, on the ground that the polished appearance of the surface described in the specification is the result of such non-described step.

§ 506. Omission from the specification, of the scientific theory and principle, the application of which to a useful purpose constitutes the invention in question,—does not vitiate the patent on such invention.

503. Loom Co. *v.* Higgins, 1882, 105 U. S. 580.
504. Consolidated Valve Co. *v.* Crosby Steam Guage Co., 1885, 113 U. S. 157.
505. Western Electric Co. *v.* Ansonia Co., 1885, 114 U. S. 447.
506. Eames *v.* Andrews, 1887, 122 U. S. 40.

§ 507. A specification may be written in the light of the knowledge in the specific art, as existing at the date of the specification.

§ 508. A patent is good, even if at date of the application therefor, the inventor had never used the invention in a practical form: provided, his specification accurately describes the conditions requisite to successful use of the invention, by one skilled in the particular art,—notwithstanding some persons fail to accomplish such successful result, in their attempt to follow the specification.

§ 509. A patent can not be construed for an invention, broader than that which is described in the patent in a manner sufficiently clear and complete to enable one skilled in the art to use the same, without resort to experiment.

§ 510. If the prior art be subject to certain disadvantage not found in the invention of the patent in question,—the latter is entitled to such benefit, notwithstanding the patent make no mention thereof.

§ 511. If the claim of a patent be for non-patentable matter, aside from consideration of a certain

507. Lawther *v.* Hamilton, 1888, 124 U. S. 1.
508. Telephone Cases, The, 1888, 126 U. S. 1.
509. Bene *v.* Jeantet, 1889, 129 U. S. 683.
510. Brown *v.* District of Columbia, 1889, 130 U. S. 87.

patentable feature shown in the drawings of the patent, but not referred to in terms, either in the specification or in the claim,—such non-described and non-claimed patentable feature is not an essential part of the patented invention, and the patent is invalid.

511. Roemer *v.* Bernheim, 1889, 132 U. S. 103.

HEAD XVIII OF SUBJECT III.

Amendment of Patent Application.

§ 512. An original specification may be changed, or a new specification be filed, in patent application procedure,—if the patent thereby sought, be for substantially the invention first claimed, or a part of it. If the new or amended specification present an invention different from that of the original specification,—the patent thereon is invalid.

§ 513. The original application for a patent may remain in the Patent Office for some time, as defective and insufficient,—and then the application be considerably altered, and the patent validly issue. Care is given to the original application in such instance; because if an amended application, upon which the patent issues, and which is filed later than the original, contain any material addition to or variance from such original,—such addition or variance can not be sustained. Guard is said to be thus had against any attempt of an applicant to enlarge his invention beyond his original specification, which would interfere with other inventions made prior to such alteration,—such guard being similar to that which analogously obtains in the law of reissues.

512. Godfrey *v.* Eames, 1864, 1 Wall. 317.
513. Railway Co. *v.* Sayles. 1878, 97 U. S. 554.

§ 514. If a patent be granted upon a specification radically different from that which was originally filed, and be for an invention which the applicant never made,—the patent is not valid.

§ 515. If an amendment to a patent application be within the scope of the original specification, and narrow the original claim, so as to be for the very invention originally sworn to by the applicant: such an amendment may be made after the death of the applicant, without a new oath from his administratrix, by the original attorneys, even though not acting under written power of attorney as required by the Patent Office rule,—if such attorneys have authority in fact, and their action be subsequently ratified by those in due position.

514. Eagleton Mfg. Co. *v.* West, Bradley & Carey Mfg. Co., 1884, 111 U. S. 490.

515. De La Vergne Refrigerating Machine Co. *v.* Featherstone, 1893, 147 U. S. 209.

HEAD XIX OF SUBJECT III.

Joinder of Inventions.

§ 516. A patent may not be void, because a plurality of inventions are patented therein,—provided such inventions pertain to the same subject, or are allied in their nature or working.

§ 517. A patent may be valid for different inventions, all of which relate to the propulsion of carriages and vessels by steam,—differing only as they must to correspond with the conditions respectively incident to land and water.

§ 518. It is frequently a delicate question whether matter of invention should be set forth in one or more patents; and some discretion thereon must of necessity be rested with the Patent Office.

§ 519. A patent may cover a combination of many parts, and also a combination of a portion of said parts.

§ 520. It has been said that premises may be such that an inventor may have a right to a patent for three inventions: apparatus, process and product.

516. Hogg *v.* Emerson, 1848, 6 How. 437.
517. Hogg *v.* Emerson, 1850, 11 How. 587.
518. Bennett *v.* Fowler, 1869, 8 Wall. 445.
519. Garratt *v.* Seibert, 1874, 131 U. S. cxv.
520. Merrill *v.* Yeomans, 1877, 94 U. S. 568.

§ 521. It has been said that a patent for two combinations is an example of a single patent securing more than one invention,—the patentee describing each combination in the one specification.

§ 522. It has been suggested that one or more claims of a patent may be for less than the entire invention.

§ 523. Each of different claims of a patent may stand for a separate and distinct invention,—a specific combination in a machine.

§ 524. One claim in a patent may, under certain premises, be valid to cover a process and also an apparatus for practicing such process.

521. Bates *v.* Coe, 1878, 98 U. S. 31.
522. Parks *v.* Booth, 1880, 102 U. S. 96.
523. Smith & Griggs Mfg. Co. *v.* Sprague, 1887, 123 U. S. 249.
524. Telephone Cases, The, 1888, 126 U. S. 1.

HEAD XX OF SUBJECT III.

Patent Grant,—To Whom.

§ 525. If an inventor, under a written instrument, sets forth that he has made the invention in a specified class of articles, for which he is about to make application for a patent of this country; and witnesses that for a valuable consideration he assigns to the assignee the said invention as set forth in his prepared specification for the patent, and authorizes and requests said patent to issue to said assignee; which assignment is recorded in the Patent Office before the patent issues, and the assignor makes no claim against such assignment,—the legal right to the patent vests in the assignee, notwithstanding the patent issues in fact to the assignor. Such assignor, at the time of the assignment, possessing the inchoate right to the exclusive use of his invention, which right he can complete by procedure under our patent law; the specification for patent on such invention being prepared, and the assignment being intended to bear upon the legal title which the inventor then has privilege to secure, as well as upon the inchoate right which he then possesses. That which is to be assigned, being not the paper of the patent, but the monopoly,—the right of property which the patent-grant creates; and inasmuch as the inventor has acquired an inchoate

right to such monopoly, and the power to make that right complete at his option,—such an assignment is in law good to convey the patent property, irrespectively of the patent issuing in fact to the assignor.

526. An assignment of a perfected invention which is sufficiently identified therein, said assignment being made and recorded after filing of the patent application and before issue of the patent,—carries the patent when issued. As between an assignor and assignee in equity, an assignment of an imperfect invention with all improvements upon it that the inventor may make, is in equity substantially the assignment of the perfected invention,—and the issue of the patent on the latter to the assignor, constitutes a trust of the legal title of such patent for the assignee.

§ 527. A patent is not void, because the applicant therefor dies before its issue, and the patent be granted in terms to him, his heirs or assigns; the grant of a patent being in law, in the alternative,—to the applicant, or to his heirs, or to his assigns. If previously to the grant of said patent, a party acquire under contract equitable title thereto, the patent inures to his benefit, even though there be

525. Gayler *v.* Wilder, 1850, 10 How. 477.
526. Littlefield *v.* Perry, 1875, 21 Wall. 205.

no record evidence of such contract in the Patent Office,—provided rights of third parties do not intervene.

527. De La Vergne Refrigerating Mac. · Co. *v.* Featherstone, 1893, 147 U. S. 209.

HEAD XXI OF SUBJECT III.

Term Affected by Foreign Patent.

§ 528. A patent of our country, to the same inventor and for the same invention as that of a prior foreign patent,—is not void because not bearing the same date with such foreign patent.

§ 529. If the principal invention of an English patent be the same as the principal invention of a subsequent patent of our country, to the same inventor,—the two patents are for the same invention; notwithstanding the English patent has its specification and drawings more detailed than the home patent, and has one broad claim, instead of four claims as in the home patent, and notwithstanding the latter patent contains improvements which are not in the English patent.

§ 530. It has been held that our statute means that our patent shall continue in force, though not longer than seventeen years from its date, so long as the prior foreign patent continues to exist; and that if the term of the prior foreign patent be con-

528. O'Reilly *v.* Morse, 1853, 15 How. 62.
Smith *v.* Ely, 1853, 15 How. 137..
Telephone Cases, The, 1888, 126 U. S. 1.
Bate Refrigerating Co. *v.* Hammond, 1889, 129 U. S. 151.
529. Siemens *v.* Sellers, 1887, 123 U. S. 276.

tinuous, by extensions of time under the foreign statute, which latter was in force when our patent was applied for and was granted, and such extensions constituted a right at the option of the foreign patentee on payment of due fee,—our patent does not expire previously to the end of the extended time of such foreign patent, not in excess of seventeen years from the date of our patent.

§ 531. It has been held that a patent of our country, for the same invention and to the same inventor as a prior foreign patent, expires with the expiration of the lawful term of such foreign patent in force at time of issue of the home patent; that such a home patent is not limited in its duration, by any lapsing or forfeiture of any fraction of the term of such foreign patent, by reason of non-observance of a condition subsequent, under the foreign statute; and that an expiration, in legal understanding, of the term of a foreign patent, must be by lapse of time, and not by breach of a condition.

§ 532. A patent of our country, for substantially the same invention as that of certain prior foreign patents to the same inventor, expires with the expiration of such foreign patents.

530. Bate Refrigerating Co. *v.* Hammond, 1889, 129 U. S. 151.
531. Pohl *v.* Anchor Brewing Co., 1890, 134 U. S. 381.
532. Commercial Mfg. Co. *v.* Fairbank Canning Co., 1890, 135 U. S. 176.

HEAD XXII OF SUBJECT III.

Statutory Disclaimer.

§ 533 A disclaimer which states that the disclaimant is the patentee, is a sufficient compliance with the statute provision that the disclaimer should state the extent of his interest in the patent. This is upon the basis that, after such statement in the disclaimer, it is the reasonable understanding that the disclaimant still owns the entire interest of the patent, without a saving clause to the effect that he has not parted with any interest therein.

§ 534. The law of disclaimer is to work a relief, and not a punishment. It is for the benefit of the patentee, as well as the public, and it should not be construed more narrowly than its language reasonably means. If a patent be unlawful in part, either because a claim thereof is for that which is not sufficiently described, or because a claim thereof is for more than the inventor made as an invention in law,—if such error arose from mistake, a proper disclaimer may save the lawful portion of the patent.

§ 535. If a patent claim be sustained in the court below, a disclaimer thereto need not be filed,

533. Silsby *v.* Foote, 1852, 14 How. 218.
534. O'Reilly *v.* Morse, 1853, 15 How. 62.

—until after the appellate court has given its judgment thereon.

§ 536. It has been said, under certain premises, that notwithstanding the patent claim in question be anticipated by a certain article,—yet the latter was produced after commencement of the suit, and the matter of anticipation had since then been in contention, and the delay in disclaiming was not unreasonable.

§ 537. A disclaimer may be made, upon suitable terms, after as well as before commencement of suit on the patent in question.

§ 538. It has been said that a disclaimer is good, which amends the specification and claim of a patent, so as to limit the invention thereof to two, instead of one or two, specified mechanical members set forth in the patent.

§ 539. A reissue patent is within the terms and the sense of the disclaimer statute. If a new claim

535. O'Reilly *v.* Morse, 1853, 15 How. 62.
Seymour *v.* McCormick, 1856, 19 How. 96.
Gage *v.* Herring, 1883, 107 U. S. 640.
Yale Lock Mfg. Co. *v.* Sargent, 1886, 117 U. S. 536.
536. Silsby *v.* Foote, 1857, 20 How. 378.
537. Smith *v.* Nichols, 1875, 21 Wall. 112.
538. Dunbar *v.* Myers, 1876, 94 U. S. 187.

has infringed an original and a valid claim of the same patent, complainant may have a decree without costs, for infringement of such original claim,—upon suitable disclaimer of the new claim.

§ 540. It has been held, in instance of a certain reissue patent having a largely expanded specification and claims, that a disclaimer could not lawfully be made of character such as to practically work an abandonment of the reissue patent, and a resumption of the original patent; and that restoration of the original patent could not be effected by disclaiming all the changes made in the reissue patent.

§ 541. After a disclaimer, the questions of fact —whether or not the patentee invented the disclaimed matter, and whether or not the disclaimed matter be a mechanical equivalent for the claimed matter—are not open, inasmuch as those questions are closed by the disclaimer. It has been said that in disclaiming or limiting a claim of a patent, it is, as an incident thereto, admissible to erase from the specification descriptive matter on which the disclaimed claim is based; but that a disclaimer is limited to an expunging from a patent, of that which was wrongfully claimed therein as a new invention. And that if a claim is to stand without change, and the spe-

539. Gage *v.* Herring, 1883, 107 U. S. 640.
540. McMurray *v.* Mallory, 1884, 111 U. S. 97.

cification alone is to be amended, a disclaimer is not proper,—the only procedure being a reissue; a disclaimer lawfully being only of the fact of either original or first invention, and affecting not only the specification portion thereby canceled, but likewise all claim based thereon.

§ 542. The patent drawings can not be resorted to, for sustentation of a disclaimer, to show the invention to be a different invention from that which the specification describes it to be. The two statute sections touching disclaimers, relate to the same premises: where the patentee has claimed more than he should have claimed, provided such error was through inadvertence, accident or mistake, and without any fraudulent intent; and where that which is justly his own, is plainly distinctive from that which is wrongfully claimed. One section alone gives him the right, under such premises, to file a disclaimer. The companion section authorizes suit on a patent referred to in the preceding section, if there be not unreasonable delay in entering the disclaimer. These two sections are different members of one law; they remedy the harshness of the common law, which held a patent void *in toto* if any part of the invention was claimed without right, and which made such a defect in a patent a bar to suit thereon. It has been said that the office of a disclaimer is to ex-

541. Union Cartridge Co. *v.* U. S. Cartridge Co., 1884, 112 U. S. 624.

punge a claim, or some other definite and independent part of a patent, which can be cut out without injury to or alteration of that which remains. And that while possibly a disclaimer may restrict a claim to certain boundary of application, or narrow a claim which is broader than it should be; yet that a disclaimer can not change the character of the invention in question.

§ 543. The conditions of a reissue patent may be such that a disclaimer may be good,—operating to relieve such reissue patent from objectionable matter, and to leave the reissue for the same invention as that of the original patent. Such a disclaimer cutting out two distinct statements of the specification; and also stating a limitation on the sense in which the patent is to be understood as covering the invention in question.

§ 544. Our statute is broad enough to include a disclaimer intended to remedy the evil of a patent covering more inventions than one patent can lawfully cover; and as the purpose of the statute is to make good that which would otherwise be bad in law,—the right to enter a disclaimer in such case should not be refused, where its intent is in good faith. The two statutorial sections pertaining to disclaimers, should be read in connection with each

542. Hailes *v.* Albany Stove Co., 1887, 123 U. S. 582.
543. Hurlbut *v.* Schillinger, 1889, 130 U. S. 456.

other; so that notwithstanding a disclaimer be not made until subsequently to the initial procedure of a suit on the patent in question,—such suit may be maintained, but court costs therein can not be recovered by the successful plaintiff.

544. Sessions *v.* Romadka, 1892, 145 U. S. 29.

HEAD XXIII OF SUBJECT III.

Reissue Patents.

§ 545. A reissue patent need not state in terms that the conditions set forth in the statute, as essential to the right of reissue, have been answered.

§ 546. It was once said that the manner in which the mistake or inadvertence touching the original patent occurred, was not open for review; and that the grant of the reissue patent closed such point, but left open the question of fraud.

§ 547. Differences between the specifications of the original patent and the reissue patent do not of necessity determine that the latter is for a different invention from the former. The object of the reissue right is that a more careful specification may be given; hence, a reissue description may well vary from the original.

§ 548. It has been said that if a reissue patent was obtained for a new and useful machine, the original patent not having been for a useful machine, a question of fraud was open; such fraud resting in

545. P. & T. R. Co. *v.* Stimpson, 1840, 14 Pet. 448.
546. Stimpson *v.* W. C. R. Co., 1846, 4 How. 380.
547. O'Reilly *v.* Morse, 1853, 15 How. 62.

dating the invention of the reissue patent the same as that of the original patent, and thus subordinating like inventions made between the dates of the original patent and the reissue patent.

§ 549. It has been said that a reissue patent might rightfully narrow or broaden the claim of the original patent, in order to impart legality to it and to render the invention effectual.

§ 550. It has been said that if an original patent was neither inoperative nor invalid, and its specification was neither defective nor insufficient, a reissue thereof, with broadened or ambiguous claims, was not within our statute.

§ 551. It has been said that it may well be that a reissue application can not lawfully be made by one who is merely the grantee of an exclusive sectional interest in the original patent, and not the owner of the entire patent.

§ 552. It was at one time decided that if an application for an original patent contained a broad claim, which the Patent Office decided to be anticipated in fact, and refused a patent upon the applica-

548. Brooks *v.* Fiske, 1853, 15 How. 212.
549. Battin *v.* Taggert, 1854, 17 How. 74.
550. Burr *v.* Duryee, 1864, 1 Wall. 531.
551. Commissioner of Patents *v.* Whiteley, 1867, 4 Wall. 522.

tion except with a more limited claim; and the applicant canceled his rejected claim, and took out his original patent on said limited claim; and subsequently the assignee of the patent applied for a reissue patent having substantially said broad claim substituted for said limited claim, the Patent Office thereupon deciding that such broad claim was not anticipated and granting a reissue patent,—the latter was valid.

§ 553. It has been said that a patent owner might widen or limit the claim thereof, by reissue procedure, so as to legally cover the invention.

§ 554. It has been said that a reissue patent might redescribe the invention of the original patent, and cover by specification and claim, not alone the matter well described in the original patent, but also any matter therein intimated or disclosed by specification or drawings, which rightly was of the invention as really made and completed.

§ 555. It has been said that if an assignee of an original patent consents to a reissue, the latter passes to his use; but if he does not so consent, he may receive or refuse the reissue.

552. Morey *v.* Lockwood, 1869, 8 Wall. 230.
553. Rubber Co. *v.* Goodyear, 1870, 9 Wall. 788.
554. Seymour *v.* Osborne, 1871, 11 Wall. 516.
Marsh *v.* Seymour, 1878, 97 U. S. 348.
555. Littlefield *v.* Perry, 1875, 21 Wall. 205.

§ 556. A reissue patent can not lawfully be granted for an invention, consisting of a combination of less than all the elements of the apparatus stated in the original patent as employed to effect the result in question,—in the absence of any description of any other invention, in the original patent. Patent law agrees with mathematics, in that an invention which consists of three elements, is not the same as one which consists of four elements.

§ 557. It has been said that in applying for a reissue, parol testimony can not expand the invention beyond the original specification, drawings or Patent Office model; the object of a reissue being, not to inject new matter, but to make good the invention which the original patent should have secured.

§ 558. A reissue is void, if it appears that it is for a different invention from that described in the original patent; such original patent describing a serial-stage process, while the reissue patent is for a single-stage process.

§ 559. It has been said that a reissue patent may make an imperfect specification of an original patent more distinct and plain so as to include the claim made, or the claim may be changed to agree

556. Gill *v.* Wells, 1874, 22 Wall. 1.
557. Collar Co. *v.* Van Dusen, 1875, 23 Wall. 530.
558. Wood-Paper Patent, The, 1874, 23 Wall. 566.

with the specification; but that a reissue patent can go no further, except under peculiar conditions,—such as where the claim of the original patent application was narrowed by a mistake of the Patent Office. And. that a reissue patent can not lawfully enlarge both the specification and the claim of an original patent, so as to cover a different invention from that of the original patent.

§ 560. It has been said that a reissue patent is for the same invention as that of the original patent, unless such original patent does not describe that which is described and claimed in the reissue patent.

§ 561. It has been said that if an original patent, by inadvertence, does not claim the whole of an invention, the error may be sought to be corrected by reissue procedure.

§ 562. A reissue patent for a compound can not be founded on an original patent for a process, when the invention of the one has no connection with and is not involved in the invention of the other. A reissue patent is not invalid, because it fully describes and claims the identical invention tried to be protected by the original patent; and which invention

559. Russell *v.* Dodge, 1877, 93 U. S. 460.
560. Smith *v.* Goodyear Dental Vulcanite Co., 1877, 93 U. S. 486.
561 Keystone Bridge Co. *v.* Phœnix Iron Co., 1877, 95 U. S. 274.

was not completely covered therein, on account of inadvertence, accident or mistake. But a reissue patent can not lawfully add to the original patent, any other invention of the patentee's; which other invention either had not been applied for in the original patent application,—or if so applied for, had been abandoned or waived.

§ 563. A reissue patent can not lawfully embrace a certain claim which has been expressly disclaimed as a condition of granting an extended patent,—afterwards so reissued. There is no inadvertence, accident or mistake, in the sense of the law, in the taking out of such extended patent.

§ 564. A reissue patent is without authority, if it is for a substantially different invention from any thing shown in the specification and drawings of the original patent.

§ 565. It has been said that a reissue is invalid, if, upon examination of it relatively to the original patent, it plainly seems to be for a different invention from that of the specification of the original patent, or of the drawings or model accompanying the latter.

562. Powder Co. *v.* Powder Works, 1878, 98 U. S. 126.
563. Leggett *v.* Avery, 1880, 101 U. S. 256.
564. Ball *v.* Langles, 1880, 102 U. S. 128.
565. Garneau *v.* Dozier, 1880, 102 U. S. 230.

§ 566. It has been said that the object of the reissue law was not to broaden an original patent, but to remedy inadvertent mistakes. and to limit irregular or too large claim; but that in a plain instance of mistake, not error in judgment, an original patent may certainly be widened by reissue. A reissue can not be for the invention which was made by the inventor before obtaining the original patent,—if such invention be not the same as that of the original patent; and hence the fact that the patentee, previously to the original patent, had made the invention covered by the reissue patent, avails nothing.

§ 567. It has been said that if the only mistake of an original patent be that its claim is too narrow, such mistake being evident on first examination of the patent, any procedure for broadening the patent, should be made at once; that an omission to claim any invention of an original patent, is a public disclaimer thereof; and that two years' existence of such disclaimer should work to the advantage of the public, as two years' public use of an invention bars an application for original patent.

§ 568. An enlargement of claim in a reissue is not lawful, if there be no inadvertence, accident or mistake in the original patent. It has been said that an original patent for a machine only, can not be

566. Mfg. Co. *v.* Ladd, 1880, 102 U. S. 408.
567. Miller *v.* Brass Co., 1882, 104 U. S. 350.

reissued so as to claim a process; because a machine, not a process, is the invention which the original patent sought to cover.

§ 569. An original patent for a machine can not be reissued for a mode of using such machine in certain manner and by certain supplemental means.

§ 570. No harm can result from a reissue patent stating all the known functions of a certain device set forth therein, though such functions be not stated in the original patent,—if no claim in the reissue be founded thereon. A reissue, for a broader claim and a different invention than that of the original patent, and put forth fourteen years thereafter,—is invalid.

§ 571. An original patent, granted more than thirteen years before reissue, and plainly showing the limitation of claim sought to be relieved by reissue,—is not within the reissue law.

§ 572. A reissue patent is void, if it be broader than the original patent, and be taken after fifteen years of the life of the original patent, and after the article covered by such reissue is in universal use.

568. James *v.* Campbell, 1881, 104 U. S. 356.
569. Heald *v.* Rice, 1882, 104 U. S. 737.
570. Matthews *v.* Machine Co., 1882, 105 U. S. 54.
571. Bantz *v.* Frantz, 1882, 105 U. S. 160.
572. Johnson *v.* Railroad Co., 1882, 105 U. S. 539.

§ 573. If a reissue patent claim be for a different invention from the invention of the original patent, it is invalid.

§ 574. If an original patent sets forth certain mechanism of a machine as being located in a certain part thereof, a reissue can not lawfully cover said mechanism as located in a different portion of the machine,—if neither the original nor the reissue patent describe means by which said mechanism can be located according to the reissue claim, nor how said mechanism can do its work so located, nor how certain other parts of the machine can operate under such condition.

§ 575. If a reissue patent, granted about thirteen and a half years after the original patent, has its specification identical with that of the original patent, but adds an additional claim, the possibility of which is not suggested in the original patent,—such added claim can not be sustained in view of the principles of reissue law established after much consideration.

§ 576. A reissue patent can not lawfully claim

573. Gosling *v.* Roberts, 1882, 106 U. S. 39.
Wing *v.* Anthony, 1882, 106 U. S. 142.
Moffitt *v.* Rogers, 1882, 106 U. S. 423.
McMurray *v.* Mallory, 1884, 111 U. S. 97.
574. Hoffheins *v.* Russell, 1883, 107 U. S. 132.
575. Gage *v.* Herring, 1883, 107 U. S. 640.

sub-combinations, additional to the combination claimed in the original patent, and evident on the latter's face, to the subjection of inventions in public use before the reissue patent be applied for,—if no excuse be given for a delay of about four and a half years in applying for such reissue; and if no actual inadvertence, accident or mistake be shown, and if said sub-combinations were thought of after the original patent issued, to cover the subsequent inventions sought to be controlled by the reissue new claims.

§ 577. A reissue claim can not be of greater scope than the invention which is set forth in the original patent. It has been said that a reissue claim for a product is for a different invention from that of the original process patent, unless such reissue product is exactly and only the product produced by the process of the original patent.

§ 578. An original patent can not run for twelve years, and then an application for reissue thereof be made,—to secure a broader claim than the original patent possesses.

§ 579. Delay in applying for a reissue patent

576. Clements *v.* Odorless Excavating Apparatus Co., 1884, 109 U. S. 641.

577. Cochrane *v.* Badische Anilin & Soda Fabrik, 1884, 111 U. S. 293.

578. Turner & Seymour Mfg. Co. *v.* Dover Stamping Co., 1884, 111 U. S. 319.

may be of slight significance, if the specification of the original patent is to be freed from defect, or if a broad claim of the original patent is to be narrowed. But a reissue can not be solely to broaden the claim of the original patent, except in plain instance of a mistake in the language of such claim, and the reissue application be made within a reasonable time after the issue of the original patent. An exact limitation of time can not be declared, in advance of cases; and there will be due favor for the patentee. There should be plain excuse for any longer delay than two years, in applying for reissue to correct an original patent claim which the patentee thinks is too narrow.

§ 580. A reissue patent is void as regards a claim which is a broadening of the claim of the original patent, and is for a different invention from that of the latter, and which is not applied for until nearly five years after the original patent grant, and not until the making of another invention,—to subject which is the purpose of such reissue.

§ 581. If the purpose of a reissue solely be to broaden the original patent claim, a plain mistake, inadvertently made in the language of the original claim must be shown, irrespective of the length of the time intervening between the original patent

579. Mahn *v.* Harwood, 1884, 112 U. S. 354.
580. Torrent Arms Co. *v.* Rodgers, 1884, 112 U. S. 659.

grant and the reissue application. Notwithstanding a reissue application be only about three months subsequent to the original patent grant, if the terms of the original patent claim be without mistake, and the reissue application be subsequent to an invention subjected to the claim in question, and no warrant be in the original patent description for such broadened reissue claim,—the latter is invalid.

§ 582. An original patent may for fourteen years have been operative, and sustained in numerous suits, so far as concerns certain parts thereof; and yet its specification be defective as to certain other parts, not noticed until the time of application for reissue thereof,—or it may have had a claim too broad. Hence a reissue of such an old and sustained patent may be good.

§ 583. A reissue claim for that which was expressly disclaimed in the original patent, and which was old in fact,—is bad.

§ 584. Delay of about five years in making an application for a broadened reissue, without good reason therefor, is fatal to the reissue. Ordinary business prudence and diligence is demanded as to examination of the original patent, if unclaimed mat-

581. Coon *v.* Wilson, 1885, 113 U. S. 268.
582. Thomson *v.* Wooster, 1885, 114 U. S. 104.
583. Beecher Mfg. Co. *v.* Atwater Mfg. Co., 1885, 114 U. S. 523.

ter therein is to be lawfully revived by a reissue, to the injury of parties who, by reason of such non-claimed matter in the original patent, have proceeded as if same were abandoned.

§ 585. If an original patent be restricted to the combination of the particular elements of the actual machine described, for certain specified purposes,—a reissue patent covering every combination of such elements, is not for the same invention as is described in such original patent.

§ 586. If application for a reissue be made nearly eleven years from the original patent grant, without good excuse for the delay, and after machines have gone into use subsequently to the original patent, which machines did not infringe the latter, but do infringe the broadened claim of the reissue patent — such broadened claim is invalid.

§ 587. Notwithstanding application for reissue be made more than five years after the grant of the original patent,—the reissue may be valid, if there be no enlargement.

§ 588. If neither the original patent, nor a first

584. Wollensak *v.* Reiher, 1885, 115 U. S. 96.
585. Eachus *v.* Broomall, 1885, 115 U. S. 429.
586. Brown *v.* Davis, 1886, 116 U. S. 237.
587. Yale Lock Mfg. Co. *v.* Sargent, 1886, 117 U. S. 536.

reissue, applied for nearly four years after the original patent, contain certain matter,—the injection of such matter in a second reissue, more than seven years after the original patent, can furnish no basis for patentability of the invention in question.

§ 589. If the sole purpose of a reissue be an enlargement of claim, and application for same be not made until nearly five years after the original patent grant, such reissue is invalid. It has been said that it may not be a material point, that between the original patent grant and the reissue patent application the alleged infringing invention be patented, and the reissue application be made to stop its operation; and that while remark touching such a condition has sometimes been made, as showing the injurious result of an unauthorized reissue, such a condition does not add to the unlawfulness of such a reissue,—inasmuch as such unlawfulness follows the application of general law principle to our reissue statute.

§ 590. If a reissue patent be applied for more than thirteen years after the original patent, in the absence of mistake or inadvertence, and after the making of the alleged infringing machines, such reissue covering said machines, but not so the original patent,—the reissue is invalid.

588. Gardner *v.* Herz, 1886, 118 U. S. 180.
589. White *v.* Dunbar, 1886, 119 U. S. 47.
590. Newton *v.* Furst & Bradley Co., 1886, 119 U. S. 373.

§ 591. Although there is no unchangeable limitation of time for a reissue application which broadens a claim, yet good reason for any longer time than two years should be made plain by the peculiar conditions of such a case. Negligence or error of the patentee's solicitor, in not preparing the specification and claims of an original patent as broad as the patentee wished and proposed,—does nót warrant a lapse of nearly three years, without excuse, before the patentee perceives the same, during which lapse other persons learn that right to reissue on this point is lost. A reissue patent is void, if it contain new matter,—a different invention from that described in the original patent; such new matter may be a certain device, which is shown in the drawings of the original patent as a part of the combination described in the latter and intended to be covered thereby,—without intimation of claim to said device, distinct from such combination.

§ 592. If a patentee, assuming that another patentee is the first inventor of the invention in question, without excuse permits his original patent to acquiesce for more than nine years in the claim of the other patentee, he can not then secure a valid reissue claiming such invention,—upon proving priority of invention over such other patentee. A reissue patent is void, if in addition to broadening and changing the character of claim, certain changes in the

591. Ives *v.* Sargent, 1887, 119 U. S. 652.

specification of such reissue be of substance and materially differ from the description of the original patent, cover a function not set forth in the latter, and impart a sense to the broadened reissue claim not possible under the description of such original patent.

§ 593. A reissue patent is void if the original patent fully protect the invention in question; if there be no inadvertence, accident or mistake, and the intent of the reissue be to subject a device not covered by the original patent; and if the specification and claims of the reissue set forth a different invention from that of the original patent.

§ 594. A reissue may be for the same invention as that of the original patent,—if such reissue merely makes clear the true meaning of the original patent.

§ 595. If a reissue patent claim an invention, not claimed nor attempted to be protected by the original patent, and adopted by other persons previously to the application for reissue,—such reissue claim is unlawful, being for a different invention from that of the original patent.

§ 596. The drawings of an original patent can

592. Hartshorn *v.* Saginaw Barrel Co., 1887, 119 U. S. 664.
593. Worden *v.* Searls, 1887, 121 U. S. 14.
594. Eames *v.* Andrews, 1887, 122 U. S. 40.
595. Parker & Whipple Co. *v.* Yale Clock Co., 1887, 123 U. S. 87.

not serve as a basis for a reissue patent, to make the invention in question different from that which is described in the original patent.

§ 597. If an original patent specification be neither defective nor insufficient, and without error, inadvertence or mistake,—a reissue thereof is invalid, if same be taken out seven years after the original patent, and a year or two after the patentee knew of the manufacture sought to be stopped by the reissue, and the claim of the reissue be enlarged over the original claim, by omitting an essential element of the original patent invention.

§ 598. A court, in passing upon the validity of a reissue patent, determines whether the delay in filing the application for such reissue was or was not reasonable. And the fact that the Patent Office has for itself previously determined said question favorably to the reissue,—will 'not extenuate a delay which seems to the court to have been unreasonable. A reissue patent is invalid if the application therefor be delayed eight years, without being satisfactorily answered for; the specifications of the original patent and the reissue patent being substantially alike, but the claims of the reissue being for sub-combinations less than the entire combination claimed in the original patent; and the specification of the original patent giv-

596. Hailes *v.* Albany Stove Co., 1887, 123 U. S. 582.
597. Matthews *v.* Ironclad Mfg. Co., 1888, 124 U. S. 347.

ing no indication that its invention was other than such entire combination.

§ 599. A second reissue is bad, if such reissue be obtained nearly seven years later than the first reissue, and omit a certain feature to which the construction of the patented article was previously limited alike in such first reissue and in the original patent.

§ 600. A reissue patent can not lawfully claim an invention, not apparent from the original patent specification as having been sought to have been secured by the original patent. An expanded claim of a reissue patent is not valid, if such reissue be applied for so late as eight years after the original patent, and said claim be designed to subject a construction which had within said eight years been largely introduced into public use,—while not protected by the original patent claim.

§ 601. Under certain premises, a reissue patent may be void, whose application is filed about a year and nine months, and the reissue be granted about a year and eleven months, after the original patent grant,—such reissue having its claim broader than

598. Hoskin *v.* Fisher, 1888, 125 U. S. 217.
599. Cornell *v.* Weidner, 1888, 127 U. S. 261.
600. Flower *v.* Detroit, 1888, 127 U. S. 563.

that of the original patent, so as to cover certain machines not covered by such original patent.

§ 602. A reissue specification can not lawfully be so different in substance from the original patent specification, as to broaden the invention thereof beyond that which the original patent sought to cover; such difference consisting either in dropping certain important particulars, or in adding new matter.

§ 603. If a reissue be granted within ten months after the original patent, and thereafter has any objectionable matter removed by statutory disclaimer, so that it does not broaden the claim of the original patent,—such reissue may then be good.

§ 604. A reissue claim broader than that of the original patent, is void, if the single purpose of the reissue be to secure such claim, covering an invention which had been first claimed by the same inventor in an abandoned patent application filed previously to the filing of the application for the original patent on which the reissue is based; said second application having been prosecuted without said claim, and by limiting-amendments evidencing an intention to claim no more than that actually claimed by the original

601. Farmers' Friend Mfg. Co. *v.* Challenge Corn-Planter Co., 1888, 128 U. S. 506.
602. Pattee Plow Co. *v.* Kingman, 1889, 129 U. S. 294.
603. Hurlbut *v.* Schillinger, 1889, 130 U. S. 456.

patent. Hence it is immaterial if such reissue application be made within a few days following the issue of the original patent. Certain claim in a third reissue is not valid, if the application for the second reissue made the same claim, and then abandoned it under Patent Office procedure.

§ 605. A reissue which broadens claim over the original patent, is invalid so far as concerns matter purposely omitted from the claims of such original patent. Such purpose may be evinced by acquiescing in the refusal of a claim, by canceling a claim to prevent an interference, or by inserting limitations required by the Patent Office.

§ 606. If the purpose of a reissue be to enlarge the monopoly beyond the apparatus shown and described in the original patent, the specifications of the original and reissue patents being substantially alike, the claims of such reissue being for a different invention from that of the original patent claims, the original patent specification not stating the invention set up for the reissue, there being no mistake in the original patent, and the reissue application being delayed more than eight years,—such reissue new claims are invalid. It has been said that a claim of the original patent can not be a proper foundation for

604. Yale Lock Mfg. Co. *v.* Berkshire National Bank, 1890, 135 U. S. 342.

605. Dobson *v.* Lees, 1890, 137 U. S. 258.

claims of the reissue patent, if such original patent claim be repeated in the reissue application and there abandoned under Patent Office rejection, as anticipated by the prior art.

§ 607. A reissue patent must be for the same invention which is apparent from the specification and claims of the original patent; and two years will usually abandon right to reissue, for purpose of expanding the claim. It has been held that a patentee may thus by reissue secure his true invention, where there is a mistake in his original patent; provided he be reasonably diligent, and no third person meanwhile acquire the right to make or sell such invention.

§ 608. If a reissue patent specification contain definitions and descriptions of the invention, broader than set forth in the original patent specification; and if such original patent specification has nothing to show an intention to cover the subject-matter set up in certain claim of the reissue, not found in the original patent claims,—such new and enlarged matter of the reissue patent is invalid, because for a different invention from that of the original patent.

606. Electric Gas Lighting Co. *v.* Boston Electric Co., 1891, 139 U. S. 481.

607. Topliff *v.* Topliff, 1892, 145 U. S. 156.

608. Freeman *v.* Asmus, 1892, 145 U. S. 226.

HEAD XXIV OF SUBJECT III.

Cancellation, by Reissue Procedure.

§ 609. A surrender of a patent extinguishes it. An infringement suit depends upon the patent as existing when suit was commenced; and unless such patent is in existence when the suit is tried and adjudged, the suit fails. Money once paid on judgment in a suit, or by voluntary payment, under a patent, can not be recovered by reason of the subsequent surrender of such patent to the Patent Office; inasmuch as the title to such money does not depend on the patent, but on the voluntary payment or the court judgment.

§ 610. It has been said that if an assignee of an original patent consents to its reissue, the latter inures immediately to his benefit; but that if he does not so consent, he may accept or reject the reissue.

§ 611. It has been said, presumably in reference to the law first established with the 1870 Patent Act, that an original patent sought to be reissued, becomes inoperative at the grant of its reissue.

§ 612. No affirmative relief in appellate court can be decreed to a patentee who has surrendered his

609. Moffitt *v.* Garr, 1862, 1 Black. 273.
610. Littlefield *v.* Perry, 1875, 21 Wall. 205.
611. Reedy *v.* Scott, 1875, 23 Wall. 352.

original patent which was in suit below, and obtained a reissue patent, subsequently to appeal from decree below dismissing the bill on the original patent,—and such an appeal will be dismissed.

§ 613. If an original patent be surrendered and a reissue be obtained, after a final judgment or decree sustaining the suit, the same has no effect upon such judgment or decree. All right in the matter is thereafter based on the judgment or the decree, instead of on the patent.

§ 614. Previously to the 1870 Patent Act, a patent which was surrendered for reissue, was canceled in law, irrespectively of the grant of the reissue patent. The said 1870 Act introduced a new clause, declaring that the surrender of the original patent should take effect upon the grant of the reissue patent. It has been said that possibly said new clause may enable the patentee to have his original patent returned to him, if a reissue be refused on ground which does not affect the original claim; yet that if his title to the invention be decided against him in reissue procedure, it would seem that such decision is as fatal to the original patent as to the right to a reissue patent.

612. Meyer *v.* Pritchard, 1877, 131 U. S. ccix.
613. Mevs *v.* Conover, 1877, 131 U. S. cxlii.
614. Peck *v.* Collins, 1881, 103 U. S. 660.

SUBJECT IV.

RECOVERY FOR INFRINGEMENT.

§ 615. There are two forms of financial recovery for the infringement of a valid patent, namely: Profits, Damages. Profits may be accounted for, as incident to a proper suit in equity. Damages may be assessed as incident to a proper suit in equity, and may likewise be recovered in an action at law; and in either instance, the court may, in its discretion, increase the actual damages to an amount not exceeding three times the same. The present subject therefore is covered under two heads, as follows:

Head I: Profits of Infringement.

Head II: Damages of Infringement.

HEAD I OF SUBJECT IV.

Profits of Infringement.

§ 616. An infringer is not liable for profits which he might with reasonable diligence have realized; but he is liable for the profits which he actually did realize by reason of the infringement. Motive to infringe is thus annulled, inasmuch as the infringer is obliged to pay the profits of his infringement to the patent owner.

§ 617. It has been held that, under certain premises, interest should not be allowed on the profits of infringement found for complainant.

§ 618. Account of profits may properly be continued down beyond the date of the decree for such account, to the date of the hearing before the master. Bad debts, rents and interest paid may properly be allowed in favor of the infringer; rents and interest received being properly charged against him. The market value of materials on hand at date of commencing the infringement, together with the cost of material subsequently purchased in the business, and usual salaries of the officers of the infringing company, may be properly allowed the latter. The cost—

616. Dean *v.* Mason, 1857, 20 How. 198.

617. Silsby *v.* Foote, 1857, 20 How. 378.

in distinction from the value at the time they were used—of materials purchased for the infringement, is proper matter for consideration. No allowance is to be made for wear and tear and depreciation of an infringer's property, in excess of large amounts expended in repairs of buildings and machinery, and in purchasing new machinery,—fully balancing the real wear and tear during the infringement. Extraordinary salaries paid the officers of the infringing company are not allowed to the latter, if they are really dividends of the company's profit. It has been held that, under certain circumstances, profits due to elements not patented entering into the composition of the patented article, should not be allowed the infringer; the books of the infringer rendering such an account impossible, and the conduct of the infringer not commending the latter to the favor of a court of equity,—doubt is resolved against such infringer. Manufacturer's profits, and interest on the capital stock of the infringing company, are not properly allowable to the latter, in cases wherein the infringement profits are the difference between expense and return; the expense including price of materials, interest, cost of manufacture and sale, other necessary expenditures and bad debts,—and usually nothing else. The profits of infringement in such class of cases should be calculated in like manner as a manufacturer calculates the profits of his business,—the gain, when considering outgo and income. The leading thought should be that the

infringer may not obtain financial gain by reason of his infringement.

§ 619. An infringer of an improvement in a process of manufacture or in a machine, is not liable for his entire profits from such manufacture or machine. Profits of infringement are the fruits of the advantage derived from the infringed invention, as compared with that which the infringer had from matter which was then public and adapted to accomplish an equally good result. An infringer of a patented entire process is not liable for profits derived from any, less than all, the steps constituting such process. Interest on profits of an infringement should not generally be allowed before the final decree. Profits are substantially, and only except in name, the measure of damages; and as such are unliquidated until the decree,—and interest is not usually allowed on unliquidated damages. It is not impossible that in certain cases, interest may be allowed before the final decree, on the profits of an infringement; but interest should not be allowed in a case where the infringer had operated under a patent of his own, and was not a wanton trespasser.

§ 620. The rule of accounting for infringement profits is on the principle of viewing the infringer as a trustee for the patent owner, touching said profits. The calculation of such profits is conditioned upon

618. Rubber Co. *v.* Goodyear, 1870, 9 Wall. 788.

619. Mowry *v.* Whitney, 1872, 14 Wall. 620.

all the equitable premises of right in each particular case.

§ 621. The rule does not demand account for all profits derived from the infringing article,—but for all profits realized from infringing the patented invention embodied in such article. Circumstances may justify interest on profits of intentional infringement.

§ 622. If it does not appear at what profit a certain machine could have been sold without a certain infringing attachment, it is fair to presume that the profit on such a machine with the infringing attachment, was increased by the latter quite as much as was the profit on said attachment increased by the infringing invention embodied therein,—when such attachment is sold separate from said certain machine. A patent owner is not entitled to savings or profits of the infringing article, which result from a certain invention of the infringer embodied in the infringing article.

§ 623. After an original patent has been surrendered in reissue procedure, and a reissue patent granted,—such original patent is not proper foundation for a suit in recovery of profits of an infringement thereof.

620. Packet Co. *v.* Sickles, 1874, 19 Wall. 611.
621. Littlefield *v.* Perry, 1875, 21 Wall. 205.
622. Mason *v.* Graham, 1875, 23 Wall. 261.
623. Reedy *v.* Scott, 1875, 23 Wall. 352.

§ 624. If an infringer be a vender of articles, some of which do not infringe, while others do infringe,—such infringer may deduct proper proportion from the profits of the sales of the infringing articles, as part of the general expense of the entire business. Every portion of such business is justly chargeable with its proportionate share of the total expense, incident to sales alike of the infringing or the non-infringing articles.

§ 625. An infringer is accountable for infringement profits which he makes,—and not for the profits which the patent owner might have made. The rule is on the basis that, as to such profits, the infringer is a trustee for the patent owner.

§ 626. The question is not, what profits has the infringer made in his business which infringed the patented invention; but, what advantage has he derived from the latter, in said business. Assuming that the business be without profits, yet, if by employing the patented invention in choice over public matter, a saving be effected over what must have been expended by using such public matter,—to such extent a positive advantage is gained by the infringement.

§ 627. Notwithstanding the use of an infringing

624. Tremolo Patent, The, 1875, 23 Wall. 518.
625. Burdell *v.* Denig, 1876, 92 U. S. 716.
626. Cawood Patent, 1877, 94 U. S. 695.

machine be at a financial loss, yet if such loss be the less by reason of using the patented invention therein, —then such saving from loss is the same as a like gain, and is rightly profit.

§ 628. Notwithstanding the owner of an infringed patent make a profit on machines made and sold by him embodying such specific patented invention, yet if it be not shown how much thereof is manufacturer's profit, nor how much thereof be due to patented inventions other than the one in question,—the infringer is not liable to account for any profits.

§ 629. The following has been held: (1) No profits can be recovered from the party for whom a contractor made the patented thing,—when all profit of such making is the contractor's. (2) A superintendent of an infringing company is not liable for profits of an infringement, if he only acted in behalf of his company, and merely received a superintendent's salary. (3) If the infringed invention be a complete and new thing, which the infringer employ as an entirety, and if such infringer make any addition to the patented thing which contributes to the profits, the burden of proof to show the same rests on him. (4) An agreement between the suing party and the party from whom his patent title is derived, concerning his charge for making the patented invention for others,

627. Mevs *v.* Conover, 1877, 131 U. S. cxlii.

628. Robertson *v.* Blake, 1877, 94 U. S. 728.

has no bearing upon an accounting for profits of infringement as between the infringer and the suing party,—whatever bearing said agreement might have in a recovery of damages for infringement.

§ 630. Infringement profits, like unliquidated damages, usually do not draw interest without special court order. Counsel fees can not be allowed to a suing owner of an infringed patent, as part of his court costs.

§ 631. Profits of infringement are not to be accounted for and recovered on a bill in equity brought solely for same, or jointly for same and infringement damages. To entitle a patent owner to an account of profits of an infringement thereof, he must have a case entitled to the jurisdiction of a court of equity,—independently of the fact that an accounting for profits of patent infringement is within the premises. The most general cause for equitable consideration of an infringement,—to which the right to an account for profits of such infringement is incidental,—is the right of injunction against a continuance of such infringement; hence, if the patent has expired previously to a court of equity acquiring jurisdiction, by suit therein, of the infringement in question,—such general ground for the incidental relief of account of profits of such infringement is lost. If an infringed patent has expired

629. Elizabeth *v.* Pavement Co., 1878, 97 U. S. 126.

630. Parks *v.* Booth, 1880, 102 U. S. 96.

previously to bringing a suit in equity, and no ground for equitable relief exists, the patent owner is left to an action at law for a recovery of damages, as an adequate remedy for the infringement wrong.

§ 632. It is not always true that if a patented invention be one of different constituents, and be not the whole, of the infringing machine, the profits of the infringement are restricted to the profits of the manufacture and sale of such patented constituent, separate from the machine. The question is, what was the advantage gained by such constituent; and if such constituent be necessary to adapt the machine in question to the desired use, and there be no public supply for the demand,—then the infringement gets the market in question, and the fruit of such getting is the entire profit made in that market. In estimating the manufacturing cost of an infringing machine, allowance should not only be made for raw goods and service, but also for machinery work and for selling expenditure.

§ 633. Interest is allowable in a case of corrected profits reported under appeal order, in deduction from original amount.

§ 634. If an infringed patented invention be an

631. Root *v.* Railway Co., 1882, 105 U. S. 189.
632. Mfg. Co. *v.* Cowing, 1882, 105 U. S. 253.
633. Illinois Central Railroad Co. *v.* Turrill, 1884, 110 U. S. 301.

improvement, instead of being an entirely new machine,—the profits of such infringed patented invention must be distinguished from the profits of the machine, due to its other parts or features; and the difference between the cost of the whole machine and its selling price, can not be attributed to the patented improvement.

§ 635. The accounting for profits of an infringed patented invention can only be for profits derived from the advantage of the patented invention,—over other and known means which the infringer had the right to use, for producing the like result.

§ 636. It has been held that infringement profits may include all the profits of doing certain work by the patented machine, over doing the same work by hand,—provided that there is no other known way, not controlled by the patent owner, of doing the work done by said machine, except by hand. Notwithstanding it might be a better financial operation for an infringer to pay others for the product of the work done by the patented invention, rather than to do such work himself,—yet, if he chooses to do the work, he becomes responsible to the patentee for the advantage derived from using his patented machine therein.

634. Garretson *v.* Clark, 1884, 111 U. S. 120.
635. Black *v.* Thorne, 1884, 111 U. S. 122.
636. Thomson *v.* Wooster, 1885, 114 U. S. 104.

§ 637. The party who owns an infringed patent may properly recover all the profits of the infringement, irrespectively of any fact as to another person merely having an interest in recoveries under the patent. Notwithstanding the patent owner may have an established license fee for the use of his patented invention, yet, in equity, he is not restricted to a recovery of such an amount from an infringer; but he is entitled to a recovery of the amount of the gains and profits that the infringer has made by the infringement. This rule obtains because: it is better than any other rule for satisfying the sense of right; the profits of infringement of a patent belong, in conscience, to the owner of such patent; it is not proper, in conscience, to permit an infringer to gain by his infringement, or to make no deduction for his expense, or to compel him to give more than a just sum to the owner of the infringed patent. Infringement profits are the actual gains, or savings from loss, effected by the infringed invention, over what would have been effected by other means then open to the public, and adapted to secure a like good result. If the legality and scope of the infringed patent be in contention and uncertain during the period of the infringement,—interest on the infringement profits should run only from the date of submission of the master's report to the court below.

§ 638. If the infringing thing derives its entire value in the market from the patented invention, would

637. Tilghman *v.* Proctor, 1888, 125 U. S. 136.

not have been made at all if not made in infringement of such invention, and the latter be in itself a complete combination, different from every thing else, and causing the entire profit,—the entire profits of such infringing thing constitute infringement profits.

§ 639. An infringer may be liable for profits even if the patent owner never employed the invention. If there be no device known to the art and open to be used by the infringer, which would do the same work as the patented invention, or have any commercial value, infringement profits are to be calculated in reference to the entire device made and sold by the infringer,—the entire value of the device, as a commercial article, being properly attributable to the patented invention. If certain patented improvements owned by the infringer do not contribute at all to the sale of the device which the infringer sells, notwithstanding the infringer clothe the patented invention in the particular form of his own patented improvements,—then the latter constitute worthless form without the life of the patented invention. Question of profits may concern the profits of the infringer on the articles which he has made and sold, and not contemplate certain losses incurred in his infringing business. A master's report, confirmed by the court, should be considered as liquidated on the day of such report,—interest on such amount running from said day,

638. Hurlbut *v.* Schillinger, 1889, 130 U. S. 456.

notwithstanding delay of the court in its confirmation.

§ 640. It has been held that notwithstanding complainant may own a certain patent, earlier than the patent in suit, yet such earlier patent can lawfully be considered in considering the prior state of the art, or what was open to the defendant to use; but if such earlier patent be made the basis of the suit, it can not then be open to the defendant.

§ 641. The entire profits of an article embodying an infringed patented invention are to be accounted for, only if the article—in its entirety—constitutes the infringed patented invention, or if the entire value of the article is due to such invention. Profits comprise that which is saved by using the patented invention, compared with what was known and in general use previously. If an infringer make and sell the patented device as an independent article, he is not a user of it; but if he use such patented device only to be fitted to another thing made and sold by him, it is a use of the patented device, as truly as if he use the thing to which it be fitted.

639. Crosby Steam Gage & Valve Co. *v.* Consolidated Safety Valve Co., 1891, 141 U. S. 441.

640. McCreary *v.* Pennsylvania Canal Co., 1891, 141 U. S. 459.

641. Sessions *v.* Romadka, 1892, 145 U. S. 29.

HEAD II OF SUBJECT IV.

Damages of Infringement.

§ 642. The doctrine touching recovery of damages for infringement of a validly patented invention, is one and the same,—irrespectively of the litigation being at law or in equity.

§ 643. It has been said that full damages for infringement of a patent are usually given, not for the making nor for the selling of the patented article, but for the making and the selling of the same to be used; and that while a paid license fee may be a standard for infringement damages, yet that fair ground exists for lessening damages below such license fee, if the infringer was unaware of the patent; but that such ground would not relieve the infringer from all damages, when making the infringing machine to be used, —and not merely as a model, or for fancy, or philosophical illustration.

§ 644. It has been said that if an infringer acted in fair conscience, and did not purposely infringe, the same assessment of damages should not be against him, which might properly be assessed against a wanton trespasser.

643. Hogg *v.* Emerson, 1850, 11 How. 587.
644. Corning *v.* Burden, 1853, 15 How. 252.

§ 645. It has been said that if an infringer made his infringing machine in accordance with another patent, under which he stood, and if he might fairly have thought that such machine was not an infringement of the patent in suit, he should not be subject to any damages in the shape of a penalty.

§ 646. If a patent owner operate under a license system for his patented improvement, any infringement damage, above such license fee, should clearly appear. Actual damages can not be theorized, but should be proved; as it is a question of fact, and not a judgment of law, what the patent owner would have realized in absence of the infringement. A different rule touching measure of damages obtains, if the patented invention be but an improvement on a machine, from the rule which obtains if the patented invention constitutes the entire machine,—inasmuch as in case of an improvement, damage is limited thereto, and does not include the entire machine. In an unusual case, permitting of no other way, guide for infringement damages may be sought from the profits of the infringer.

§ 647. It has been said, in instance of the infringement of a patent on a machine for planing lumber, that the damage is to be measured by the quantity of planed lumber placed on the market by the infring-

645. Livingston *v.* Woodworth, 185 , 15 How. 546.
646. Seymour *v.* McCormick, 1853, 16 How. 480.

ing machine,—which unlawful supply correspondingly lessened the demand.

§ 648. Counsel fees can not be considered in estimating infringement damages. If the infringer has acted in bad faith, or has caused needless expense and injury to the patent owner, the court may give its judgment in suitable excess of the actual damage,—as provided by statute.

§ 649. It is not to be inferred that an infringer has made all the savings which may be indicated by a comparison of the working capacities of two like machines, respectively provided with and without the patented improvement; nor is it to be presumed from such inference, that the infringer would have paid the amount of such savings to the patent owner for the employment of his patented improvement. Possible gain on the part of the infringer by reason of the infringement, is not to be made the measure of the loss of the patent owner by the infringement; but if other data can not be furnished, the profit that the infringer realized by using the patented invention, and which profit the patent owner would otherwise have realized, may be the proper measure of damages. If a patent owner does not derive profit from the exclusive use of the patented invention, nor from a monopoly of making same for others to use, the amount of his license fee, with

647. Dean *v.* Mason, 1857, 20 How. 198.
648. Teese *v.* Huntingdon, 1860, 23 How. 2.

interest thereon, constitutes his actual damage for an infringement.

§ 650. In the absence of an established license fee, general evidence must necessarily be resorted to, to estimate the damages of infringement; the estimate being, not for the entire patent term, but only for the time of the infringement. Under such general evidence, the utility and advantage of the invention over the prior art may be considered; so that by knowing the benefit which the infringer obtained by reason of his infringement, and by also knowing the extent of the infringement, a sound judgment may ascertain the damages of infringement.

§ 651. In a suit on a reissue patent, there can be no recovery of damages for any infringement of the patent surrendered for such reissue.

§ 652. In patent litigation, both its forms of financial recovery for an infringement are really damages, though only one form is so called,—while the other form is styled as profits. If a person unintentionally commit infringement, while working under his own patent,—he should not be compelled to pay interest on damages of such infringement.

649. New York *v.* Ransom, 1860, 23 How. 487.
650. Suffolk Co. *v.* Hayden, 1866, 3 Wall. 315.
651. Agawam Co. *v.* Jordan, 1869. 7 Wall. 583.
652. Mowry *v.* Whitney, 1872, 14 Wall. 620.

§ 653. The measure of damage is the actual damage suffered by the patent owner, on account of the infringement. Such damage is not the subject of mental speculation,—but must be proved. If the patent owner has operated under a license system for his patented invention, reaping royalty paid for licenses thereunder,—usually such license fee stands as the basis of computing infringement damages. If there has not been such royalty system, conclusion as to the amount of compensation for the wrong, may be reached by considering, among other premises, the infringer's profit and the patent owner's loss by the infringement. If the infringement does not embrace the entire article which embodies the patented invention, or if the infringement is not coequal with the patent,—there is a corresponding limitation of damage recovery.

§ 654. Judgment does not commend, nor experience encourage any unnecessary relaxation of the rule, that the price received by the patent owner, as the usual license fee under his patent, should be taken as the measure of damages against an infringer.

§ 655. A patent which has been surrendered, is not proper foundation for an action either at law

653. Philp *v.* Nock, 1873, 17 Wall. 460.
654. Packet Co. *v.* Sickles, 1874, 19 Wall. 611.

or in equity, in recovery of damages for an infringement thereof.

§ 656. An established royalty for use of a patented invention constitutes a primary standard for computing damages of an infringement of the patent. But in absence of such royalty standard, the profits of the infringer may be considered, as one of the factors in estimating the damages.

§ 657. An established royalty constitutes measure of damages of an infringement, wherein the patented invention is made and sold, or wherein the patented invention is largely and continuously used, —without mollifying premises. But if the use be a limited use, and only for a short time, the royalty measure must be applied subject to discretion and under qualification.

§ 658. Nominal damages only, can be recovered for an infringement, in the absence of proof: (a) that a license system existed under the patent; (b) that damage was suffered by the patent owner; (c) that a definite part of the profit of the patent owner on articles embodying the patented invention was profit of the latter, distinctively from manufacturer's profit; (d) that a definite part of the profit of the patent owner on arti-

655. Reedy *v.* Scott, 1875, 23 Wall. 352.

656. Burdell *v.* Denig, 1876, 92 U. S. 716.

657. Birdsall *v.* Coolidge, 1876, 93 U. S. 64.

cles embodying the patented invention was the profit of the latter, distinct from other patented inventions embodied in such articles.

§ 659. The damages of an infringement may be recovered in equity, even though the infringer made no profits. Infringing machines which have been made but not sold, may be subject to nominal damages.

§ 660. The unliquidated damages of an infringement generally are not subject to interest, except under specific order of the court.

§ 661. Suit merely for the recovery of infringement damages, is not to be brought in equity, but solely at law. However, a suit properly in equity, as a suit for injunction against future infringement, may recover damages, as well as have an accounting of profits, for past infringement. Such damages being, in like manner as in an action at law, under the discretion of the court, subject to increase to an amount not exceeding three times the actual damages.

§ 662. Damages for infringement of a patented improvement in an article, must be distinguished from damages touching the entire article, when the latter

658. Robertson *v.* Blake, 1877, 94 U. S. 728.
659. Marsh *v.* Seymour, 1878, 97 U. S. 348.
660. Parks *v.* Booth, 1880, 102 U. S. 96.
661. Root *v.* Railway Co., 1882, 105 U. S. 189.

embodies other features besides the patented one in question,—and in the absence of such distinction, only nominal damages follow.

§ 663. If a patented improvement accomplishes an old result, no more easily nor economically than is accomplished by different means which the public use, —no other than nominal damages follow an infringement of the patent, in absence of an established license system under the latter.

§ 664. Payment of damages for making and using, or for selling an infringing machine, does not give right to future use of such machine. Notwithstanding damages have been paid for the making and selling of a machine, yet, damages for the use of such machine may be recovered,—except only when complete compensation for the infringement in question has been received.

§ 665. If the patent owner exclusively manufactures and sells the patented article, and is able to fill all orders therefor, damages of an infringement may be the enforced reduction of price solely caused by the specific infringement in question, on the articles sold by the patent owner. The patent owner is entitled to all such damages, notwithstanding he have a partner in

662. Garretson *v.* Clark, 1884, 111 U. S. 120.
663. Black *v.* Thorne, 1884, 111 U. S. 122.
664. Birdsell *v.* Shaliol, 1884, 112 U. S. 485.

the business of manufacturing and selling the patented article.

§ 666. There may in certain case, be infringement damages in excess of an established license fee under the patent, and which are properly allowable under increase of the actual damages,—subject to the discretion of the court. Several license fees respectively paid by large business concerns, for operating under the infringed patent, may sufficiently prove an established license fee.

§ 667. In an action at law, usually, but not necessarily, the fee which the public have generally paid for license under the patent, with interest on such fee from the time when it should have been paid by the defendant infringer, constitutes the measure of damages of an infringement of such patent. But penalty damages, if the premises so require, may be given by court judgment,—not in excess of three times the actual damages.

§ 668. Payment of money, to settle a charge or contention of infringement, is not a criterion for ascertaining damages of infringement by other parties. Not theoretical, but actual damages must be proved, to warrant assessment of other than nominal damages. It has been said, that to constitute a license fee good as

665. Yale Lock Mfg. Co. *v.* Sargent, 1886, 117 U. S. 536.
666. Clark *v.* Wooster, 1886, 119 U. S. 322.
667. Tilghman *v.* Proctor, 1888, 125 U. S. 136.

against an infringer of the patent: the license must be clear from fear of litigation for past act, must be a voluntary contract, and must be such in number and time as to evidence the marketable value of operation under the patent; the license fee must be established before the specific infringement, it must be paid by sufficient licensees to prove a general acquiescence therein, and it must be substantially the same at the same places.

§ 669. Only nominal damages for an infringement of a patent may obtain: if there be no evidence touching an established license fee, excepting the incompetent matter of settlements for infringements; if there be no evidence of the cost of the patented machine, nor of the profits of the patent owner; and if there be no loss to the patent owner of a definite sum, distinctively attributable to reduction in price solely caused by the infringement, on the machines which he did sell.

§ 670. If a patent owner grants no licenses, but makes the patented article, and is able to supply the market demand: any lowering of his price on such article must be, not on account of the general business competition of the infringer, but on account solely of the infringement,—to authorize such lowering of price to stand as a measure of the infringement damages.

§ 671. To warrant an assessment of infringement

668. Rude *v.* Westcott, 1889, 130 U. S. 152.
669. Cornely *v.* Marckwald, 1889, 131 U. S. 159.
670. Boesch *v.* Graff, 1890, 133 U. S. 697.

damages, suffered by decrease in the patent owner's business, attributable to the infringer's act, it is material to show that the patent owner was engaged in supplying the trade with the patented article.

§ 672. Not nominal damages, but profits, are the proper recovery, where the infringer use the patented device to be fitted to another thing made and sold by him,—and such use result in profit to him.

§ 673. If a patent owner holds the exclusive manufacture of the patented invention, and is able to supply the market, and thereupon his business representative sever from him and commence infringement as a rival, cutting into the trade of the patent owner,—there would seem to be ground-work for an increase, by punitive damages, of the actual damages suffered by the patent owner on account of such infringement.

671. Crosby Steam Gage and Valve Co. *v.* Consolidated Safety Valve Co., 1891, 141 U. S. 441.
672. Sessions *v.* Romadka. 1892, 145 U. S. 29.
673. Topliff *v.* Topliff, 1892, 145 U. S. 156.

TABLES OF REFERENCES.

The following tables bear titles respectively the same as the foregoing heads,—each reference identifying the section in the body of the work which it sustains.

HEAD I OF SUBJECT I.

License—Before Patent Application.

3. McClurg *v.* Kingsland, 1843, 1 How. 202.
4. Kendall *v.* Winsor, 1859, 21 How. 322.
5. Hapgood *v.* Hewitt, 1886, 119 U. S. 226.
6. Andrews *v.* Hovey, 1888, 124 U. S. 694.
7. Wade *v.* Metcalf, 1889, 129 U. S. 202.
8. Dable Grain Shovel Co. *v.* Flint, 1890, 137 U. S. 41.
9. Solomons *v.* United States, 1890, 137 U. S. 342.

HEAD II OF SUBJECT I.

License—By Damage Recovery.

10. Hogg *v.* Emerson, 1850, 11 How. 587.
11. Suffolk Co. *v.* Hayden, 1866, 3 Wall. 315.
12. Birdsell *v.* Shaliol, 1884, 112 U. S. 485.

HEAD III OF SUBJECT I.

License—In Sold Article.

14. Bloomer *v.* McQuewan, 1852, 14 How. 539.
    Chaffee *v.* Boston Belting Co., 1859, 22 How. 217.
    Bloomer *v.* Millinger, 1864, 1 Wall. 340.
    Mitchell *v.* Hawley, 1873, 16 Wall. 544.
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    Birdsell *v.* Shaliol, 1884, 112 U. S. 485.
15. Gottfried *v.* Miller, 1882, 104 U. S. 521.
16. Lawther *v.* Hamilton, 1888, 124 U. S. 1.

HEAD IV OF SUBJECT I.

License—To Repair.

17. Wilson *v.* Simpson, 1850, 9 How. 109.
18. Chaffee *v.* Boston Belting Co., 1859, 22 How. 217.
    Mitchell *v.* Hawley, 1873, 16 Wall. 544.
19. Cotton-Tie Co. *v.* Simmons, 1882, 106 U. S. 89.

HEAD V OF SUBJECT I.

License—Duration of.

20. Mitchell *v.* Hawley, 1873, 16 Wall. 544.
21. Oliver *v.* Rumford Chemical Works, 1883, 109 U. S. 75.
22. Birdsell *v.* Shaliol, 1884, 112 U. S. 485.
23. St. Paul Plow Works *v.* Starling, 1891, 140 U. S. 184.

HEAD VI OF SUBJECT I.

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24. Troy Iron and Nail Factory *v.* Corning, 1852, 14 How. 193.
25. Rubber Co. *v.* Goodyear, 1870, 9 Wall. 788.
26. Oliver *v.* Rumford Chemical Works, 1883, 109 U. S. 75.
27. Hapgood *v.* Hewitt, 1886, 119 U. S. 226.

HEAD VII OF SUBJECT I.

License—Annulment of.

28. Wilson *v.* Sandford, 1850, 10 How. 99.
29. Hartell *v.* Tilghman, 1879, 99 U. S. 547.
30. St. Paul Plow Works *v.* Starling, 1891, 140 U. S. 184.

HEAD VIII OF SUBJECT I.

License—By Patent Part Owner.

32. Gottfried *v.* Miller, 1882, 104 U. S. 521.
33. Paper-Bag Cases, 1882, 105 U. S. 766.

HEAD IX OF SUBJECT I.

License—By Sectional Grantee.

35. Wilson *v.* Rousseau, 1846, 4 How. 646.
36. Simpson *v.* Wilson, 1846, 4 How. 709.
37. Adams *v.* Burke, 1873, 17 Wall. 453.
38. McKay *v.* Wooster, 1873. No report.

HEAD X OF SUBJECT I.

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39. Boesch *v.* Graff, 1890, 133 U. S. 697.

HEAD I OF SUBJECT II.

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42. Carver *v.* Hyde, 1842, 16 Pet. 513.
43. Brooks *v.* Fiske, 1853, 15 How. 212
44. Corn-Planter Patent, The, 1874, 23 Wall. 181.
45. Merrill *v.* Yeomans, 1877, 94 U. S. 568.
46. Bates *v.* Coe, 1878, 98 U. S. 31.
47. Burns *v.* Meyer, 1880, 100 U. S. 671.
48. Miller *v.* Brass Co., 1882, 104 U. S. 350.
49. Mahn *v.* Harwood, 1884, 112 U. S. 354.
50. White *v.* Dunbar, 1886, 119 U. S. 47.
51. Howe Machine Co. *v.* National Needle Co., 1890, 134 U. S. 388.
52. McClain *v.* Ortmayer, 1891, 141 U. S. 419.

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53. Vance *v.* Campbell, 1862, 1 Black. 427.
54. Gould *v.* Rees, 1872, 15 Wall. 187.
55. Dunbar *v.* Myers, 1876, 94 U. S. 187.
56. Keystone Bridge Co. *v.* Phœnix Iron Co., 1877, 95 U. S. 274.
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59. Burns *v.* Meyer, 1880, 100 U. S. 671.
60. Water-Meter Co. *v.* Desper, 1880, 101 U. S. 332.
61. Gage *v.* Herring, 1883, 107 U. S. 640.
62. Fay *v.* Cordesman, 1883, 109 U. S. 408.
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64. Lawther *v.* Hamilton, 1888, 124 U. S. 1.
65. Weir *v.* Morden, 1888, 125 U. S. 98.
66. Hendy *v.* Golden State and Miners' Iron Works, 1888, 127 U. S. 370.
67. Western Electric Co. *v.* La Rue, 1891, 139 U. S. 601.

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68. Evans *v.* Eaton, 1822, 7 Wheat. 356.
69. O'Reilly *v.* Morse, 1853, 15 How. 62.
70. Seymour *v.* McCormick, 1856, 19 How. 96.
71. Phillips *v.* Page, 1861, 24 How. 164.
72. Burr *v.* Duryee, 1864, 1 Wall. 531.
73. Burr *v.* Duryee, 1864, 1 Wall. 579.
74. Klein *v.* Russell, 1874, 19 Wall. 433.
75. Corn-Planter Patent, The, 1874, 23 Wall. 181.
76. Russell *v.* Dodge, 1877, 93 U. S. 460.
77. Smith *v.* Goodyear Dental Vulcanite Co., 1877, 93 U. S. 486.
78. Matthews *v.* Machine Co., 1882, 105 U. S. 54.
79. Yale Lock Mfg. Co. *v.* Greenleaf, 1886, 117 U. S. 554.
80. Thatcher Heating Co. *v.* Burtis, 1887, 121 U. S. 286.
81. Snow *v.* L. S. & M. S. R. Co., 1887, 121 U. S. 617.
82. Lawther *v.* Hamilton, 1888, 124 U. S. 1.
83. Joyce *v.* Chillicothe Foundry, 1888, 127 U. S. 557.
84. Day *v.* Fairhaven and Westville Railway Co., 1889, 132 U. S. 98.
85. Roemer *v.* Bernheim, 1889, 132 U. S. 103.
86. Howe Machine Co. *v.* National Needle Co., 1890, 134 U. S. 388.

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89. Le Roy *v.* Tatham, 1852, 14 How. 156.
90. Silsby *v.* Foote, 1852, 14 How. 218.
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135. Western Electric Co. *v.* La Rue, 1891, 139 U. S. 601.
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137. Pope Mfg. Co. *v.* Gormully & Jeffery Mfg. Co., 1892, 144 U. S. 248.
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157. Carver *v.* Hyde, 1842, 16 Pet. 513.
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185. Werner *v.* King, 1877, 96 U. S. 218.
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212. Cantrell *v.* Wallick, 1886, 117 U. S. 689.
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384. Whiteley *v.* Swayne, 1869, 7 Wall. 685.
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546. Stimpson *v.* W. C. R. Co., 1846, 4 How. 380.
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