PATENTS ON INVENTIONS.

A QUARTERLY

PATENT LAW REVIEW.

CONTAINING INFORMATION AND ADVICE FOR INVENTORS, PATENTEES AND MANUFACTURERS.

HENRY CONNETT and ARTHUR C. FRASER,
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PATENTS ON INVENTIONS.

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GREETING.

This publication is designed for free distribution to our clients, and its mission is to keep them informed of changes in laws and practice relating to patents and kindred interests. It will contain carefully prepared articles on patent law, briefs of the more important decisions, and general information on all subjects relating to the protection of inventions, designs and trade-marks. Technical and legal expressions will be avoided as far as is consistent with concise and definite language.

We have long felt the desirability of maintaining such a regular communication with our clients as this publication will afford, and if they derive from its contents the benefit which we hope they will, we shall feel amply repaid for our trouble and expense.

We would ask our readers to be lenient in their criticisms on this first number, as we are well aware of its many imperfections. Its contents have been of necessity hurriedly prepared, this work having been performed by us in brief moments snatched

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from our professional labors in conducting a large volume of current business, and during the reorganization of our establishment in new quarters since the fire of January 31, by which we were burned out.

We shall endeavor to publish PATENTS ON INVENTIONS on the first of March, June, September and December, but the professional demands on our time must always determine the promptitude of its appearance.

THE LATE EDMUND BURKE.

Hon. Edmund Burke, to whose former connection with our firm its present name is due, died January 25, 1882, at his home in Newport, New Hampshire, at the age of seventy-three. A man of remarkable ability and intense mental vigor, his life presents many features of interest. He was born at Westminster, Vermont, January 23, 1809, and his boyhood was spent in the typical farm and school life of New England. His later education was received from private tutors, and while still young he commenced the study of law, in the office of Hon. William C. Bradley, then the acknowledged head of the New Hampshire bar.

Squire Bradley was a staunch old-time democrat, and his office was the headquarters of Jeffersonian thinkers and politicians. Mr. Burke ardently espoused this political faith, of which he was an able and unflinching exponent all his life. At the age of twenty-one he was admitted to the bar, and the next few years his time was divided between the practice of his profession and the editing of the *New Hampshire Argus*. His rise in popularity during

these years was rapid, and in 1839, being then only thirty years old, he was elected to Congress, where he served three consecutive terms. During his congressional career he labored with indefatigable earnestness, and his speeches were noted for their clearness and cogency, and for the depth of research they disclosed. His extraordinary capacity for excessive mental labor is well illustrated by his performance on one occasion of great urgency, when in thirty-six hours of continuous application he prepared an elaborate report of a committee of which he was chairman, covering several hundred foolscap pages.

At the close of his congressional service Mr. Burke was appointed Commissioner of Patents, which office he held from 1845 until 1849. In his management of this important bureau his eminent executive and legal abilities were given full scope, and his administration is regarded by practitioners whose experience covers many administrations before and since, as one of the very best that the office has ever had. It must be remembered that when he assumed the duties of Commissioner, the Patent Office was not the thoroughly systematized establishment of the present day. Its business was conducted in a loose and irregular manner, the classification was crude and incomplete, and the facilities for making examinations were exceedingly meagre. Mr. Burke reorganized the office on a more systematic basis, codified the rules of practice, revised the defective forms, and gave a new impetus to the business of the office. His labors laid the foundations of the elaborate rules and forms, the extended classification and the marvelous system of conducting examinations that render it possible for the Patent Office at the present day to conduct its immense business. Mr. Burke's reports to Congress evince a thorough mastery of all the problems involved in the con-

duct of his office. His recommendations secured a doubling of the examining corps, and an increase in their salaries, whereby the efficiency and promptitude of the examination of applications was greatly promoted. He advocated a more liberal course of legislation toward inventors, and urged the reduction of the extortionate fees then charged to foreign applicants, contending that justice and the most enlightened policy dictated that both citizen and foreign inventors should be treated with equal liberality.

During his term of office as Commissioner of Patents, Mr. Burke wrote a series of articles on the tariff, well known as the "Bundlecund papers," and on his retirement from the Patent Office he took editorial charge of the Washington *Union*, which he conducted for about a year.

In 1850 Mr. Burke returned to his home, and henceforth devoted himself to the practice of the law, in which he ultimately attained a reputation as a jurist second to none in his State. Patent law became naturally his specialty, and he was engaged on many of the most important and difficult cases, in which he was called to contend with the ablest legal talent of this country. He will long be remembered as one of the clearest-minded, most thorough and most successful of American patent lawyers. Of his later causes the well-known suit of Riley Burdett against J. Estey & Co., for infringement of a reed organ patent, is noticeable for its exceptional intricacy.

Over fifteen years ago a partnership was formed between Mr. Burke and Mr. J. Fraser, the founder of our patent soliciting business. For several years Mr. Burke assumed the management of the patent law business of the firm, but as his increasing age compelled him to gradually relinquish nearly all his practice, his connection with our firm became, for

several years before his death, merely a nominal one. He has throughout our connection with him proved a kind, true and generous friend, a genial and courteous gentleman, and a wise and learned adviser. We shall miss his occasional but too infrequent visits, his quiet dignity, his venerable presence, his deep and thoughtful conversation. In his death a man of true greatness, of keen ability, of exceptional force of character, possessing an active, fertile, and cultured mind, has departed this life, and all who knew him cannot but mourn his loss.

REISSUED PATENTS.

Two important decisions have recently been rendered by the Supreme Court which vitally affect many reissued patents.

One of these is in the case of Campbell *versus* James, where the postmaster of New York City was sued for infringement in the use of a canceling stamp alleged to be covered by the reissued patent of Marcus P. Norton, dated October 4, 1870. The original patent, which was granted April 14, 1863, described and claimed a specific construction of a canceling type or blotter for defacing the postage stamp with indelible ink, and also the connection with such a blotting type of the dating or post-marking stamp, both being connected to the same handle so that both impressions might be made at one blow. In the reissue other constructions of the canceling stamp, constructions in effect disclaimed in the original patent, are described, and included in the claim, and the post-marking of letters by the same

blow or operation at which the canceling is effected is also broadly claimed. The Court holds that this introduction of new matter into the specification is not in the nature of the rectification of an "accident or mistake," but is unwarranted and illegal; and that the broadening of the claims in the reissue, whereby they are made to cover devices obviously not contemplated by the inventor when he applied for his original patent, renders them void. The Court says: "When a patent fully and clearly, without ambiguity or obscurity, describes and claims a specific invention, complete in itself, so that it cannot be said to be inoperative or invalid by reason of a defective or insufficient specification, a reissue cannot be had for the purpose of expanding and generalizing the claim, so as to make it embrace an invention not described and specified in the original." "Of course, if by actual inadvertence, accident or mistake, innocently committed, the claim does not fully assert or define the patentee's right in the invention specified in the patent, a speedy application for its correction, before adverse rights have accrued, may be granted. . . . But where it is apparent on the face of the patent, or by contemporary records, that no such inadvertence, accident or mistake as claimed in a reissue of it could have occurred, an expansion of the claim cannot be allowed or sustained." And in reviewing the new claim to the process the Court says: "A patent for a process and a patent for an implement or a machine are very different things. Where a new process produces a new substance, the invention of the process is the same as the invention of the substance, and a patent for the one may be reissued so as to include both, as was done in the case of Goodyear's vulcanized rubber patent. But a process and a machine for applying the process are not necessarily one and the same invention. They are generally

distinct and different." If this claim amounts to anything more than a claim to the exclusive use of the patented instrument or device, it is for a different invention from that described in the original patent.

It has been inferred that the language of Judge Bradley here quoted is intended to exclude all reissues of machine patents to cover the new process they employ. We do not so understand it. The Court says that a process and a machine for applying it are *generally* distinct inventions, not that they are always distinct. We apprehend that if the process and machine are so inseparable that the operation of the machine necessarily follows the process, and the practice of the process necessitates the use of the essential portion of the machine, then a patent on one may be reissued to include both, unless there be some other bar to the reissue.

The other decision is in the case of Edward Miller & Co. *versus* The Bridgeport Brass Company. The original patent was for a lamp having two domes or reflectors, one above the other, elevated above a perforated cap, through which a wick-tube and a vapor-tube ascend. This construction of double-dome was designed to enable the lamp to burn volatile oils without a chimney, but the lamp was a failure. Several years afterward, however, it was found that by omitting one dome and using a chimney a real improvement was made, and the reissue was obtained to make the patent cover this construction, which, it is apparent, was the very one the inventor originally desired to avoid.

The Court holds that if the patent in its reissued form is really for the actual invention of the patentee, the "accident or mistake" in the framing of the original patent must have been of so obvious and flagrant a nature as to be apparent to the inventor when he first opened the letters patent, and that, in-

asmuch as he then waited fifteen years before applying for his reissue, his right to have the mistake corrected was lost by unreasonable delay. He should have applied for the reissue immediately upon the discovery of the mistake. "These afterthoughts, developed by the subsequent course of improvement, and intended by an expansion of claims to sweep into one net all the appliances necessary to monopolize a profitable manufacture, are obnoxious to grave animadversion. The pretence in this case that there was an inadvertence and oversight which had escaped the notice of the patentee for fifteen years, is too bald for human credence. . . . If a patentee who has no corrections to suggest in his specification except to make his claim broader and more comprehensive uses due diligence in returning to the Patent Office and says 'I omitted this,' or 'My solicitor did not understand that,' his application may be entertained, and on a proper showing correction may be made; but it must be remembered that the claim of a specific device or combination and an omission to claim other devices or combinations apparent on the face of the patent, are in law a dedication to the public of that which is not claimed."

These decisions emphasize the unwisdom of failing in an original application to carefully and thoroughly claim all that the inventor is entitled to. It is easier and cheaper to cover an invention broadly and thoroughly in the original patent, than in a reissue, and the original is not as open to legal question as the reissue. It is false economy to employ a solicitor whose only or chief merit is the low price he charges for his work. Such a one cannot afford to bestow the amount of time and care upon the preparation and prosecution of the application that are essential to the proper protection of the invention.

The few dollars saved in this way, must eventually be spent many times over if the invention prove to be of valuc.

Another lesson enforced by these decisions is the desirability of immediate action whenever it is discovered that the claims in a patent are insufficient or defectivc. It is unwise to wait until some attempted evasion of the patent appears upon the market. An unreasonable delay is fatal to the validity of the reissuc.

DURATION OF UNITED STATES PATENTS.

It is well known that United States patents are granted for seventeen years, but few inventors are aware of an important exception to this rule, by which the term of many patents is curtailed. Our patent law provides that "every patent granted for an invention that has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years."

As patents in foreign countries are granted for terms varying from one to twenty years, being usually from five to fifteen years, it is evident that a United States patent obtained subsequently to a foreign patent granted for less than seventeen years, will have its term more or less reduced. Thus, a Canadian patent granted for a term of five years, prior to applying for the United States patent on the same invention, will limit the latter to expire

at the end of the five-year term. But Canadian and some other foreign patents may be extended from a shorter to a longer term, and the question has arisen whether, if the prior foreign patent were thus extended, the United States patent would be likewise prolonged. In the case of a five-year Canadian patent granted previous to the application for the United States patent on the same invention, and extended to fifteen years after the grant of the United States patent, it was decided that the latter patent would expire at the end of said five-year term, notwithstanding the extension. Its duration is determined by the *term* fixed for the foreign patent at the time the United States patent is granted, not by the ultimate duration of the foreign patent.

Another question is as to the meaning of the expression "patented in a foreign country." Is an invention so "patented" when the application is filed (at which time most foreign patents take their date), or when the specification is made public, or when the patent is sealed or issued (at which time the protection commences)? These three dates are often weeks or months apart, varying in different countries. It has been decided that the invention is so "patented" abroad in the meaning of the law when the foreign patent is *dated*, and commences to have effect as a patent. But the previous foreign patent, to limit the term of the United States patent, must have been obtained by the inventor, or with his consent. If obtained in fraud of the inventor, or without his knowledge or authority, it would not limit his patent in this country.

The expression in the law that the patent must be "*so limited* as to expire," has been in doubt until recently, when it has been decided to mean that the limitation must be expressed on the face of the patent, otherwise the patent is void. To enable the

Commissioner of Patents to insert this limiting clause correctly, it is of course necessary for the applicant to state to the Patent Office what foreign patents he has received; and to ensure that this be done, the Office has of late required each applicant to state in his oath whether his invention has been patented abroad, and if so, when, and in what countries.

But one vital point in the construction of this law remains to be determined by the Courts, and that is, the meaning of the expression "*previously* patented in a foreign country." Patented previously to what? Previous to the filing of the application here, or to the grant of the patent? In 1880 Commissioner Paine decided that the law meant previous to the filing of the application; that "a foreign patent granted after the patentee files his American application, but before he obtains his American patent, does not limit the term of the American patent." This is a liberal construction of the law, and accords with the probable intention of its framers, but it is not warranted by a literal interpretation of its language, and has since been departed from in the administration of the Patent Office. In his report for 1881 the Commissioner says: "It is contended by many lawyers practicing before this Office that the limitation here indicated applies only to inventions which were patented abroad before the application was filed for an American patent, while others of equal authority hold that the priority contemplated by the provision is priority of grant, and this corresponds with the later rulings of the Office." Our own opinion coincides with the decision of Commissioner Paine above cited, for many reasons, which it would be unprofitable to discuss here, since our purpose in this article is to give advice to inventors, not to influence the practice of the Patent Office.

The best course that will ensure the full term for

the United States patent is to postpone applying for foreign patents until after the allowance of the patent here, and then to pay the final fee on the United States patent in time to secure the issue of the patent at the same time that the foreign applications are filed. To do this with certainty requires a knowledge of the details of patent practice in both this and foreign countries, such as is rarely possessed by any but a patent attorney, and hence it is best to entrust the management of all the several applications to one reliable solicitor.

If the foreign applications have already been filed, there is no way of avoiding the limitation of the United States patent; but the sooner the application is filed the longer will the patent exist before the limit of its term is reached. In such case, if the foreign patent having the shortest term can be extended *before* the grant of the United States patent, there is every reason to believe that the latter will remain in force for the extended term, unless limited by some other patent which has a shorter term than that of the extended patent.

TRADE-MARKS.

In the year 1870, Congress enacted a statute providing for the registration of lawful trade-marks, and extended its provisions so far as to protect the marks of citizens, and subjects of such foreign countries as were bound to this country by reciprocal treaties, thus guaranteeing to foreigners the same rights here in respect to their trade-marks that our people might acquire in such foreign lands.

Previous to the enactment of this statute trade-marks were protected by the common law in the several States, provided the proprietor could prove such extensive or long use as would show an acquiescence by the public in his proprietorship. But suit must be brought under the laws of the State wherein the mark was infringed. Under the statute above named it was not necessary that the trade-mark should have been in use at all when the proprietor applied for registration, and suit might be brought for infringement in the United States Courts.

Under this statute some eight thousand trade-marks had been registered, when in the year 1879 the statute was declared unconstitutional by the U. S. Supreme Court. The ground of the decision was, in substance, that the passage of the act was unwarranted by the constitution of the United States, and interfered with the reserved rights of the States.

The validity of the law in so far as it touched upon the rights of foreigners under our treaties was not considered in the decision, but it was intimated that the law might be sufficient for their protection, since the Constitution confers upon Congress the power to regulate international commerce. But to remove all doubt upon this point, and to carry out with honor our treaties with other nations, Congress enacted another law March 3, 1881, which is the one now in force. It is similar to the old law in all important respects, except that only those trade-marks can be registered which have been used in commerce with foreign countries or with our Indian tribes, and the protection of the courts under this registration can be obtained only in case of the infringement of a trade-mark by its unauthorized use in such commerce. The new law has no reference to interstate commerce, nor to commerce within any State, the protection of trade-marks used in such com-

merce being left to the States themselves, either by means of special statutes which they may enact, or by the old and well-established common law concerning trade-marks. The latter gives substantially all the protection that is needed. The mere fact of original adoption of a trade-mark, and its use in a trade until it becomes known to the public, is sufficient—without any registration—to give its proprietor a tangible ownership in it, and in case it is infringed the proper local court will grant an injunction against the infringer.

EXTENSIONS OF PATENTS.

Since 1861 United States patents have been granted for seventeen years, without privilege of extension. It is, however, within the power of Congress to extend any patent by passing a special act to that effect, and a number of patentees, whose patents are about expiring or have expired, apply to Congress at each session to have them extended. These applications are heard by the patent committees, and on their favorable or unfavorable reports the passage of the special acts largely depends. But a small proportion of these applications are ever granted by Congress, and the expense to the applicants is heavy in all cases. The most recent action by Congress in reference to any extension is the recommendation, on March 9, 1882, by the House Committee on Patents, that the Commissioner of Patents be authorized to extend the patent of Clark Mills, the sculptor, for his mode of taking casts from the faces of living persons, for seven years from April 4, 1882. This patent was

granted April 4, 1865. If this measure becomes a law, the Commissioner of Patents will receive Mr. Mills' application for extension, and act upon it on its merits. Seven years is the term for which such extensions are usually authorized by Congress.

PRESERVE THE SKETCHES.

Most persons, when they are working out an invention, make one or more sketches; crude ones perhaps, but nevertheless illustrating the germ or some feature of the invention. These should always be dated as soon as they are finished, and then carefully preserved. The inventor cannot tell when he may need them. Months or years afterward they may prove of the utmost value. It may, for instance, be necessary to prove the date of conception of the invention, or of its explanation to others. In explaining an invention to another, it is very common for sketches to be made by one or other of the parties, and if these sketches be preserved and dated, both parties, if called as witnesses, even years afterward, can identify them, and in that way establish positively the date of the interview. Then, too, seeing a sketch that he made, or that was made before his eyes, greatly refreshes the memory of a witness, and frequently enables him to recall circumstances and details long since forgotten.

It is also highly advisable to preserve all models and experimental parts of machinery, whenever the invention to which they relate is considered valuable. These should also be dated, or else a memorandum should be made, giving the principal dates in their

history. It is an excellent plan for an inventor to keep a brief diary, noting down each day what steps he has taken with his inventions. Such entries as the following are quite sufficient: "Finished model of pressure-regulator," "E. Hooper called at shop and I showed him working drawings of gauge," and "Conceived of back-catch fastening for harvester, which completes it. Explained idea to Frank." It is not necessary to go into detail, and a very brief entry will suffice to call the occurrence to mind afterward.

We offer these suggestions in view of the probability that always exists of litigation being forced upon the originator of a valuable invention, and because we know from long experience the value of being able to give definite and positive testimony regarding the history of an invention. An interference may come up in the Patent Office even after the patent is granted, or an infringement suit may be necessary, in which it would be essential to prove the history of the invention from its first conception to its final reduction to practice. In such litigation testimony by which dates can be established with certainty is of far more value than that in which the witnesses can only testify to dates from general recollection.

FOREIGN PATENTS.

Inventors who wish to protect themselves in France or Germany should bear in mind that the applications for patents must be filed in those countries before the invention is published, or described

in any printed publication, in America or elsewhere, otherwise the patents, if granted, will be void. The printed copies of United States patents are such publications. As these are published on the same day that the patent issues, it follows that the French and German applications must be filed no later than the issue of the United States patent. Hundreds of French and German patents have been issued to American inventors that are void, because of having been applied for too late. In many such cases the patentees continue paying their annuities year after year in ignorance of the worthlessness of their patents.

In England the law is less rigid. If the application is made before the invention has been published in Great Britain, the patent will be valid. The United States Patent Office Gazette is usually the first publication of American inventions that reaches England; but its illustrations and descriptions are, in most cases, too meagre to be regarded as a legal publication. The copies of United States patents usually reach the British Patent Office in from four to six months after the issue of the patents, and these constitute a full publication. It is best to file the application for English patent within two weeks after the issue of the United States patent, though it may sometimes be delayed for several months without sacrificing the inventor's right.

THE COMMISSIONER'S REPORT FOR 1881.

Hon. E. M. Marble, the Commissioner of Patents, resigned his office in December, 1881, but afterward reconsidered his resignation, and in February, 1882,

resumed his position. During the interval the Commissioner's office was filled by the Assistant Commissioner, Mr. V. D. Stockbridge, and the annual report for 1881 was submitted by him. The report is an able and instructive one, and but for our lack of space we would gladly print it entire.

There were 30,242 applications filed during the year, of which 26,059 were applications for patents, including design patents and reissues. Of these applications, 17,620 were granted and issued, 16,584 of these being patents, and the remainder being trade-marks and labels. The increase of business over 1880 is 3,047 applications for patents and 2,637 patents granted.

We may briefly summarize the financial portion of the report. The receipts of the Office during 1881 were $853,665.89, and its expenses $605,173.28, leaving an excess of $248,492.61 to swell the "patent fund" in the national treasury, which fund is thus increased to $1,880,119.32. At this rate of increase this fund will in a few months exceed two millions of dollars, and while it is growing the interests of inventors, by whom this immense sum has been contributed, are suffering from congressional indifference and inattention. It was proposed in the last Congress to apply this fund to the education of the southern negroes, but why inventors should be taxed for this purpose was a problem to all but the astute legislators who fathered the scheme.

The Patent Office needs more room than it now has in the Interior Department building, the examining force is insufficient to do justice to the immense volume of business which is now forced upon it, and the pay of the Examiners and their assistants is utterly inadequate to the ability required for the proper discharge of their duties. These disadvantages are ably set forth in the report, and Congress

is urged, as it has often been urged before, to take some action for the relief of this important bureau from the embarrassments under which it labors. The Patent Office should have the entire building, which it has now but partial use of, and a new building should be erected for the other offices of the Interior Department. At present the Examiner's rooms are crowded to an extent that greatly impedes the work of examination. It will surprise many who have never visited the Patent Office to learn that twenty-three of the twenty-six Principal Examiners have no consulting rooms, but are compelled to give hearings to attorneys in the same room occupied by their assistants in examining applications.

Principal Examiners now receive but $2,400 per annum, a salary which is a mere stipend in comparison with what the same men, if they have the ability needed in their positions, could earn as solicitors. The Commissioner recommends an increase in the salaries of both Principal and Assistant Examiners, as well as in their number.

The illustrations of the reports of patents for 1870 have never been published, and the specifications of patents granted prior to 1865 are still unprinted. The Commissioner recommends appropriations for these purposes, and also for the completion of an elaborate classified digest of American patents which has been commenced, and which will doubtless prove of great convenience to inventors and manufacturers, as well as to the examiners and solicitors.

The Commissioner calls attention to that section of our patent law limiting the term of patents on inventions previously patented abroad,* and clearly points out some of its defects. He recommends its repeal, on the ground that it is an unnecessary provision, impotent for the accomplishment of its

*See article on "The Duration of United States Patents," page 9.

avowed object, and working much injustice to American inventors who wish to patent their inventions abroad. The Commissioner says: "There would seem to be no valid reason why an invention that has been patented elsewhere should not, if found new and useful, be protected in this country for the same number of years as any other invention. The statute furnishes a sufficient inducement to promptness in making application by providing that such an invention (one previously patented abroad) shall be patentable 'unless the same has been introduced into public use in the United States for more than two years prior to the application.'" It is to be hoped that Congress will give some attention to this reform at its present session.

The report presents, on the whole, an admirable showing, and the amount of business transacted by the Office during the past year, in the face of the disadvantages under which it has labored, reflects much credit on its management.

DECISIONS OF THE UNITED STATES COURTS.

ASSIGNMENTS.

In *Wright* vs. *Randel et al.*, decided Aug. 4, 1881, Judge Blatchford construed sections 4,895 and 4,898 of the Revised Statutes relating to the recording of assignments. He held that no assignment of an unpatented invention is required by section 4,895 to be recorded, unless it is an assignment on which a patent is to be issued to an assignee; and in such case the invention must be so identified in the as-

signment—by reference to a certain specification, an application or otherwise—that there can be no mistake as to what particular invention is intended. Section 4,898 is confined to the recording only of assignments, grants, and conveyances of interests in patents after they are issued.

The Judge also held, in substance, that when A had assigned to B his interest in a certain patent granted to him, A, and to any improvements on the same invention he had made at that time, or might make; and subsequently A obtained a patent for said improvements and assigned it to C, requesting the Commissioner of Patents to issue said patent to C; that in the absence of positive proof that C was aware that A had previously assigned this particular invention to B, C's title to the invention was good as against B. The recording of the assignment from A to B was not a proper notice to C.

From this decision we draw the conclusion that all assignments or transfers should clearly identify the invention conveyed; and that where the conveyance is made before the grant of a patent, the instrument should contain a clause requesting the Commissioner of Patents to issue the patent, when granted, to the assignees.

STATE TAXATION OF PATENTED MANUFACTURES.

In *Webber* vs. *Virginia*, decided May 2, 1881, the Supreme Court of the United States held that "a State may require the taking out of a license for the sale of a manufactured article, and the fact that the article is produced under a patent will not defeat this power." A State, however, has no right to discriminate against the sale of a patented article as such; but it has the right to regulate the sale of any products in accordance with the general welfare of

the community. As the Constitution vests in Congress alone the power to regulate commerce among the several States, it follows that no State can discriminate by taxes or licenses against the sale within its borders of products manufactured in another State. This decision virtually declares the laws of Virginia which so discriminate unconstitutional.

LIMITATION OF TERM OF PATENT.

In *Paillard* vs. *Gautschi*, before Judge McKennan, the construction of section 4,887, Revised Statutes, was discussed. This section provides that where an invention has been previously patented in a foreign country the United States patent shall be "so limited" as to expire at the same time with the previous foreign patent; or if there be more than one foreign patent, with the one having the shortest term. No opinion was rendered in this case, but it appears from the pleadings that satisfactory proof was furnished as to the previous patenting of the invention in a foreign country, and that the U. S. patent was not "so limited" as to expire with said previous foreign patent. A decree was entered sustaining the plea of invalidity offered by the defense and dismissing the bill of complaint.

The court having written no opinion, the considerations which led to this decision can only be inferred. Without doubt the court construed the words "so limited" to mean that the letters patent must contain on their face a statement that the invention had been previously patented in a foreign country. This seems to be the construction placed upon the decision by the Commissioner of Patents, as he has so modified the rules as to require all applicants to state under oath whether the invention has been previously patented in any foreign country, and if

so, to give the name or names of the country or countries, together with the date of the patent or patents previously obtained.

INVENTION NOT PROPERLY CLAIMED.

In *McCloskey* vs. *Du Bois et al.*, decided April 28, 1881, Judge Wheeler declined to sustain the letters patent No. 220,767. The claim in this patent was for—

"A die-drawn seamless trap of soft metal, as a new article of manufacture, substantially as herein described."

There being nothing in this patent to show that a die-drawn trap is any better than the ordinary cast-metal trap, or that it operates in any way different from the latter, it was held that the invention as claimed was not patentable.

These die-drawn traps are made in a peculiar manner by which the curved form is imparted. The Judge said, with reference to this feature: "However meritorious an invention of the means for making a drawn trap might be, this patent, which, while it describes means, is for the product only, has nothing to rest on."

The conclusion is that the patentee should be careful to claim the real thing invented. If he has invented a process for making an article, he should claim the process, and not the article. Sometimes, however, both the process and the product are new and claimable.

REISSUES OF PATENTS.

In *Ball et al.* vs. *Langles et al.*, before the Supreme Court of the United States, it was decided that the law confers no jurisdiction upon the Commissioner

of Patents to grant a reissue embracing new matter, or a broader invention than what was revealed by the original patent. "This Court has repeatedly held that if, on comparing a reissue with its original, the former appears on its face to be for a different invention from that described or indicated in the latter, it must be declared invalid."

And after reviewing and comparing the original patent and the reissued patent, under which the suit was brought, the Court said: "We cannot doubt that the purpose of the reissue was not to cure defects in the original specification, or any deficiency in describing the invention, but to cover other devices which the patentee had not in mind when he first applied for his patent, and which may have subsequently come to his knowledge." "There issued letters are so clearly for a different invention from that for which the patentee first applied, containing new matter, and so much broader, that we are constrained to hold that the Commissioner of Patents had no authority to grant them, and consequently that they are void."

As we go to press the news comes from Washington that the President has sent to the Senate the name of Judge Blatchford to be Associate Justice of the Supreme Court. This is unquestionably the best possible nomination for this important vacancy, and of its confirmation by the Senate there can be no doubt. As Judge of the United States Circuit Court for the Southern District of New York for many years past, Judge Blatchford has invariably proved himself the friend of deserving inventors, and as an interpreter of our patent laws he has no superior in this country.

PATENTS ON INVENTIONS.

NUMBER 2. JUNE, 1882. QUARTERLY.

HOW PATENT SUITS ARE CONDUCTED.

Any one who has a patent of much practical value is liable to have to protect his property by resort to the courts. For that reason, and because the method of procedure in a patent suit differs considerably from that in ordinary lawsuits, some of our readers may be interested in a short account of how a patent suit is carried on.

Patent suits can only be brought in the United States courts.

In the great majority of patent suits the principal object sought is to put a stop to infringements, by obtaining an injunction against the wrong-doer, and we will therefore confine our remarks to the proceedings in injunction cases.

They are tried before a single judge, without a jury, although the court can, and in rare cases does call a jury to decide some disputed questions of fact which may arise in the case.

The suit is begun by filing in court a complaint against the infringer, in writing, and sworn to. The

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court then issues its summons—called a subpœna—which is served on the defendant by the United States marshal, and requires him to appear and answer the complaint, under oath, upon a certain day.

The day named for the defendant's appearance is called the rule day, and the subpœna must be served at least twenty days beforehand. On the rule day the defendant only needs to have his attorney enter a written notice of appearance in the clerk's office, and he then has thirty days longer in which to file his answer to the complaint. Even where the defendant does not so appear, the complainant cannot enter a judgment against him by default until the expiration of thirty days after such rule day. There will therefore be from fifty to sixty days in which to wait to see what defense will be put in. That delay would often be very damaging were it not that the court has power to grant an injunction in the meantime—called a temporary injunction—by which the infringer is enjoined until the suit is tried and decided. This temporary injunction can be obtained without delay as soon as the suit is begun. Only four days' notice of the application for it is required to be served on the defendant, and the court hears the motion upon affidavits presented by the parties, and promptly issues the temporary injunction if the complainant appears to have a good case.

Having obtained this temporary or preliminary injunction, the complainant can afford to wait and endure the delay which inevitably follows before he gets final judgment for a perpetual injunction and for his damages.

We now take a look at the answer which the defendant has put in, and find that he has set up all the defenses which the statute allows, which shows that he intends to make a strong fight.

He denies the whole complaint, and then goes on to charge against the patent—

1. That the patentee, for the purpose of deceiving the public, did not state the whole truth about his invention in the description and specification filed in the Patent Office, or that he stated more than was necessary to produce the desired effect.

2. That he surreptitiously or unjustly obtained the patent for that which was in fact invented by another, who was using reasonable diligence in adapting or perfecting the same; or,

3. That it had been patented or described in some printed publication prior to his supposed invention or discovery thereof.

4. That he was not the original and first inventor or discoverer of any material and substantial part of the thing patented.

5. That it had been in public use or on sale in this country for more than two years before his application for a patent, or had been abandoned to the public.

These are not all the defenses that can be set up, but one can easily see that if all that are set up are to be investigated, we have already as many questions to try as half a dozen ordinary law suits usually involve, and that it will take a correspondingly long time to try the case.

The suit being now ready for trial the parties proceed to take testimony before an examiner of the court, who takes it down in writing. The examinations are not made in the presence of the court, but usually at the examiner's office, and frequent adjournments are had to such days as may suit the convenience of the examiner, the attorneys, and the parties interested.

Three months' time is regularly allowed for taking testimony, but further time can be obtained if needed.

Finally the testimony is all taken excepting as to the damages; the cause is then noticed for trial, and the counsel appear in court and present the testimony, and on it argue the case before the judge.

The judge does not usually decide the case at once, but takes time to read the evidence and examine the briefs of the counsel. When he decides the case, if he finds that any of the defenses are true, he gives judgment in favor of the defendant, but if he finds in favor of the complainant, he directs judgment for a perpetual injunction, and such damages as he shall be able to prove.

The question of damages is then referred to a master of the court, to take testimony and report to the court the amount to be allowed.

Now again ensues a long reference to ascertain the damages; the defendant, his employees and his account books are examined, as to the amount of sales and prices obtained. Expert testimony is given as to the cost of the materials used by the defendant in the manufacture of the patented article, and as to all other items which compose the cost of its production. A great many minutiæ may incidentally become the subject of investigation, until the testimony on the question of damages may become more voluminous than that upon the other branch of the case, which has already been decided by the court.

Finally, the evidence as to damages being all taken, it is reported by the master to the court, and the court, after hearing the respective parties for and against the master's conclusions, decides upon the amount to be allowed as damages, and a final judgment therefor is then rendered in favor of the complainant.

The suit which we have thus followed through is supposed to be the first suit which has ever been

brought on the patent in question. Inasmuch as the patent has been sustained against all the evidence which has been brought forward to defeat it, there is not much probability of the same defenses being again set up in subsequent suits. Henceforth the validity of the patent is likely to be admitted, so that in future suits the question will simply be whether the defendant has been using the complainant's invention and what is the damage. The expenses in subsequent suits will be likely to be small in comparison with those in the first suit. In fact, after the first suit, other infringers are generally ready to buy their peace without suit.

In regard to the expenses of a suit, it is impossible to foretell exactly or approximately what it will cost. So much depends upon the nature and number of the defenses which may be set up and upon the amount of testimony which may have to be taken. The principal part of the expense is usually in taking the testimony; the examiner, the expert witnesses and the attorney generally charge by the day. The complainant can always waive any claim for damages, and save the expense of the final reference on that question whenever he thinks he could not collect a money judgment on account of the insolvency of the defendant, or if he thinks the damages are not of sufficient amount to warrant the trouble and outlay to get them.

The complainant's judgment will entitle him to recover costs from the defendant, and he can in that way collect most of his expenses from the defendant if he is solvent, but attorney or counsel fees cannot be included in the judgment.

Albert Roberts.

THE PATENT LAW OF CANADA.

Canadian patents cover not only the provinces of Ontario and Quebec, but also Nova Scotia, New Brunswick, British Columbia and Prince Edward Island, a combined territory containing 4,352,080 inhabitants. The Canadian patent law is modeled upon that of the United States and is in most respects a just and commendable one.

A patent is granted to any person who has made a new and useful invention or improvement, which was not known or used by others before he invented it, and which was not in public use or on sale in Canada, with his consent or allowance, for more than one year previous to the time of filing his application, nor patented in any other country more than one year. An inventor's previous publication of his invention in other countries does not destroy his right to a valid patent; in this respect the Canadian law is far in advance of the laws of France and Germany. There is this inducement, however, to promptness in making the application—that if, after a foreign patent is granted and before the Canadian application is filed, any person commences to manufacture the article in Canada, he shall continue to have the right to manufacture and sell the article during the entire term of the patent, without accounting to the patentee.

The patent is granted for 5, 10 or 15 years, at the applicant's option, the official fee being $20 for each 5 years. There are no other taxes. A 5 or 10 year patent may be extended to 15 years by paying the proportionate fee. There is, however, the one limitation on account of patents in other countries that

we find in nearly all patent laws, but in the Canadian law it is definite and unmistakable: "under any circumstances, where a foreign patent exists, the Canadian patent shall expire at the earliest date at which any foreign patent for the same invention expires." As the language of the law is not confined to previous foreign patents, but includes all such patents, it must be understood that a patent afterward taken out in a foreign country, and expiring before the end of the term of the Canadian patent, will cause the latter to expire with it. Whether the lapsing of an English, French or other patent on account of the non-payment of taxes, or the forfeiture of a French or German patent because of non-working, would be construed as an expiration of a foreign patent in the meaning of this law, is a question that has not yet been decided.

The patentee is permitted to freely import the manufactured article into Canada during one year after the grant of the patent, but if, after the expiration of that year he "imports, or causes to be imported into Canada the invention for which the patent is granted," the patent will become void. The Commissioner of Patents is made sole and final judge as to whether a patent has or has not become null and void under this provision of the law, and in *Barter* vs. *Smith* (1877) he decided that its object was to prevent such an importation of the manufactured articles as would be detrimental to the manufacturing interests of Canada, that an importation in commercial quantities, so as to be injurious to home labor, would cause the forfeiture of the patent, but that the "importation of a few machines, as models, or for the purpose of bringing the usefulness of the invention before the eyes of the Canadian public, and thereby hastening the working of the patent in Canada" would not impair the validity of the patent.

The Commissioner has the power to extend the period of free importation in his discretion.

The law also provides that every patent shall become void at the end of two years from its date unless the patentee has commenced, and afterward continuously carries on, in Canada, "the construction or manufacture of the invention or discovery patented, in such manner that any person desiring to use it may obtain it, or cause it to be made for him at a reasonable price, at some manufactory or establishment for making or constructing it in Canada." The Commissioner of Patents is the supreme judge of questions of voidance arising under this provision also, and in the same decision above quoted he has determined the real meaning of the law to be "that the patentee must be ready either to furnish the article himself or to license the right of using, on reasonable terms, to any person desiring to use it," and making him a serious proposal. "As long as the patentee has been in a position to hear and acquiesce to such demand and has not refused such a fair bargain proposed to him, he has not forfeited his rights." To be "in a position to hear and acquiesce to such demand," it is evident that the patentee should be, or have an agent, at a known address in Canada, or that he should have a known and accessible address elsewhere, and in any case he should be prepared to give licenses or have the invention constructed in Canada in case any demand arises for it. We would recommend patentees who are unable to introduce their inventions to actual use in Canada, to give a revokable license to some Canadian factory or shop where the article can be constructed, and notify the public by an advertisement in Canadian journals that the invention can be procured there. The two years allowed by the law may be extended by the Commissioner at any time within three

months of their expiration, if it be shown that such extension is necessary.

The application for the patent must be filed in Canada within one year from the date of the earliest patent in any other country. It consists of a petition, oath and duplicate specifications, executed by the inventor, and triplicate drawings executed by the inventor or attorney. The application is examined by the Commissioner, who may reject it in whole or in part if the invention is not of a patentable character, if it is old, or if it has been abandoned to the public by delay. Amendments of the claims are commonly called for, but total rejections are rare. In such case the applicant may appeal to the Governor and his Council or cabinet. When two applications are found to interfere, the question of priority is decided by arbitration. When the patent is found allowable it is immediately granted, and has full force, but it is not forwarded to the applicant until he furnishes a model, which must not exceed 18 inches in length.

Caveats and Disclaimers may be filed, and Reissues are granted on nearly the same terms as in the United States.

Any one who makes, buys or uses the patented invention without the consent of the patentee is an infringer, and may be prosecuted in the court of record nearest to his residence or place of business in the province where the infringement occurred. The Government may use any invention by paying the patentee such compensation as the Commissioner may determine.

Every article made or sold under a patent must be marked "Patented," with the year in which the patent was granted, or, when from the nature of the article this is impossible, he must affix a label so marked to it or to the package containing it; and any patentee who fails to so mark his goods shall be

liable to a fine not exceeding $100. Any person who fraudulently marks "Patented" or any word of similar import upon any article on which he has no patent, or imitates any patentee's mark, or sells any unpatented article as patented, is punishable by fine or imprisonment.

Assignments of patents are made in duplicate, both copies being sent to the Patent Office for record, where one is retained and the other is returned to the assignee.

Canada is an excellent field for all inventions adapted to the wants of its people, and probably more inventions by citizens of the United States are patented there than in any other foreign country.

ABANDONED EXPERIMENTS.

One of the ordinary defenses in a suit for infringement of a patent is to set up a prior invention of the device or process by some one else. This is a good defense provided the prior invention is proved to have been brought to a successful issue; but in many cases it turns out to be merely an experiment, abandoned by its inventor as unsuccessful.

It is true that a patentee must be an original inventor—that is, the invention must be the product of his own brain—and he must be also the first inventor. But on this last point some flexibility is permitted. It is admitted that two or more persons may independently invent the same device, and they may invent it at nearly the same time. In such a case, assuming that both are equally diligent and equally successful in their experiments, the law holds

that he who was first is entitled to the patent. There are other questions, however, to decide, besides the mere matter of priority, and these serve often to test the substantial identity of the two inventions.

Where a defense is set up that the invention in controversy was made and tried long before the patentee made the invention, it is competent to inquire as to the success of the alleged prior invention. It is shown, for example, that the patentee's device is a perfect success, and is greatly in demand. On the other hand, the proof shows that the alleged prior invention was tried, proved unsuccessful, and was abandoned. This argues that the two inventions were not the same, for like causes will produce like results.

Suppose, however, that the evidence shows that the alleged prior invention was substantially the same, and was experimentally successful, but was abandoned after the experiment. The question then to be considered is whether this was such a dedication of a completed invention to the public as would bar a subsequent patentee. It is undoubtedly true that an inventor may complete a meritorious invention, and dedicate it to the public by his own act, and such invention cannot afterwards be patented by another. But it must be something more than an unsuccessful experiment to bar a subsequent original inventor who carries it up to the point of perfection.

In *Roberts* et al. vs. *Schreiber* (C. D. 1880, p. 557), it was held by the Court that the citation of such incomplete inventions was "an attempt to defeat a meritorious patented invention, by proof that something similar had been previously known, though it had never been perfected, and had never been any useful contribution to human knowledge or conven-

ience." Also in *Parkhurst* vs. *Kinsman*, (1 Blatchf., p. 494), the Court said: "Crude and unsuccessful experiments, equivocal in their results, and then given up for years, cannot prevail against an original inventor who has perfected his improvement and obtained a patent."

The purpose of the law of patents is not, primarily, to reward the inventor, but to benefit the public. To stimulate the inventor, in order that he may benefit the public, he is rewarded. It is obvious, then, that he who is most diligent in bringing an invention to that point where the public will be benefited, is the one who is the beneficiary contemplated in the law, and not he who stops half way and leaves the public no better off than it was before.

REISSUE APPLICATIONS.

In consequence of the decisions of the Supreme Court reviewed in the article on "Reissued Patents," on page 5 of our first number, the Patent Office has so amended the rules of practice that applicants for reissue are now required to file with their petitions a statement pointing out the defects or insufficiencies in the specification which render the patent inoperative or invalid, and explaining how such errors arose. Formerly it was the practice to accept the applicant's oath that the specification was defective or insufficient, without requiring him to specify what particular defects or insufficiencies he wished to correct. The new practice will complicate reissue applications, and will add to the difficulty of reissuing many patents, but it is unquestionably in accordance with the law.

ELECTRICAL INVENTIONS AND PATENTS.

There has been a marked increase during recent years in the number of applications for patents on electrical inventions, plainly indicative of the increasing importance of this field of invention. The wonderful powers and capabilities of electricity have only recently attained any considerable popular recognition, the growth of general confidence in it having kept pace only with the increase in the number and success of its practical applications. Ten years ago telegraphy and electro-plating were the only important uses of electricity; since then the telephone has sprung into being, the electric light has developed into a practical success, and the electric transmission of power has assumed tangible form. These results are almost entirely due to the cumulative labors of many inventors, of whom more are engaged in this promising field to-day than ever before. Each scientific discovery opens up a vista of valuable and practical inventions, each fundamental invention paves the way for numerous improvements, each real improvement adds its weight to the momentum with which electricity is forcing itself as a vital agent into the life of civilization.

This fecundity of invention, this intense strife after new and valuable developments, is largely attributable to the stimulus afforded by the patent systems of all civilized countries, which make it in the interest of an ingenious man to invent and to communicate his inventions to the public. Without patent laws electricity would be to-day about where it was in 1850, perhaps scientifically a little further advanced, but in its practical applications, which

make it of real use to the world, no further developed.

The prosecution of applications for electrical patents has become an important part of the business of every successful patent solicitor, and is a department requiring the exercise of the utmost skill and the most careful judgment. In no other field of invention are more intricate and difficult problems in patentability presented; in no other does a slight difference so often determine the practicability of an invention, or its advantage over its predecessors; and in no other is it more difficult to formulate claims which shall fully cover the essential feature of novelty in the invention, so as to include all possible modifications of which it may be susceptible, but which shall still distinguish it from what was known before. These difficulties are greatest with United States patents, our law and our Patent Office being more exacting than those of any other country. In the modern practice of requiring exact and definite claims, "functional" claims, so called, are excluded. In many instances it seems almost impossible to cover fully all the possible forms which may be given to an invention without claiming its functions or capabilities rather than its construction. The following is a good example of a functional claim:

A switch *adapted* to form a support for a telephone, and *operated* by the weight of the telephone to throw the latter out of circuit, but *capable*, when the telephone is removed, of two further movements, by one of which a connection may be established between the telephone and the telephones at the stations on one side, while by the other a connection may be established between the telephone and those on the other side.

The italics are our own. This claim was decided by the Commissioner of Patents to be informal, because it was "for the switch having certain capabilities without reference to the mechanism or instru-

mentalities whereby those capabilities or functions are obtained." To analyse the mechanism of an invention susceptible of considerable modification, to separate its essential from its non-essential features, and to formulate a definition of the novelty of the invention by a recitation of such essentials, which is what is done in every properly drawn claim, is a far more difficult task than to write a recitation of what the invention is designed to accomplish, which is all that a functional claim embodies.

The questions of patentability which arise in electrical cases frequently involve problems requiring for their solution an extended acquaintance with electrical science. Such questions are most often as to whether a certain change or improvement constitutes an invention or discovery, or is merely such as a skilled and intelligent electrician would naturally resort to without the exercise of his inventive faculty; and whether one device in question is merely the equivalent of another previously invented, or is sufficiently different to constitute an improvement worthy of a patent.

As an instance of the former question we may cite the case of an electro-magnet of peculiar construction, invented several years before telephones were thought of, which a later inventor applied as the magnet of a telephone, and which produced a telephone having decided advantages over those using the ordinary magnet. The rejection of the telephone application on reference to the electro-magnet patent necessitated an analysis of the source of the advantage resulting from the use of this magnet in a telephone, and a comparison therewith of the advantage of its previous use as an electro-magnet, and it was found that its advantages for both purposes were identical, and hence the subsequent inventor had done nothing more than to substitute one old

form of magnet in place of another in a telephone, without the production of any intrinsically new result. Consequently his patent was refused.

Another instance will well illustrate how small an apparent difference may confer patentability on an invention. The applicant claimed the means of regulating an electric light circuit shown in the diagram, Fig. 1, and was rejected on an old English patent which described the arrangement shown in Fig. 2. For simplicity we have made both diagrams alike in all non-essential respects. *G* is an electric current generator feeding a conductor *C*, from which lead several branches, *B*, but one of which is shown. Each branch *B* supplies a number of electric lamps,

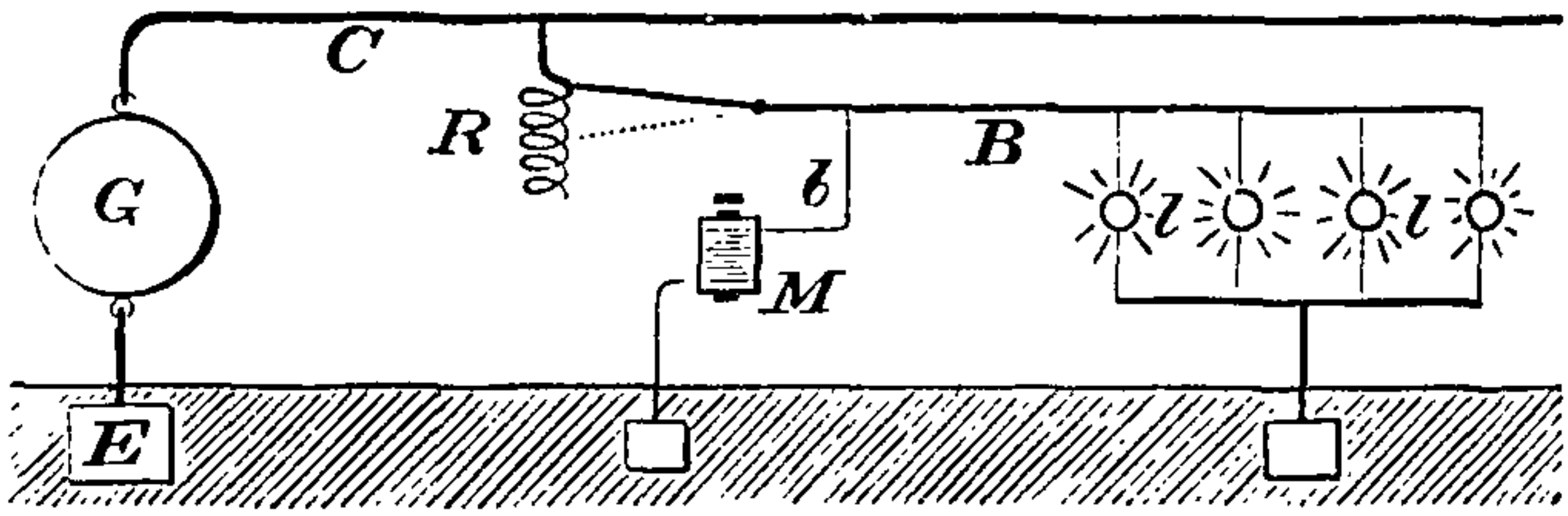


FIG. 1.—THE APPLICANT'S INVENTION.

l l, installed in multiple arc, and at its junction with the conductor *C* is interposed a rheostat *R*, so that by introducing more or fewer of its resistance coils into the branch *B*, more or less potential can be excluded from the branch, according to the varying demand caused by the use of a greater or less number of lamps. This rheostat is operated automatically by an electro-magnet *M*, which in Fig. 1 is of high resistance and arranged in a sub-branch *b*, while in Fig. 2 it is of low resistance and in the main branch *B*. This is the only difference, and at first sight it seems immaterial. This ground was first taken by

the Patent Office, but it was urged on behalf of the applicant that there is a broad difference in result. When all the lamps are ignited, thereby affording several paths for the escape of potential to earth, the magnet in Fig. 1 receives its minimum current, while that in Fig. 2 receives its maximum. In both cases the magnets should be so connected with the rheostat that when the potential in *C* is at its minimum, all the rheostat coils will be shunted out of *B*, thereby admitting the potential freely to the branch *B*. But if the potential rises in *B*, consequent upon a rise in *C* or upon an increase of resistance at *l l*, caused by extinguishing one or more lamps, as many rheostat coils as are necessary to neutralize this rise should

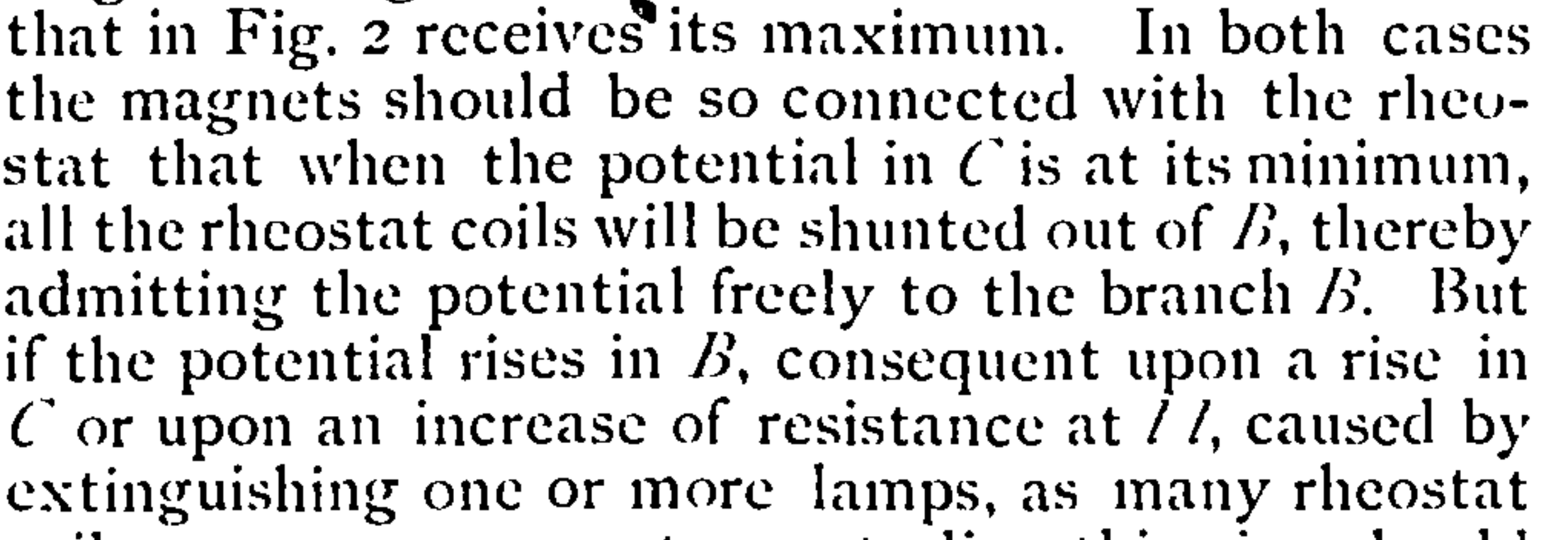


FIG. 2.—THE REFERENCE.

be shunted into *B*. This result the arrangement in Fig. 1 will accomplish, to whichever cause the rise of potential is due, while that in Fig. 2 will attain it only in case the rise is caused by an increase of potential in *C*, whereas the cutting out of certain lamps *l l*, will cause a decrease of resistance at *R*, and admit more potential to *B*. Hence the extinguishing of part of the lamps in Fig. 1 will not affect the remaining ones, while in Fig. 2 it will cause the remaining ones to burn brighter than if no regulator were used. The difference is that in Fig. 1 the *potential* is made uniform, while in Fig. 2 the tendency

is to preserve a uniform *current.* On these distinctions being pointed out the patent was allowed.

We have cited this case because of its simplicity and the ease of its illustration, not because it is a thoroughly typical example of the class of cases to which we allude, as in many instances the problems involved are far more intricate and difficult of solution than in this. In complicated electro-mechanical devices, such as printing and multiplex telegraphs and electrical indicators, the many inter-operating mechanical parts add their complications to those of the electrical features, frequently necessitating the most intense study in their analysis and comparison. It is obvious that the prosecution of such applications should be intrusted only to those solicitors who have the requisite familiarity with electricity as a science, and with electrical inventions, to render them competent to grapple with the difficulties presented.

DELAYS IN THE PATENT OFFICE.

No feature of his practice is brought into such disagreeable prominence before a solicitor of patents, as that of delay attending the examination of applications at the Patent Office. The applicant pays what the law demands of him for the examination, and he naturally expects promptness. A prompt action on his case is often of vital importance, also, but this has, of course, little weight in progressing matters.

At the present time vexatious and annoying delays must be expected in the examination of several important classes of invention, notably those of

Railways, Hydraulic Engineering, Excavating, Pneumatics, Pumps, Water Distribution, Measuring Instruments, Metal Cutting Tools, Fire Arms, etc.

The examiners and other officials of the Patent Office are in no way blamable or responsible for this condition of affairs. With every month the difficulty of making a thorough examination increases, and necessarily the time required to make it increases proportionately. At the same time the number of applications made is increasing. The examining force is entirely inadequate to the demand made upon it.

It may be asked why the force is not increased, in order that the work of the Office may be brought more nearly up to date. The only reply we have to this query is that this duty lies solely with Congress, which alone can make the necessary appropriations to pay for the extra help. As we stated in our last number, the fund to the credit of the Patent Office, now lying idle in the treasury, has reached the sum of $1,880,119.32, yet this fund cannot be drawn upon by the Commissioner of Patents without the consent of Congress ; and without funds to pay them, he cannot, of course, set additional employees to work.

Where the difficulty lies, we can only surmise ; but the several attempts that have been made in Congress to appropriate this accumulative fund—belonging in equity to inventors—to other purposes entirely aside from the inventor's interest, has naturally led to the conclusion that if appropriated to the uses of the Patent Office, very little would be apt to stick to the fingers of the disbursers. Whether this be the true cause or not, it is well known that so far the Patent Office has been singularly free from political affiliations and rings, and has been conducted upon strictly business principles. It is also well known that in no matter where the appropriation is

so obviously merited does Congress move so slowly, and with so little liberality.

There are few men now in Congress, we believe, who are at all conversant with matters pertaining to patents, and hardly one of the daily newspapers ever touches upon such questions, notwithstanding they are of so much interest to a large class of people. And what the press will not discuss is very apt to be overlooked by our legislators.

It is not our desire that questions relating to patents shall become involved with politics ; this would work to the lasting injury of the patent laws. Rather than have this occur, we should prefer to let things remain as they are. But we think the interests of the large class of our people interested in patents, including manufacturers, inventors and professional men, as well as the people at large, deserve a better recognition at the hands of Congress than they have heretofore received.

DIVISION OF APPLICATIONS.

It happens not infrequently that an inventor will present to his solicitor, for the purpose of obtaining a patent, an invention embodying subject-matter for more than one patent. At least it may be the opinion of the solicitor that, under the common practice in such cases, a division of the application will be required by the examiner. As the cost of obtaining two patents is usually double that for obtaining one, and the matter is, to a great extent, one of opinion, the solicitor usually prefers to leave the decision to the examiner rather than to suggest a

division himself. This course generally entails greater labor upon the solicitor in preparing the drawings and specifications than if the case was properly divided at the beginning, as he is compelled to embody matter that he feels will have to be stricken out eventually. But he avoids the delicate question of double fees, a suggestion of which, from him, may be looked upon by the client as not wholly disinterested. At the same time the interests of the client are not placed in jeopardy, as he may at any time make a separate application for the portion of the subject-matter stricken out.

The rules of practice now in force upon this question are as follows:

"40. Two or more independent inventions cannot be claimed in one application; but where several distinct inventions are dependent upon each other and mutually contribute to produce a single result, they may be claimed in one application."

"41. If several inventions, claimed in a single application, shall be found to be of such a nature that a single patent may not be issued to cover them, the inventor will be required to limit the description and claim of the pending application to whichever invention he may elect; the other inventions may be made the subjects of separate applications, which must conform to the rules applicable to original applications. If the independence of the inventions be clear, such limitation will be made before any action upon the merits; otherwise it may be made at any time before final action thereon, in the discretion of the examiner."

Taking into account the somewhat complex character of the questions that come up under this head, and the many principles involved, the actual practice of the Patent Office has been fairly uniform in dealing with applications alleged to contain independent inventions.

The general rule is that where the inventions described and claimed in an application are "independent," that is, have no dependent connection with each other, but are capable of separate and independent existence and operation, each producing its own result, then they cannot be included in one

application. An illustration of this may be found in *Dieterich* (11 O. G., p. 195) where it was held that "a retort-charging mechanism, a coke-removing mechanism, and a coke-transporting hopper, although capable of being employed together in the manufacture of gas, cannot, for that reason alone, there being no patentable combination between them, be included in the same application."

The principle involved in the above decision is plain: each of the three mechanisms was complete in itself and performed its functions independently of the others. Although used together with advantage, there was no necessity for so using them. In the case of *Birdsell* (6 O. G., p. 682), the court held, however, that although five or six independent contrivances were employed for threshing, hulling, bolting, screening and conveying, that they all co-operated to produce the result and were necessary to that end. "Without either," it was added, "there would be a failure to the extent of the function which it performs, and the work intended to be accomplished would be imperfectly performed."

The above examples are given to illustrate the fine distinction that is drawn by the authorities between what may and what may not be included in one patent.

In *Heginbotham* (C. D. 1875, p. 93) the Commissioner says: "The office has always taken the ground that the spirit and policy, if not the letter of the law, require that separate independent inventions should be the subjects of distinct patents, and the courts have invariably acquiesced in the practice." It has been the custom of the courts, however, to assume that the Commissioner has done his duty in this respect, and to abstain from minute inquiry into the matter. They are averse to invalidating a patent on this ground alone, and it is doubtful if such a decision would stand.

It might be that a single invention would embrace a machine, a method or process, and a product, each novel in itself. And it would be possible to combine all these in one patent. But the conditions necessary to this are so exacting that such combinations would rarely occur. It is necessary that the machine shall be the only one capable of employing the method and producing the product; that the method shall necessitate the use of the machine and produce only the product; and the product shall be of necessity produced only by this particular machine and method. As a rule, a machine or apparatus, a method or process, and a product, require separate applications, and this is generally the best course for the inventor to pursue in protecting his inventions.

The official classification of the Patent Office has considerable weight in deciding the question of division of an application; but this should not, and does not, alone govern. In *Gillespie* (C. D. 1876, p. 195), the Commissioner says: "Improvements made in separate parts of an entire organization, and not co-operating so as to produce a new combination, should not be allowed in one application, especially where the classification of the Office and the practice of applicants in presenting their cases recognize the separate improvements as constituting separate inventions." As an example of this practice, a piston-packing and a slide-valve, although constituting parts of the same engine, may not be included in the same application.

In *Kuh* (C. D. 1876, p. 190) the same Commissioner says: "It is the duty of the Office to allow an inventor to embrace in one application contrivances, however distinct, which mutually contribute in producing, and are essential to a unitary result, notwithstanding they may belong to different classes."

For facility in examining an application it is, of

course, desirable that all the features contained in it shall belong to the class of inventions under the examiner who has the case in charge. Otherwise it must be passed from one examiner to another in order to insure a thorough examination. The theory is that the applicant pays for, and is entitled to, the examination of but one invention; consequently, it is the aim of the examiner to limit the application to one invention, and to require a division before any examination on the merits is made.

IMPORTANT PATENT BILLS.

A bill was introduced into the House of Representatives, March 6, 1882, by Mr. Morgan R. Wise, for the amendment of the patent law. It contains such sensible and desirable provisions, that we print several of its sections entire:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled: That to prevent the perpetration of fraud upon innocent purchasers of patent rights granted by the United States, it shall be the duty of all persons, before making the purchase of any such rights, or alleged rights, to require the patentee, or any person offering the right for sale, to procure and exhibit for the examination of the intended purchaser, or any person whom he may select, the original patent, or a copy of the specification and claim or claims, together with the drawings where they form a part of the specification and patent, each issued by the United States Patent Office, wherein is fully described in the specification, and in the claim or claims of which is particularly pointed out, just what was allowed, granted and included in such patent, and no more; and if any person shall exhibit or use as a means for effecting any such sale, any such specification, claim or claims or drawing purporting or represented to have been issued by the United States Patent Office, and which was not issued from and by authority of said office, or shall so exhibit or use any patent or copy of a specification, claim or drawing issued by said office, but which has afterwards been changed or altered in language or drawing, with evident intent to there-

by deceive, shall, upon conviction thereof, be deemed guilty of false pretense or forgery, according to the nature of the offense, and shall be liable to a fine of not exceeding one thousand dollars, or to imprisonment not exceeding three years, or both, at the discretion of the court.

This is the proper remedy for the fraudulent sale of patent rights. It expects the buyer to require proof of the existence of the property, and punishes the seller for the commission of fraud in presenting such proof. Much of the outcry against patents results from the neglect on the part of the purchaser of those simple and obvious precautions which every prudent man should always exercise in buying property of any kind. Who would think of buying land that he had never seen and knew nothing about, except what the would-be seller told him? A man who did that would get very little sympathy, and one who buys an interest in or right under a patent, the claims of which he has never seen, deserves just as little.

SEC. 2. That whoever sells or conveys any interest in any patent right, or grants any license thereunder, knowing that said interest or privilege so purporting to be granted or conveyed has been previously conveyed, in whole or in part, to others, without informing the grantee or grantees of the existence and true nature of such incumbrance or prior right so far as he has actual knowledge thereof, before receiving any payment therefor, by note or otherwise, shall, upon conviction thereof, be punished by imprisonment not exceeding three years, or by fine not exceeding one thousand dollars, or both, at the discretion of the court.

This is another excellent feature for the punishment of fraud. Some such provision is rendered necessary by the fact that the buyer of a patent, unless he takes extraordinary precautions, cannot learn of every incumbrance upon the title. He is forced to rely to some extent upon the assurances of the seller.

SEC. 3. That section forty-eight hundred and eighty-five of the Revised Statutes of the United States be amended so as to read as follows:

"Every patent shall bear date as of a day not later than seven months after the time at which it was allowed and notice thereof was sent to the

applicant or his agent; and if the final fee is not paid within six months after the date of such notice of allowance, the patent shall be forfeited and withheld."

This provision will relieve the Patent Office of the necessity of issuing a second allowance in case the final fee is paid too late to cause the patent to bear date within six months after the allowance, as the present law requires.

Section 4 provides that the sole owner or owners of a patent may execute the application for its reissue. Under the present law it is necessary, in order to reissue a patent, to find the inventor and secure his execution of the application. This has worked great hardship to assignees in many cases, often affording the inventor a pretext for unjustly extorting money from the assignee. No harm can be done the public by permitting the assignee to execute the application, as in case he claims more than the inventor was entitled to, his reissue is rendered void to that extent.

SEC. 5. That the last sentence in section forty-eight hundred and eighty-seven of the Revised Statutes of the United States, being in the following words: "But every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years," shall be, and is hereby, repealed.

If this section passes, every patent afterward granted will endure for seventeen years, whether the invention has been previously patented abroad or not. There is no adequate reason for the present limitation of the term, which works great injustice and causes much confusion and distrust. This repeal is urgently demanded by every consideration of right and our only criticism of it is that it does not go far enough—it should retroact to some extent, so as to relieve patents which have been issued prior to the

passage of the bill from the disadvantage of the doubt and uncertainty surrounding the repealed provision.

SEC. 6. That no machine or other article made prior to the surrender of a patent, and the issue thereupon of a new patent, which, or the use of which, did not infringe such surrendered patent, shall be held to be an infringement of any of the claims of the reissued patent, which claims were not in the original patent at the time when such machine or other article was made. All rights of action accruing to the patentee, his executors, administrators, or assigns, for profits and damages on account of any infringement of a patent prior to its surrender for a reissue, shall remain unaffected by such surrender, and no suit shall be barred or abated by such surrender; and all suits at law or in equity may be maintained for the recovery of such damages or profits in the same manner as if said surrendered patent had not been surrendered: *Provided*, That nothing contained in this section shall apply to letters patent reissued prior to the passage of this act.

At present the surrender of a patent for reissue amounts to a surrender of all claims for damages under it; and the reissue, when granted, although taking effect only from its issue, will prevent the subsequent use of a thing made previously which did not infringe on the original patent, and which is covered by the claims of the reissue. This provision is designed to correct these two unjust features of the law.

SEC. 7. That for the diffusion of mechanical knowledge and the encouragement of invention, the Commissioner of Patents is hereby authorized to furnish the weekly Official Gazette of the Patent Office, in the form and including the subjects now published therein, to subscribers within the United States at two dollars per annum, and to subscribers in foreign countries at a price not less than the estimated cost price thereof; and the price of uncertified printed copies of specifications of patents, including the printed drawings thereof shall be ten cents each for any number less than twenty copies, or five cents each for twenty or more copies of the same or of different patents ordered at the same time; and for uncertified manuscript copies of contents of patent-files or of any other records, the reasonable cost of making the same; and the price for certified copies shall be the same as for uncertified copies, with the addition of twenty-five cents for the certificate and seal; and all such copies of patents, or any other records in the possession of the Patent Office, when certified by the Commissioner, Assistant Commissioner, or Acting Commissioner of Patents as being correct and authentic copies of the originals in said office,

shall be evidence in all cases wherein the originals could be evidence; and any person making application and paying the fees aforesaid therefor shall have certified copies thereof.

The proposed cheapening of the Official Gazette is of doubtful propriety. It is now published at a loss and it is of such a character as to be useful to but few outside of the profession. It would be better to increase its value by requiring that all decisions of the courts in patent cases be printed in it, without reducing its price. The proposed reduction in the price of copies of patents is desirable, but we would favor leaving the Commissioner to fix the minimum price in quantities.

This bill is in the hands of the House Patent Committee, where it bids fair to remain indefinitely. We fear it is too liberal a measure to stand any probable chance of passing Congress.

Another bill, which has passed the House, provides—

That no action for damages or proceeding in equity shall be sustained, nor shall the party be held liable under Sections 4919 or 4921 of the Revised Statutes of the United States, for the use of any patented article or device, when it shall appear on the trial that the defendant in such action or proceeding purchased said article for a valuable consideration in the open market.

What is meant by "open market" is questionable, but the intent of the bill seems to be to deprive inventors of the protection against an infringing user which the law now gives them. In many cases the exclusive *use* of the patented article is the only protection worth having. This bill seems to be one of many insidious attacks upon our patent system which certain patent-hating monopolies are making, their aim being to so emasculate the law as to leave them free to use any invention they wish, without regard to the inventor's rights. These schemes will bear watching. It is not probable that this bill will pass the Senate.

CLAIMS.

Many years ago, when few patents were applied for and suits involving questions of patent law were rare, very little attention was devoted at the Patent Office to any questions but those relating to novelty. If the applicant expressed himself in reasonably clear terms very little more was required.

As the number of applications increased and the business began to assume gigantic dimensions, infringement suits increased in proportion, the courts began to scan the law more closely, and the underlying principles were more strictly applied. The specifications and claims presented at the Patent Office began to receive a more critical examination, and certain modes of expression, especially in the claims, to be objected to. The rigidity of this criticism has steadily increased up to the present, and the result has been that certain rules, more or less uniformly adhered to, have been adopted for drawing and phrasing claims, and it is to these rules we wish to refer. We do not mean to treat the subject exhaustively; that could hardly be done in the limited space we have at command. But we will explain some of the principles which govern the matter.

It was formerly quite common to employ such terms as "I claim the use of" or "the employment of." This phraseology is objected to now for the obvious reason that the "use" of a thing is not patentable. The phraseology, "I claim making," etc., is objected to as a claim to an act rather than a thing.

In respect to equivalents, it is held that in law the patentee is entitled to cover all known equivalents, and therefore the phrase "or its equivalent" is ob-

jected to as at best superfluous and therefore unnecessary. Where equivalents are described in the specification, the words, "or its specified equivalents" may be inserted.

It often occurs that one or more modifications of an invention are shown and described in an application. These may not be claimed specifically. It is presumed that they are covered by the broadest claim. This is called the "generic" claim. If the novelty of the invention is sufficient to sustain a broad generic claim, then such a claim may be inserted, and with it one "specific," or more limited claim to the preferred form or construction, may also be inserted. But two specific claims to two specific constructions of the same device may not be inserted in one application.

Of course several specific claims may be included in one application, but they must be laid to different features. And more than one generic claim may be included also.

A claim may not be made to a "result" of the operation of certain mechanism; the mechanism which produces the result must be claimed. The same may be said of the "functions" of a mechanism. It is not, however, objectionable to claim a certain mechanism "when arranged to operate as described."

It has been held (*Perry et al.*, C. D. 1869, p. 3. *Halm*, C. D. 1875, p. 107) that claims may, under proper restrictions, be presented in different forms, in order to guard against misconstruction of them by the public and courts. As a rule, however, such claims are considered objectionable on the ground of tautology.

Where an applicant does not limit his invention, in the claims, to a device of a particular shape, such claim will be met by a reference showing the device

of any shape whatever (see *Powell*, C. D. 1870, p. 134).

A construction not shown in either model or drawing, where it is capable of such illustration, cannot be specifically claimed, even though it may be described in the specification (see *Dodge*, C. D. 1870, p. 149).

In *Duckworth* (C. D. 1870, p. 150) the Commissioner says: "A claim for a given device or combination having been granted in one patent, will always operate as a bar to the allowance of the same claim to the same party upon another application, even though filed at an earlier date." To do otherwise would be to grant two patents for the same invention to the same person, which is not permissible.

A large class of claims is included under the name of "combinations." A combination must include at least two elements, and it may include any number, provided they properly co-operate. A legitimate combination claim may include only elements that co-act to produce one result or form one structure. It should not include extraneous or inactive parts, such as a bed-plate, frame, or support; or parts which are in common use for such purposes and may be presumed to exist. Nor should it include less elements than are necessary to produce a result or perform a function. A mere assemblage of parts which do not co-act is an aggregation, and as such may not be claimed. It was held by the Supreme Court of the United States that the fixing of a lead in one end of a pencil, and a bit of erasing rubber in the other end, was a mere aggregation and not a patentable combination, as the rubber and lead did not co-act in any manner, and were only capable of use independently.

It is not necessary that the combination shall be composed of moving parts, but the elements must

sustain a co-operative relation even though non-moving. For example, the combination with the toothed metal blades of a curry-comb, of elastic smooth blades, arranged alternately with the toothed blades, would form a legitimate combination. It is best, however, in such cases, to claim a curry-comb so provided.

Prefixing or adding to a claim the words "as a new article of manufacture," does not confer patentability on a device not patentable without them. Their employment is advisable in some cases, but only as indicating the character of the invention.

Where the invention is a "process," claims may be laid to the process as an entirety, and to the sub-processes involved, if there are any. These sub-processes are sometimes called "steps," and if each produces a definite result, they may be separately claimed, if new.

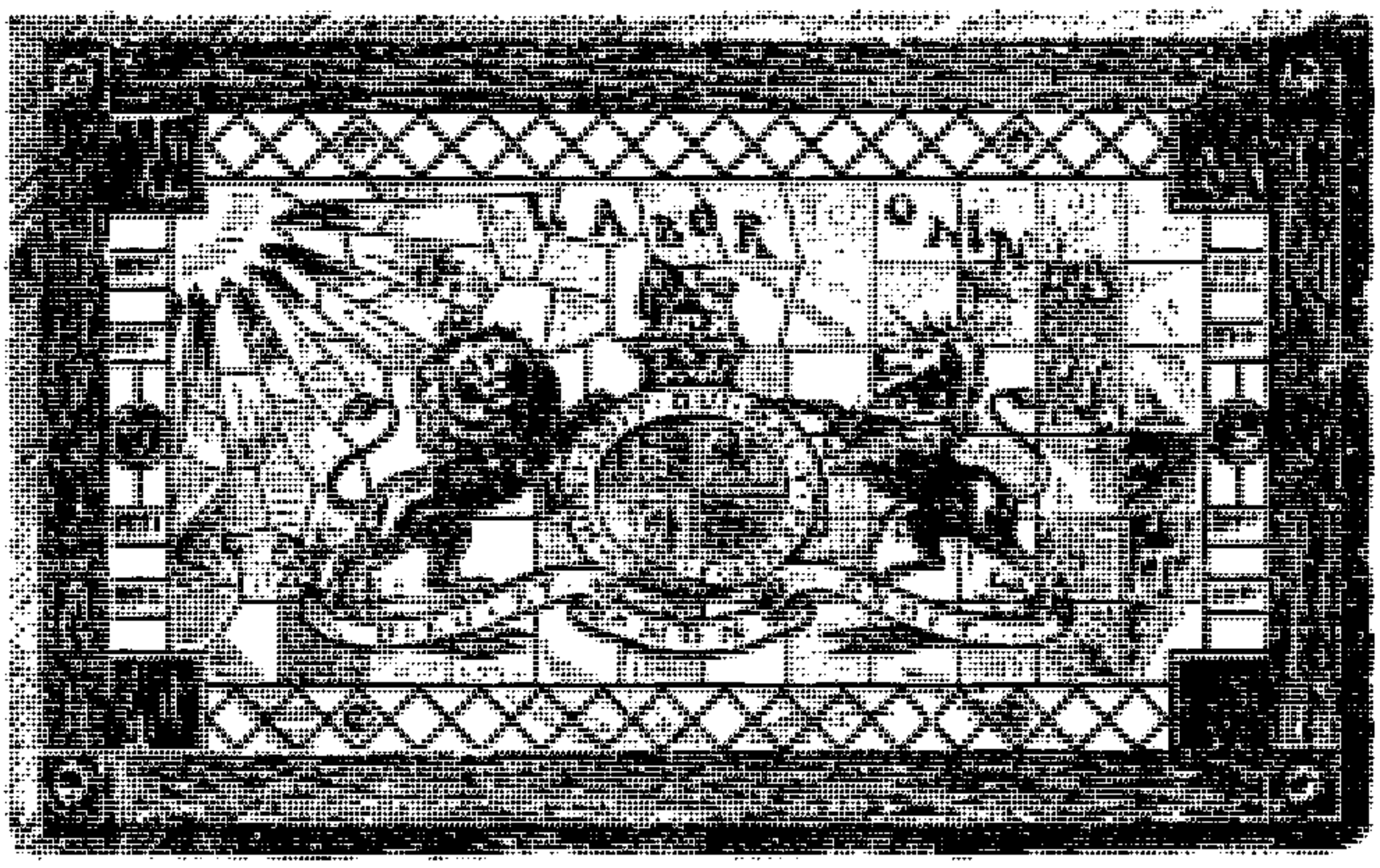
It is unnecessary, and often undesirable, to embody as a final step or steps in a process-claim such well-known features as drying, grinding, pulverizing, etc. If non-essential, these should be omitted.

In a claim for a "composition of matter" it is held to be necessary to include all the essential elements in the claim, and only one claim may be drawn. The names of the ingredients must also be recited in the claim. The preferred proportions of the ingredients must be specified, but as a rule these should not be embodied in the claims.

When an application for a patent is rejected, it will generally be found that the references are cited against particular claims, and not against the invention as an entirety, and the claims in question only need be considered with respect to the references.

PATENTS ON INVENTIONS.

NUMBER 3. SEPTEMBER, 1882. QUARTERLY.



PATENTS IN GREAT BRITAIN.

The territory covered by British patents includes Great Britain and Ireland, the Channel Islands and the Isle of Man. This territory covers an area of 122,518 square miles, and contained in 1881 a population of 35,246,562 souls. A larger proportion of

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this population is engaged in manufacturing, mechanical and scientific pursuits, than in any other patent-granting country, to which fact is due the exceptional value of the British realm as a field for the introduction of inventions. The United Kingdom of Great Britain and Ireland is the greatest manufacturing and commercial nation on the globe, bringing raw materials from all parts of the earth in its numerous ships, working them up into finished goods, and re-shipping them to its foreign markets. These islands are a teeming hive of productive industry, where a large proportion of the world's work is done, and done with a perfection of systematization that insures of its being done well and economically. The total imports of the United Kingdom exceed those of our own country by more than three times, and its exports are nearly twice as great as ours. In proportion to the relative populations of the two countries, the total commerce of the British realm is more than three times that of the United States. The cotton goods production of Great Britain exceeds that of the United States by nearly three times; its pig-iron production is nearly double, and its coal production is more than double that of the United States. In proportion to their respective areas, there are in the United Kingdom about three and three-fourths times the number of miles of railways contained in the United States. Among its exports of manufactured goods in 1880 are the following items, in addition to the goods retained for home consumption :

Textile fabrics, valued at	. . . . .		$502,326,622
Iron and steel,	"	"	138,161,472
Machinery,	"	"	45,080,900

During 1881 there were 5,751 applications filed for British patents, of which 2,139 were on inventions

made by foreigners. Of these the largest number (745) came from the United States. In the absence of definite statistics as to other countries, we believe, as the result of our own observation and experience, that more American inventions are patented in Great Britain than in any other foreign country, except Canada. The reasons are obvious. In addition to its prominence as a manufacturing state, its intimate commercial intercourse with this country, and the identity of the language and literature, and close similarity of thought, institutions and business methods of the two peoples render it far easier for Americans to introduce their inventions in Great Britain than in any other transatlantic country.

British patents are granted under the Patent Law Amendment Act of 1852, as modified by Acts of 1853. Patents are granted to all applicants without examination—it being left to the courts to afterward sustain or annul them. Of two patents on the same invention, that first applied for is held to be valid, unless it has been obtained through fraud. If the invention was made within the British realm, only the actual inventor can obtain a valid patent, if he be living. But an invention made abroad may be patented either by the inventor or by any person who introduces it into the realm. In the latter case the applicant has only to swear that the invention is a communication to him from abroad, giving the name of his informant, and he is entitled to a patent which will be valid even against a subsequent claim by the actual inventor, unless fraud can be clearly proved. Hence, to secure his rights, an American inventor should be careful not to disclose his invention to any one whom he cannot trust, until he has made his application for a British patent; for if the invention becomes public, or in any way comes to the knowledge of any unprincipled

person in this country, such person may patent it in Great Britain without the sanction of the inventor, who will have no redress whatever, unless he can clearly prove that knowledge of the invention was obtained through fraudulent means, or that the patent was taken in violation of contract. This feature of the law occasionally works injustice to inventors, but this they may nearly always avoid by the exercise of common prudence and care. In many cases it proves a great convenience, enabling the patent to be applied for by an English solicitor in trust for the inventor, when the saving of time or of trouble to the inventor is an object.

Another feature of the law demands the attention of American inventors. If the invention be made public anywhere in the British realm, a British patent afterward applied for will be void. It is a frequent defense against a suit for infringement of a British patent that the invention had been published in the realm before the application for patent was filed, and whenever this can be proved, the patent is declared void. The publication must, however, be of such a character as to enable those skilled in the art to which the invention pertains, to make and use it. A mere vague newspaper article would be in most cases insufficient; but an illustrated description in a trade journal, or a descriptive circular sent to British customers, would usually be considered an adequate publication. Usually the first publication of American inventions that reaches Great Britain is the *Official Gazette* of our Patent Office, which reaches England in about two weeks after its date, but most of its illustrations and descriptions are insufficient to invalidate a subsequent British patent. Very simple inventions, however, are often amply published in this journal, and in no case is it quite safe to delay filing the British application until after

the *Gazette* reaches England, as the sufficiency of the publication is always a matter of opinion, and experts may be brought to testify that the illustration and claim would be alone sufficient to enable them to work the invention. To be entirely safe, the American inventor should have his application for British patent mailed to England before the issue of his United States patent, and should not himself make public his invention, to the trade or otherwise, until the British application is filed. To enable his patent solicitors to prepare and mail the papers in time, he should give them his instructions not later than when the final fee on his United States patent is paid, or, in extreme cases, within a week thereafter. If, when the *Gazette* reaches the English Patent Office, the application for British patent has not been filed, the best course is to file it as promptly as possible, and trust to this publication being insufficient to invalidate the patent. In this case the application must be filed before a complete copy of the United States patent reaches England, for after that no valid patent can be obtained. Complete copies of all United States patents are sent to the English Patent Office, bound in monthly volumes, which reach there in from four to six months after the date of the patents.

The usual course in obtaining a British patent is to first apply for *Provisional Protection.* In addition to the formal papers, a brief specification, called the Provisional Specification, is filed, usually without drawings. This specification is kept secret in the Patent Office. The patent at once receives its date and number, and the invention may be made public. Provisional protection lasts for six months, and is, in its nature, somewhat similar to a caveat in this country. Within four months the applicant must give notice of his intention to proceed with his

application. This notice is advertised in the *Commissioners of Patents' Journal*, together with the title of the invention and the name and residence of the applicant. During three weeks after the date of this *Journal* the application may be opposed by any one in interest; but oppositions are extremely rare. The next step is the application for the Warrant and Seal, which must be made at least twenty-one days before the expiration of provisional protection. The sealed Letters Patent then issue to the applicant, after which he may institute suits for infringement. There is no remedy for infringements committed previous to the sealing of the patent. Before the expiration of the provisional protection the *Final Specification* must be filed. This is a full and complete description of the invention, and is accompanied by drawings, if the character of the invention admits of its being illustrated by drawings. This specification is printed about two months after it is filed, in the form of a "blue-book," but is not attached to the Letters Patent. The time usually consumed in securing the patent is five or six months; but in case of urgency, the sealed patent may be obtained in two months. This answers all purposes, provided the final specification is filed in due time. If it is not filed within the six months the patent becomes void.

Another course that may be followed in applying for the patent, is to file a *Complete Specification* and drawings at first, in place of the provisional specification. This course at once makes the invention public, the complete specification being open to inspection at the Patent Office. Notice to proceed is then given, and the seal applied for, the same as before described. This method is rarely advisable, owing to certain disadvantages attendant on the immediate publicity of the invention.

The British practice in drawing specifications and claims is widely different from that under the United States law. Many formalities have to be observed that are not called for in this country, and many others deemed vital at our Patent Office are not observed under the British law. For instance, the title given to the invention is, in a United States patent, of slight consequence; in a British patent a defect in the wording of the title may be fatal, and patents have been declared void by the courts because the title was too general, or was calculated to mislead as to the real scope or nature of the invention. It rarely occurs that the same specification would serve for both a United States and a British patent. The claims in a United States patent must be concise definitions of the novel features of the invention; a British specification need not always have claims, and if they are inserted, their purpose is rather to call attention in a general way to the new points of the invention than to define them. A definite inelastic claim is a disadvantage in a British patent, as is also an unnecessary multiplication of claims, since, if any one claim is proven to be void, the entire patent becomes invalid, and can only be corrected by filing a *Disclaimer*, at a cost of about two hundred dollars. These facts show the importance of employing skilled and careful solicitors to prepare applications for British patents.

The law does not require the working of the invention in Great Britain, nor the marking of the patented articles; but any person who counterfeits a patentee's mark is punishable by fine.

The patent is granted for a term of fourteen years, on condition that two stamp taxes shall be paid—one of £50 at the end of three years, and one of £100 at the end of seven years. The parchment Letters Patent must be sent to England, in order to

have these stamps applied to it, and in default of their payment the patent lapses. These taxes, with the original cost of obtaining the patent (amounting usually to nearly two hundred and fifty dollars) render British patents quite expensive—their average annual cost being nearly seventy-five dollars; but an invention that is valuable enough to be worth patenting at all, must be of sufficient value to abundantly reimburse its owner, if properly handled, for this expense.

THE DURATION OF UNITED STATES PATENTS.

II.

Before more fully considering the peculiarities of our present law limiting the terms of patents on inventions previously patented abroad, let us review the previous legislation on the same subject.

The first United States patent law, enacted in 1790, provided for the granting of patents "for any term not exceeding fourteen years." This was based upon the previous English law, the fixing of the term being left to the executive, but patents being commonly granted for fourteen years. Citizens and foreigners under this law were treated alike, and the previous patenting of the invention in a foreign country did not affect the term of the patent here.

This act was repealed by that of 1793, which made no alteration in the conditions affecting the term of the patent, but provided that patents should be granted only to American citizens. Foreigners and even resident aliens were denied the privilege of

patenting their inventions here. In 1800 this privilege was extended to resident aliens, but the folly of giving no encouragement to the introduction of foreign inventions into this country was persisted in for thirty-six years longer.

The law of 1836 provided for the grant of the patent to any inventor, citizen or alien, "for a term not exceeding fourteen years," conditional on the application being made before the invention was placed on sale or had gone into public use with the inventor's consent; and, in the case of an invention already patented abroad, on the application being filed here within six months after the publication of the foreign patent. If applied for within that time, the patent was not limited in its term by the foreign patent; if not applied for until after the expiration of that time, the right was forfeited. The act also provided for the extension of patents under certain circumstances, for a further period of seven years.

The act of 1839 introduced a new policy, that of limiting the term of the patent if a foreign patent had been granted for the same invention, more than six months prior to the filing of the application here. In such case the patent was to expire at the end of fourteen years from the "date or publication" of the foreign patent. If the invention had been introduced into public and common use in the United States before the filing of the application, the right to the patent was forfeited.

As the law then stood it was excellent. A diligent applicant was given a full term patent; one who delayed making his application longer than six months after the issue of his earliest foreign patent, received a patent for a somewhat shorter term, depending on the extent of his delay. The term of his patent, however, was in no wise affected by the term of the foreign patent. Much trouble, doubt,

anxiety and injustice, would be saved, if the law stood the same to-day.

The act of 1861 changed the term of patents from fourteen to seventeen years. It provided "that all patents hereafter granted should remain in force for the term of seventeen years from the date of issue, and all extension of such patents is hereby prohibited," and repealed all acts inconsistent with it. Many lawyers interpreted this as repealing the limitation introduced by the act of 1839, so that patents thereafter granted were supposed to be for seventeen years, irrespective of the existence of prior foreign patents; but in 1876 Judge Shipman,* and in 1880, Judge Blatchford† (now on the Supreme Bench) decided in effect that it substituted in the previous acts the word "seventeen" for the word "fourteen," and repealed the provision for extensions of patents. Hence, if the invention had been patented abroad less than six months when the application here was filed, the patent would remain in force for seventeen years; but if it had been patented abroad more than six months, the United States patent would expire in seventeen years from the date of issue of the earliest foreign patent. This is the case with all patents granted between March 2, 1861, and July 8, 1870.

The law of 1870 permitted an invention, previously patented abroad, to be patented here, even if the invention had been introduced here, provided that it had not been in public use or on sale here for more than two years prior to filing the application; and it enacted that "the patent shall expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term." In the revision of federal statutes, in 1874, this provision was incorporated in § 4887, except that

* *Weston* vs. *White*, 9 O. G., 1196.
† *De Florez* vs. *Raynolds*, 17 O. G., 503.

it was made to read that the patent should be "*so limited* as to expire at the same time with the foreign patent." This is the law as it now stands. It is a crude and imperfect piece of legislation, based upon a fallacy, impotent to accomplish its probable object, and causing a disastrous amount of confusion and uncertainty. Efforts are now being made to secure its repeal, and the passage of an act to fix positively the terms of the patents granted under it. Several bills for this purpose were laid before Congress in its recent session, but none of them were reached.

Pending Congressional action, it behooves inventors to ascertain the status of their patents under the law as it now stands. We shall consider only those granted since July 8, 1870. If, when the United States patent was finally issued, no foreign patent had been granted, or even applied for, there can be no doubt but the United States patent has its full term of seventeen years. On the other hand, if a foreign patent was finally granted and published before the application for the United States patent was filed, the term of the United States patent will be limited. If there be more than one such patent, we need consider only the one having the shortest term—the others count for nothing. To reach a definite conclusion, we must consider the laws under which all the foreign patents were granted, which complicates the problem. It has been decided in the case of a British patent granted for fourteen years and prolonged for seven years longer, that the United States patent, being applied for after the grant of the British patent, expired at the end of the fourteen year term of the latter, and was not affected by the prolongation.* Judge Clifford said in this decision that at the time the United States patent was granted it was known for what term the British patent was granted,

* *Hemp* vs. *Providence Tool Co.*, 14 O. G., 855.

and when that term would expire; but no one could foretell whether the patent would be extended or not, and it would be against the policy of our law to make the expiration of the patent here dependent on the discretion exercised in the future by a foreign sovereign.

Later, Judge Blatchford decided that a patent on an invention which had been previously patented in Canada for five years, expired at the end of that five years' term, although the Canadian patent had been extended to fifteen years before the expiration of its first five years, and after the grant of the United States patent.* The extension of a Canadian differs from that of a British patent in that it is a matter of right and not of favor, but this the court decided made no difference. From these two decisions, then, we may deduce the rule that the duration of the United States patent is determined by the *term* fixed for the foreign patent at the time the United States patent was granted, not by the ultimate duration of the foreign patent. If the five-year Canadian patent had been extended to fifteen years *before* the grant of the United States patent, instead of afterward, it is probable that the latter would have had ten years added to its life. We have several times advised such extensions for this purpose alone.

No decisions have yet been rendered affecting other foreign patents than British and Canadian, but it is easy to apply to other patents the principles already ascertained. French, Belgian, German and Spanish patents are granted at once for the final term, varying from ten to twenty years, but usually fifteen years, and are not extensible. But in each of these countries the grant is made contingent upon the payment of an annual tax and upon working the patent within a specified time, and occasionally upon

* *Reissner* vs. *Sharp*, 16 O. G., 356.

other contingencies. The question arises whether the forfeiture of any of these patents because of failure to fulfill these conditions will cause a simultaneous expiration of a United States patent afterward granted. We think not, for the very words of the statute refer to the *term* for which the patent is granted: "if there be more than one, at the same time with the one having the shortest term." If a French patent for fifteen years and a Canadian patent for five years were both in force when the United States patent was granted, the life of the latter would be determined by the Canadian patent, because its *term* was shorter than the French, and the lapse of the latter in two or three years for non-payment of taxes would not affect the United States patent. And, if the Canadian patent had not existed, such lapse of the French patent would still have no effect on the United States patent. There is a wide difference between the lapsing or forfeiture of a foreign patent before the end of its term, and its expiration when its term is concluded. The former is an occurrence that cannot be foreseen—the latter is a fixed and publicly known period. Judge Clifford's language appears to sustain this view: "Congress employs the words 'the foreign' patent, evidently referring to the term of the foreign patent to define the term of the domestic patent. Had Congress intended to grant a patent for an indefinite term, or for an uncertain and undefined duration, they would have employed suitable words to express such an intent. . . . Great inconvenience would result from the opposite rule, as neither the authorities of the United States, nor inventors, or the public would ever, in such a case, be able to know what the patentee acquired under a patent granted here."

Austrian and Italian patents are granted for any number of years, not exceeding fifteen, at the appli-

cant's option, and if for less than fifteen years, may be extended on his request and the payment of the prescribed taxes. So far as their effect on a subsequent United States patent is concerned, these patents would seem to be equivalent to Canadian patents. Hence we conclude that a one year Austrian or Italian patent will limit a subsequent United States patent to expire at the end of that year, unless it is extended before the United States patent is granted.

No conclusive decision has been rendered as to the meaning of the expression "patented in a foreign country." An invention is "patented" in this country when the patent is issued and made public, and it would seem that in the meaning of our statute the same essentials should be applied to foreign patents. Judge Blatchford has defined the "date of issue" of a foreign patent to be "the date at which his foreign patent had effect as a foreign patent in his favor." This is not as definite as we might wish, but in the case of a prior French patent he selected the date of filing, which is the time from which the term of a French patent is computed, although in this case it was the date of filing of a "certificate of addition" (a sort of annex to a patent already granted, covering an improvement afterward invented), and the ministerial decree was not issued to the applicant until nearly three months afterward. But this decision was under the law of 1861, not under the present law. It states, however, that under the French law, "if the application is regular, a decree of the minister is delivered to the applicant and *constitutes the patent*." In this case the French patent does not exist until such decree is so delivered, and the invention cannot be "patented" in France, in the meaning of our law, until the decree is delivered, which is what is commonly called

the date of issue. We believe that the present law will be so construed. A British patent does not "have effect as a patent" until it is sealed, so that the date of sealing may be understood to be the time when the invention is "patented in a foreign country."

The expression "shall be *so limited* as to expire," has not been satisfactorily expounded. In 1881, Judge McKennan dismissed a complaint where it was proved that the invention had been previously patented in a foreign country, but the domestic patent contained no consequent limitation of its term.* The court held that this omission rendered the patent void. No opinion was rendered, so that we can have no knowledge of any special circumstances that might have been involved. The omission was probably due to neglect on the part of the applicant to notify the Patent Office of the existence of his prior foreign patent. Patents granted since 1874 on inventions previously patented abroad which contain no limitation of their term, should be re-issued to correct this defect.

It now remains for us to consider only one question—the meaning of the words "previously patented" abroad. But this, and our concluding remarks on the subject, we will reserve for our next issue.†

* *Paillard* vs. *Gautschi*, 20 O. G., p. 1873.

† We have learned unofficially of a very recent decision, not yet published, to the effect that a foreign patent granted after the application here is filed, and before the United States patent is issued, is a "previous" foreign patent, and will limit the term of the United States patent. We prefer to review the subject in the light of this decision, and therefore postpone further consideration of it until the issue of our next number, before which time the decision will be accessible.

FOREIGN TRADE-MARK LAWS.

I.—GREAT BRITAIN.

The statute now in force in Great Britain for the protection of trade-marks is known as the Trade-Marks Registration Act, 1875. Under this statute trade-marks are classified as *old* or *new*—a mark in use previous to August 13th, 1875, being denominated old, and one adopted since that date being considered new. This distinction between old and new marks is quite important, in view of the fact that the statute restricts the definition of a trade-mark much more closely in its application to new marks than to old.

A new trade-mark, to be registrable, must include one or more of the following features, namely: A distinctive device, mark, heading, label, or ticket; or a name of an individual or firm, printed, impressed or woven in some particular and distinctive manner; or, a written signature, or copy of a written signature, of an individual or firm. There may be added to any one or more of these particulars, any desired letters, words, or figures.

The following will not be registered as new marks: Representations of the Queen. or any member of the royal family, or of foreign sovereigns, the royal arms, royal crown, national flags, or arms of cities or boroughs; or the word "patent."

The proprietor of a trade-mark may be a native or foreigner, an individual, firm, or corporation. When more than one applicant claims the same mark, the Registrar may reject both or all applications; or, in his discretion, refer the claimants to the courts. If registration is refused, an appeal may be taken to

the Court of Chancery. The registration is *prima facie* evidence of title to the trade-mark for five years, and after that time it is conclusive.

The proprietor of a registered trade-mark may assign the mark, but only in connection with the good-will of the business with which it has been used. The assignee may then, at any time, be registered as the proprietor.

For the purposes of registration, goods are divided into fifty classes. A mark may be registered in more than one class, but the registration in one class does not give the registrant the right to prevent another from using the same mark on a different class of goods.

The protection is granted for fourteen years, but this term may be extended periodically at a small cost.

A wood-cut or electrotype of the trade-mark must be furnished by the applicant, to be used in advertising the mark in the "Trade-Marks Journal." The cut should be as small as can be employed for properly illustrating the mark; and the largest available space allowed for one trade-mark is 8½ inches wide by 10 inches long. The cut will not be returned to the applicant.

After a trade-mark has been allowed, it is advertised in the "Trade-Marks Journal," and actual registration cannot take place until three months have elapsed from the date of the journal in which it appeared. During this interval any person may oppose the registration. Registration can usually be effected in from four to five months after the filing of the application. The total cost of procuring the registration of a trade-mark in Great Britain is usually about forty dollars. When the registration of several marks is applied for at the same time by the same person, the cost is proportionately less.

THE UNITED STATES PATENT LAW.

A BRIEF SUMMARY.

Patents are now granted under the law of July 8, 1870, as revised in the general revision of federal statutes in 1874.

The patent is granted only to the actual inventor, or to his assignee, or, if he be dead, to his executor or administrator. The application must be made and sworn to by the inventor if he be living, or by his executor or administrator if he be dead. If two or more persons have by their joint efforts made an invention, they must join in applying for the patent, even if the invention is to be owned by but one of them. Otherwise the patent will be void. If two or more persons are interested in an invention which has been made by only one of them, that one must apply for the patent alone, and he can at any time assign to the others their proportionate interests. The inventor is the person who, by an operation of his mind, devises, finds out, contrives or creates the new and useful thing which is called the invention. He need not make it with his own hands, as he may employ workmen to reduce it to practice, but he must supply them with the ideas involved, and direct their work. If two or more persons work or consult together, mutually contributing the ideas or suggestions which are essential to produce the invention, they are joint inventors. The inventor may be a citizen or alien, resident here or abroad.

An inventor, in order to obtain a patent, must observe the following conditions:

1. His invention must be of a *patentable* character.

2. His invention must be *new*.

3. He must apply for the patent within two years after the invention was first put in *public use* or on sale in the United States.

4. He must not have *abandoned* his invention.

5. He must make a formal *application* for patent and pay the prescribed fees.

We will explain each of these conditions somewhat more fully:

1. *Patentability.* An invention may consist of a thing—as a composition of matter, an article of manufacture, or a machine—or it may consist of a way of doing or producing a thing, as a process, or an improvement in an art. In either case it must be *useful*, which means that it must be operative, and neither immoral, harmful, nor frivolous; and it must be something more than a mere application of an old thing to a new use, and something more than the result of the exercise of ordinary good judgment or discretion, or mere mechanical skill; it must be of such a character as to have ordinarily required the exercise of ingenuity, or of the inventive faculty, for its production, although it may in fact have been discovered accidentally, or without conscious mental action. If with the knowledge the public had at the time the new thing was conceived, that thing might have been readily produced by any skillful mechanic without the exercise of his inventive faculty, then it is not an invention and not patentable. The mere application of an old tool or machine, or an old process, to a new use, without essentially changing or adding to it, does not constitute a patentable invention. An invention to be patentable must be complete, and capable of producing the result it is intended for. As a general rule an invention that produces a new and desirable result, or that is capable of new and advantageous uses, is patentable.

2. *Novelty.*—An invention is new in the meaning of the law if, at the time when it was fully conceived by the applicant for patent, it was not known or used in this country by any other person or persons, and was not patented in this or any foreign country, nor described in a printed publication in this or any foreign country. The fact of its being known or used *in secret* in this country, or of its being known or used either in secret or publicly in a foreign country, before his invention, will not deprive an applicant of the right to a patent. A foreign patent, to anticipate his invention, must have been issued and published prior to his complete conception of the invention. A foreign publication, to anticipate his invention, must have been published prior to such conception, and must have so fully and clearly described the invention as to enable a person skilled in the art to which it relates to make and use it without experimenting or inventing. A lost art re-discovered is considered a new invention.

3. *Public Use or Sale.*—An inventor may keep his invention secret for any number of years without forfeiting his right to a patent, unless some other person afterward invents the same thing, and, by first bringing it within the reach of the public and exercising superior diligence, acquires a better right to the patent. But after an inventor has put his invention into public use or on sale his time is limited; he must then apply for his patent within two years from the first use or sale. A mere experimental use in public is not a public use unless the experiment is successful and the use is continued practically. A single sale or practical or business use in public constitutes a public use. But a public use of which the inventor is utterly ignorant will not prejudice his rights.

4. *Abandonment.*—Public use or sale of the invention for more than two years, with the inventor's knowledge, constitutes an abandonment of the invention to the public. But there are other ways of abandoning an invention. An inventor may publicly state that he does not intend to patent his invention, and that he dedicates it freely to the public, or his actions may so indicate ; or he may become convinced that his invention is a failure or not worth patenting, and relinquish all effort and experiment. In the former case the invention becomes the absolute property of the public, but in the latter case he may afterward resume the invention, or another person may afterward invent it and patent it. An invention may also be abandoned to the public, after the grant of a patent, by some specific act of the patentee, showing his intention to give it to the public ; or part of an invention may be abandoned in procuring a patent, by showing it in the patent and disclaiming it, or failing to claim it or to describe it as new.

5. *The Application.*—In order to make an application for a patent, an inventor must petition the government for the grant of a patent to him, he must file in the Patent Office a specification fully describing his invention, and stating what he claims as new, he must make oath that the invention so described and claimed was invented by him, and that he believes it was before unknown, and he must pay to the Patent Office a fee of $15. If the invention is an article or machine, or anything that can be shown in a drawing, he must also file a suitable drawing, made after prescribed rules. The day when all these papers are received by the Patent Office is the date of filing the application. After being recorded, the papers are referred to one of the Examiners of the Patent Office, and applications

are acted upon by him in turn. There are twenty-four principal Examiners, each aided by two or more assistants and clerks, and each Examiner has charge of a different class of inventions. The Examiner causes a search to be made to ascertain whether the invention has been already patented, or described in a printed publication, or used in this country. If the whole invention, or any part of it that the applicant claims, is found to have been so patented, published or used, or if the application is not properly prepared, or is incomplete, the Examiner *rejects* it, and notifies the applicant of his reasons therefor. But if the papers are in correct form, and nothing is found to anticipate the invention, the Examiner *allows* the application.

Rejections.—When an application is rejected, the applicant (or his attorney) may amend the specification or claims, or he may argue that the Examiner has wrongly rejected the patent, or he may do both. In most cases previous patents are referred to by the Examiner, to show that some part of the invention is old, or that the applicant has claimed too much. In such case, if the Examiner is right, the applicant has to erase or amend the claim or claims. The application is then again examined, and may be again rejected, or it may be allowed. If twice rejected on the same grounds, the applicant must either acquiesce or appeal. But applications are frequently several times rejected, on various grounds.

Appeal.—From an adverse decision of the Examiner the applicant may appeal to the Board of Examiners-in-Chief, on payment of a fee of $10. This board consists of three members or judges. If their decision is adverse, a second appeal may be taken to the Commissioner of Patents in person, on payment of a fee of $20; and from his adverse decision a further appeal may be taken to the Supreme Court of the District of Columbia.

Allowance.—When the Examiner finds the application in proper form and the invention patentable, he sends the applicant a notice of allowance of the patent. The final government fee of $20 is then payable, or it may be paid any time within six months after that date.* If not paid within that time the application will lapse, but can be renewed any time within two years from the date of allowance. If not renewed within that time, the invention is forfeited.

Issue of Patent.—The patent is issued to the applicant in about three weeks after the fee is paid. Patents are issued and published every Tuesday, and they are dated and take effect from that day. The patent will be issued to an assignee if the assignment has been recorded before paying the final fee.

Term of Patent.—The patent will remain in force for 17 years from its date, unless the invention has previously been patented in a foreign country. In that case the patent must be limited to expire at the end of the term for which the foreign patent is granted; or, if there be more than one foreign patent, at the same time with the one having the shortest term. To enable the Patent Office to know whether to limit the term, the applicant is required to state, under oath, whether the invention has been patented abroad, and, if so, in what countries, giving the number and date of each patent.

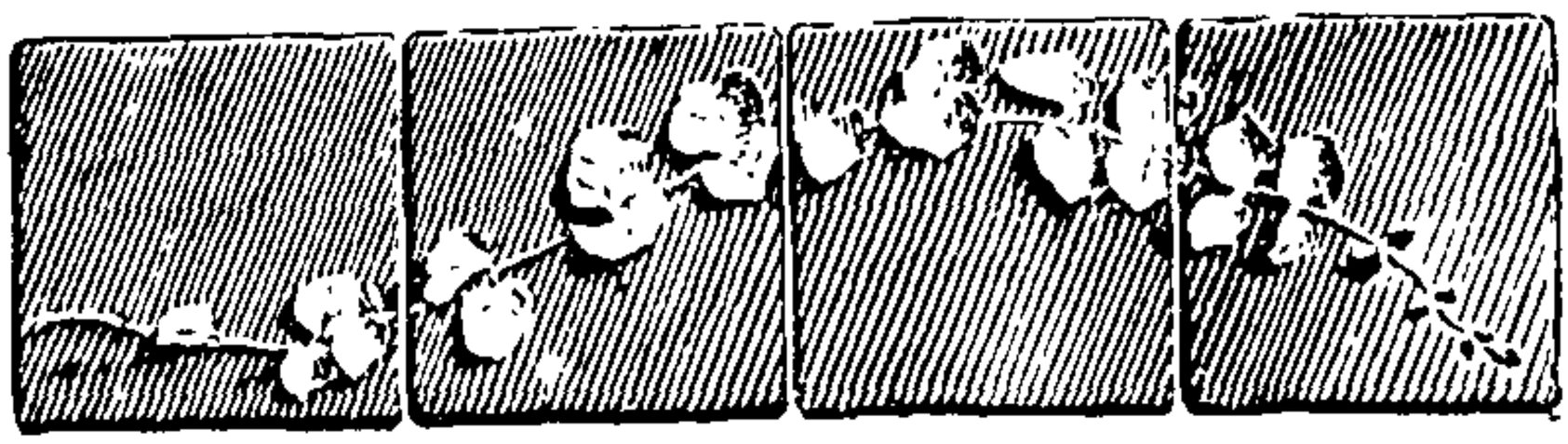
Assignments.—The inventor may assign his rights either before or after the issue of the patent. He may assign the *entire* interest or a *fractional* interest, as a half or a quarter share in the patent; or, he may assign a certain *territory*, as a State or a county. An assignment may be for the entire life of the patent, or for a less number of years. Assignments

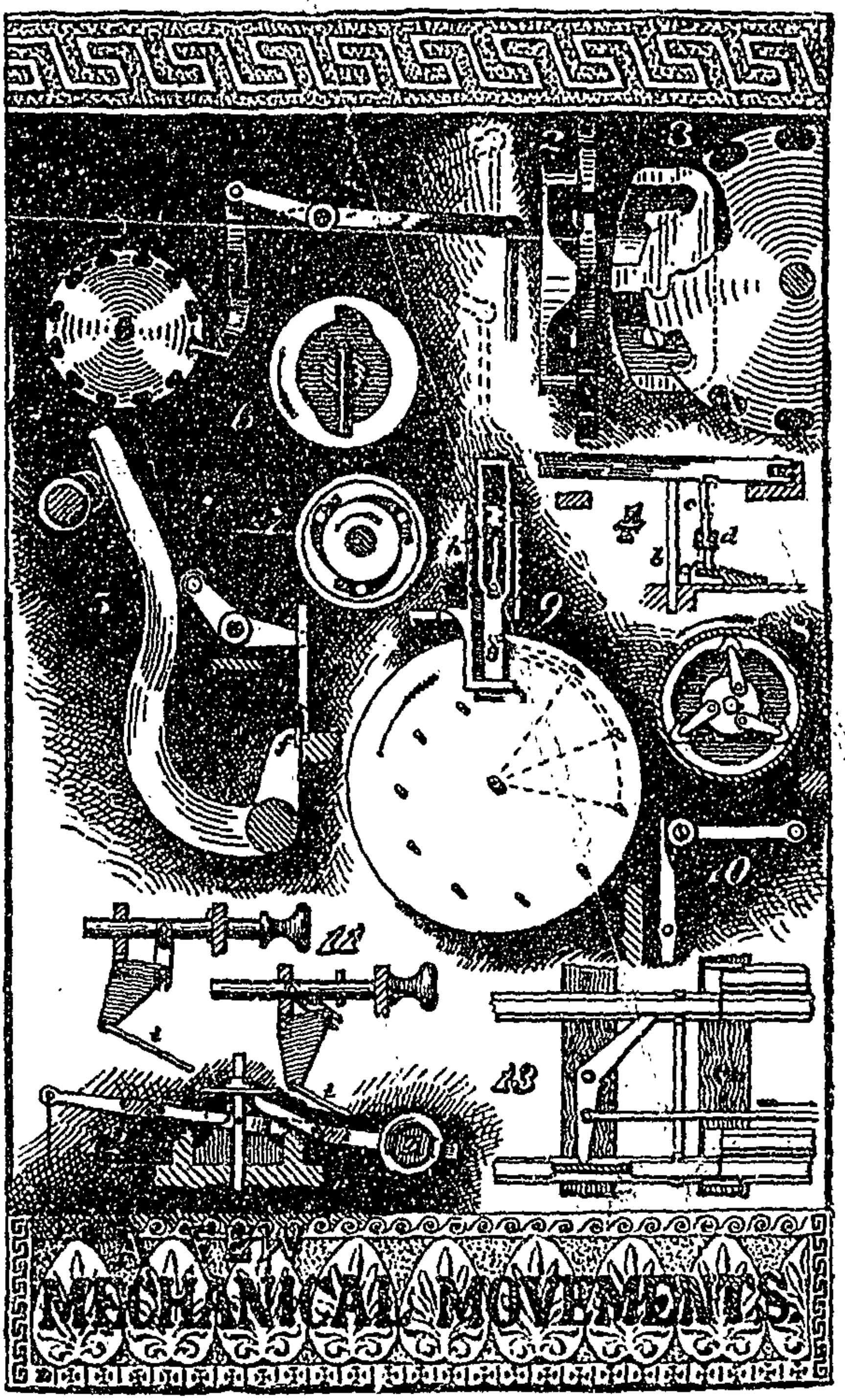
* During this six months is the proper time to apply for most foreign patents.

must be recorded in the Patent Office within three months after their date, or they will not be valid as against a subsequent purchaser of the same interest in good faith.

Licenses.—A patentee may license another person to exclusively make or use all that is covered in his patent, or a part thereof, or to use the invention for one special purpose, or to make and sell within a specified territory. Several different persons may be licensed to use the invention, each in a different trade, or for a different purpose. Or, a license may merely permit the licensee to manufacture and sell, without giving him the exclusive privilege. Licenses may be absolute, in consideration of a fixed sum paid the patentee at first; or, they may be conditional on the payment of royalties, or on other conditions. They may be given before or after issue of the patent, and either for its entire life, or for a shorter duration. A *shopright* is a non-exclusive license, to manufacture in a certain shop or factory.

[The remainder of this article, treating of Joint Owners, Marking Patented Articles, Infringement, Infringement Suits, Damages, Reissues, Disclaimers, etc., will appear in our next number.]




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PATENTS ON INVENTIONS.

NUMBER 4. DECEMBER, 1882. QUARTERLY.

A FEW MECHANICAL MOVEMENTS.

It is always interesting to an ingenious man to observe what devices have been resorted to by other ingenious men for the solution of mechanical problems. The mechanical movements depicted on the opposite page have, as we believe, never before been published. Some of our readers will recognize individual movements as of their own invention, as all have been selected from patents obtained by us on inventions of our clients.

Figures 1, 2 and 3 show a back-or-forth ratchet, designed for an automatic station-indicator. It gives a step-by-step rotation to the notched wheel, in one direction or the other, according as the lever is vibrated above or below the position shown. The tooth in Fig. 1, which enters the notches, is pressed into them by the spring *a*, and the arm on which it is mounted is a spring plate, which tends to press the tooth toward the observer, but when in the position shown is prevented from doing so by a cam-plate, which is omitted in this view, but shown in

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Figs. 2 and 3. Starting from the position shown in Fig. 1, the tooth, in moving either up or down, carries the wheel with it the distance from one notch to the next, and then springs sidewise into the groove in the plate. On returning it slides in this groove; is pressed away from the axis of the wheel by the inclined bottom of the groove, until it passes beyond the periphery of the wheel, and thereupon the inclined side of the groove, shown in Fig. 2, presses it back on to the periphery of the wheel, over which it rides until it reaches the next notch, which then stands in the middle, and into which it drops, thus resuming its first position.

Fig. 4 shows a throw-off movement used in some of the Estey organs. In addition to the usual "tracker-pin" *b* beneath the key, and which works the ordinary valve, there is another pin *c*, arranged to slide through a hole in an oscillating bar *d*, and to rest on the tail of a rocking lever or valve. When in the position shown in full lines, the depression of the key will open this valve; but when it is desired that the valve shall not be opened, the bar *d* is oscillated, by drawing a "stop," so as to bring the upper end of the pin *c* under the notch in the key.

Fig. 5 is a combined lever movement used in a horseshoe machine. The rotation of the cam-shaft above vibrates the large lever, and this acts upon the small lever, which is thrown back by the spring beneath it. The small lever forces down the sliding bar *e* with a quick motion, while the squeezing toe *f* moves to the right with a slower motion, and presses the hot iron against the anvil, only a fragment of the latter being shown. Thus two diverse movements at right-angles to each other are obtained from one cam.

Fig. 6 is a ratchet-catch for spring curtain-rollers. The spindle shown in section is stationary, and a spring coiled on it inside the roller tends to revolve

the latter in the direction of the arrow, and so roll up the shade, but is prevented by the loose vertical pin, which catches against the abrupt side of one of the two notches in the recess in the roller-end. When the shade is drawn down, the roller revolves backward freely, and when the shade is wound up rapidly, the notches pass beneath the pin too quickly for it to drop in, as it is thrown upward by the rising incline preceding each notch. But on winding up the shade slowly, the pin drops into a notch and stops the roller.

Fig. 7 is a friction-clutch, or substitute for a ratchet and pawl. The three balls are pressed into the wedge-shaped spaces by the springs behind them. On rotating the shaft in the direction of the arrow, the balls become wedged into these spaces, and the casing is compelled to rotate with the shaft, but, on turning the shaft backward, the balls are freed and the casing released.

Fig. 8 is another friction-clutch. When the shaft is turned in the direction of the arrow, the three toggle-arms straighten out and force the wedges between the segments of the rim, causing the latter to expand and bind against the casing, which thereupon revolves with the shaft.

Fig. 9 shows part of an ingenious electrical indicator. The wheel has numbers on its periphery, and is enclosed in a case (not shown) having an opening at the right large enough to show one number; but when the parts are in the position shown, only a blank space on the wheel is visible through the opening. There are eleven pins on the wheel, arranged on equidistant radii, but successively nearer the centre. An escapement-rack, with alternate 'scape-teeth, is arranged in front of the wheel, and is capable of descending in vertical guides. It bears a tooth *g* (shown by dotted lines) on its back side,

and when the rack is elevated, as shown, the first pin on the wheel (shown also by dotted lines) rests against this tooth, and the wheel, which tends to rotate in the direction of the arrow, is thus held stationary. The rack is upheld by its lowest 'scape-tooth resting on a pallet *h*, which is connected with the armature of an electro-magnet (not shown). When the pallet is vibrated to the left, the rack drops the space of one tooth ; the first pin on the wheel slips past the tooth *g*, and the wheel commences to revolve. If it is desired to display the first figure, no further movement takes place, and the second pin strikes the tooth *g*, and stops the wheel at that point ; but if some other figure is to be displayed, the pallet is made to vibrate rapidly a corresponding number of times; the rack descends a corresponding distance, so that the tooth *g* stops in the path of the pin corresponding to the desired figure ; and when that pin reaches this tooth, the wheel is stopped, with the desired figure at the opening. This device operates in practice with remarkable rapidity.

Fig. 10 shows a trip-lock—used in the indicator just described. The horizontal lever rests on a narrow ledge on the vertical lever, and a strong spring presses downwardly upon it. The vertical lever is pressed to the right by a weak spring, and when moved slightly to the left (by means not shown) the upper lever is no longer supported, and descends, its wheel rolling against the inclined surface on the vertical lever, and so pressing the latter forcibly to the left. On lifting the horizontal lever, the other will be released and will spring under, and again uphold it.

Fig. 11 shows an organ stop-action in both positions. A spring (not shown) pulls on the rod *i*, and so keeps the stop-pull in place when it has been

pressed back, but has no power to press it back when it is pulled out.

Fig. 12 shows a lever with two dogs or arms pivoted to it, and rocking alternately on fixed spurs beneath. The points of these spurs are at different distances from the centre, so that the free end of the left-hand dog is not thrown up as high as is that of the right-hand one. Consequently, the vertically-sliding rod is lifted higher when in the position shown, than when the lever is tilted to the opposite inclination by pulling down on the wire at the left. This is used to operate the valve of a flushing-tank, to obtain a short flush when the wire is pulled down, and a long flush when it is released.

Fig. 13 shows a cam-lever for operating a railway switch. By pulling the rod in the direction of the arrow, the switch is shifted to the other track. In either position one of the arms of the lever prevents the displacement of the switch, by standing at right angles to the rail and in the direction of its only possible motion.

A WARNING TO INVENTORS.

It has become our duty to again warn inventors in respect to the preparation of their specifications and claims. The text of our warning is the stand taken by the United States Supreme Court in the case of *Miller* vs. *The Bridgeport Brass Co.*, referred to in our first number.

This was a suit for infringement under a re-issued patent, and the Court, in its decision, which was in favor of the defendant, took occasion to announce its views respecting the statute authorizing re-issues, which views were widely different from those com-

monly held by solicitors and the Patent Office; at least the construction placed upon the statute by the court differs very much from the construction that would be inferred from the former practice of the Patent Office in granting re-issues. Formerly the office only required from an applicant for re-issue that he should introduce no new matter into the amended specification; that he should make oath that the error he sought to correct occurred from inadvertence, accident, or mistake; and that his intentions were not fraudulent or deceptive. It was immaterial how long a time had elapsed since the grant of the original patent, or what vested interests the re-issued patent would interfere with. It was held, in a general way, that what the applicant was entitled to claim, but failed to claim, in his original patent, he could cover in his re-issue by enlarging his claims; and little or no inquiry was made as to the manner in which the "accident or mistake" occurred by which the original patent was limited, or rendered "inoperative or invalid." Under this practice a patent which had been butchered and rendered worthless through the ignorance or incompetence of the person who prepared the application might, in the hands of a skillful solicitor, be re-issued to cover all that should have been covered in the original patent. Thus, when an inventor had obtained a worthless, emasculated patent, through patronizing an incompetent solicitor—generally of the "no patent no pay" kind—his rights were not deemed entirely forfeited, but by paying for the work over again he could have a re-issue which would set him right.

There is little doubt, however, that this practice was contrary to the spirit, and even the letter, of the statute. At any rate, the decision of the Supreme Court before mentioned—which will doubtless

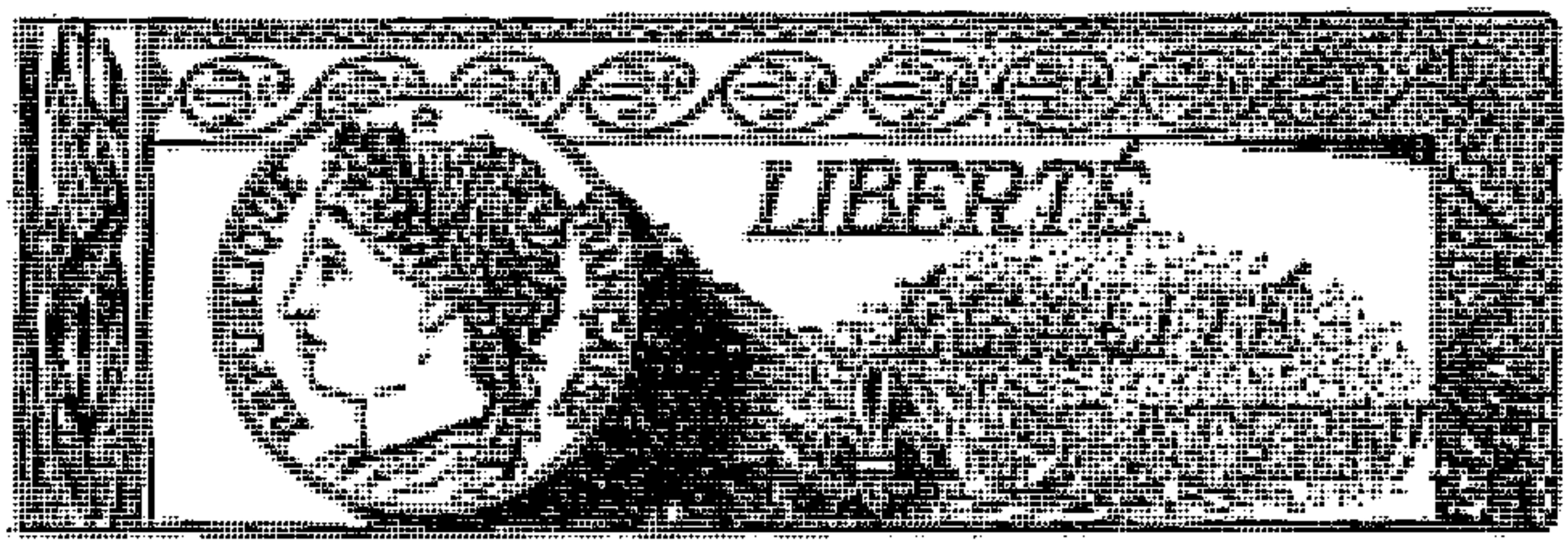
serve as a precedent and guide for the lower courts and the Patent Office—construes the statute so adversely to the grant of re-issued patents that these will, in the future, be the exceptions and not the rule.

Briefly, the court holds that to be valid a re-issue must be applied for within a reasonable time after the issue of the original patent. No time is fixed wherein the application must be made, but the language of the decision seems to imply that when the error sought to be corrected is palpable, and to be seen on first reading the patent, then the application for the re-issue must be made at once. The court also holds that the error in the original patent which the applicant seeks to correct by re-issue, must be such as would render the patent inoperative or invalid, and there must be proof that this error was brought about by a *bona-fide* mistake, accident, or inadvertence, and did not arise from error of judgment, ignorance, or incompetence. If an applicant for an original patent fails, through ignorance or incompetence, either on his part or that of his attorney, to claim all that he shows in his application, and that he is entitled to claim, he thereby abandons that much of his invention to the public, and may not thereafter claim it, either in a re-issue or in a new application. In view of this it is easy to understand that the specification and claims in an application for patent should be drawn with scrupulous care, and with the skill that comes of long experience in the preparation of such papers. Few inventors have this skill and experience, and few are well enough versed in the technicalities of claims to know, even when they read them, how much of the invention they cover. This must, of necessity, be left almost entirely to the solicitor. If he fails in his work, through ignorance or neglect, the inventor

must inevitably suffer. It follows, then, that the inventor who seeks a patent that will fully cover the invention and protect him in all his rights, will, if he is wise, seek the services of a competent, faithful, and honest solicitor; one who knows how to perform his difficult duty, who will perform it well, and who will be frank enough to tell his client just what his patent covers and what it does not. Such a man the inventor will have to pay well for his services; more, perhaps, than he would to others; but in this case the best is the cheapest. There are hungry attorneys who, without a single qualification that a patent solicitor should have, secure business by extensive advertising and offers to procure a patent for very little money. It is this class which is mainly responsible for the thousands of worthless patents now in existence, and which, under the new rulings of the court, can rarely be put into better shape by re-issue.

It has been said that less than fifty per cent. of the applications filed in the Patent Office are well drawn, and that at least twenty-five per cent. are so badly prepared as to be worthless. Yet these worthless papers have been prepared by paid attorneys, most of whom, probably, expect to receive a contingent fee also when they have secured for the inventor a worthless patent on their badly prepared papers.

Many inventors, we are glad to say, do not need this warning, as they are sufficiently familiar with the procuring of patents to know the value of a skillful solicitor; and we hope that many of those who are less experienced in patent matters will be able to see in which direction true economy lies, without waiting to be taught the lesson by the troubles that will surely come with a worthless or defective patent.



PATENTS IN FRANCE.

French patents cover not only the territory of France, but also all the colonies. France alone covers an area of 204,177 square miles, and had in 1876 a population of 36,905,788. The colonies have a total area of 335,629 square miles, and a total population of about 3,000,000 souls. The most important colonies are the West Indian islands of Guadaloupe and Martinique.

The foreign commerce of France is more than one-third greater than that of the United States, and a much larger proportion of it is carried in native ships than is that of the United States. Her exports in 1880 were nearly three-fourths the value of our own, while her imports in that year exceeded ours by nearly one-half. France exported manufactures in 1880 of the value of $357,000,000 in addition to what she retained for her own consumption. Her commerce is chiefly with Great Britain, Belgium, Germany and Italy, and her principal exports are silk, woolen and leather goods, sugar, wine, spirits, and agricultural products. The commerce of France with Great Britain is more than double that with Belgium, the country next in order. The annual coal production of France is about one-third that of

the United States, and her iron production is about one-fourth. There are about 15,000 miles of railways in operation in France.

For many inventions France is a valuable country in which to obtain patents. This is especially the case with inventions pertaining to textile manufactures, electricity, agriculture and various kinds of fancy goods. There are indeed few inventions, of value in America, that cannot be made profitable in France, if properly patented there, and if reasonable efforts are made to introduce them. Next to Canada and Great Britain, France is the country most frequently selected by American inventors in which to patent their inventions.

French patents are granted under the law of 1844, which, although not as advanced and liberal in its provisions as are the United States and Canadian laws, nevertheless affords perfect protection to inventors who comply with its requirements. The patent is granted to whoever applies for it, without examination; it being left for the courts to determine its validity and the rights of the patentee. Any person not the inventor can lawfully obtain the patent if he has the inventor's sanction. In such case he should previously secure the inventor's consent in writing, for use in case his right to the patent is ever questioned. Medical preparations and financial schemes are not patentable. In other respects the rules determining the patentability of new inventions are nearly the same as in most other countries. An invention is not considered new if it has been made public, either in France or elsewhere, in such a way as to enable it to be worked, before the application for the patent is filed. The issue of a foreign patent on the invention is held to be such a publication; so also is the placing of the invention on the market, or exhibiting it to the public, or to

those engaged in the trade to which it relates, except when secrecy is enjoined; and its illustration or sufficient description in a newspaper or book, or in a circular issued to the trade or the public. Hence it is of the utmost importance to an American inventor who wishes to patent his invention in France, that he shall not give it publicity in any way until the necessary papers have been filed in the French office. To accomplish this, he must defer paying the final fee on his United States patent until after he has instructed his solicitor to procure the French patent, and he must postpone placing the invention on the market, or advertising or exhibiting it, until such time has elapsed as will suffice to file the application in France, which is usually about three weeks after the papers are mailed.

The papers necessary in applying for a French patent are a petition, specification, drawing or specimen, and memorandum. Usually the applicant appoints an attorney, in which case he executes only the power of attorney himself, leaving the attorney to sign the other papers. The first installment of the government tax is paid, and the receipt therefor and the application papers are filed with the Secretary of the Prefecture in the proper department, and are forwarded thence to the Minister of Agriculture and Commerce, where they are registered and examined. The novelty of the invention is not considered, the patent being granted as a matter of course, unless the papers are informal, or the invention not of a patentable character. The certificate is duly issued, and the patent dates from the original filing of the papers. The duration of the patent is either 5, 10 or 15 years, at the applicant's option, 15 years being the usual term; but if the invention has been already patented abroad, the French

patent will not remain in force after the expiration of any of the foreign patents.

The patent is granted upon these three conditions: (1) The patentee shall pay a tax of 100 francs to the government each year, before the anniversary of the date of the patent; (2) he shall work the invention in France within two years after the issue of the patent, and not suspend its working for more than two consecutive years, unless in either case he can justify his inaction; and (3) he shall not import into France objects manufactured abroad and which are similar to what he has patented, except that on special permit he may import a single specimen or model. The conditions of working and non-importation were probably designed to compel the patentee to establish the manufacture of the invention in France if he would render his patent profitable, the object being to stimulate French industries; but this result is not attained to any considerable extent, because of the leniency of the courts in construing the law, and the ease with which its requirements can be evaded by those patentees who wish to preserve their patents but are not ready to operate them. The tenor of the judicial interpretation of the section of the law requiring working may be understood from the following extracts from the works of eminent French legal writers:

"The courts will consider, according to circumstances, whether it has been worked or not; whether or not the working has been interrupted, and if the reasons for not working are sufficiently justified."

"The spirit of the law is indubitable. It intends to punish only voluntary, premeditated and calculated inactivity."

"The voidance prescribed by paragraph 2 of article 32 [*requiring working*], touches only voluntary inactivity. The law aims to punish for inaction only the one who has willingly remained idle. It would have been really too unjust to apply the penalty to one who has abstained on account of circumstances independent of his will."

The patent remains presumptively valid until an

attempt is made to overthrow it because of non-working, and it is then obligatory on the patentee to prove to what extent he has worked the invention, or, if he has not worked it, to explain his default as best he can. There are no fixed requisites for working, as this depends entirely on the character of the invention, and the circumstances under which the patentee is placed. Each case is decided by the courts on its own merits, and any mitigating circumstances tending to excuse or explain an insufficient working, or a failure to work within the prescribed time, are given their due weight.

We recommend our clients who procure French patents to have at least one machine or article constructed in France within the first two years, and applied on at least one occasion to the use for which it is intended. It is best that this be done in a public manner; and some witness should make an affidavit of the facts at the time, for use in case it ever becomes necessary to prove the working. Within two years thereafter, and at the end of each interval of nearly two years, the same operation should be repeated, although in the case of a productive machine it would probably be sufficient to operate the same machine again for a short time, in order to turn out a few finished specimens of its product. Less than what we recommend would in many instances be accepted as sufficient, but whenever the patentee is able to do this much it would not be entirely safe to do less. It is not sufficient to take the parts of the thing to France, and put them together there; the entire structure must be made in France.

As regards the unauthorized importation of the invention, one of the writers before quoted says:

"The judicial authority . . . . . refused to apply the penalty of forfeiture when the importation, although unauthorized, was not in its nature capable of damaging national industry."

"It is proper to decide to-day, as was decided by the courts of Douai and Paris in 1846 and 1855. The importation of a few specimens of the articles, or the importation of machines, having no other object in view than to find either partners or licensees for the invention, should not be considered a violation of the prohibition of the law."

Nevertheless, as the official license to import can be procured for about five dollars, we would not advise importing without it except in case of such urgency that the official delay would be disastrous.

Before the assignment of a French patent can be recorded, all the annuities for the unexpired portion of the term must first be paid. This remarkable provision, not found in any other patent law, is habitually evaded by giving instead an absolute exclusive license, with power to sub-license, which answers nearly all practical purposes.

If the patentee or his assignee (not licensee) invents an improvement, he may cover it by a "patent of addition," which forms then a part of the original patent, and benefits the other co-owners equally with the one patenting it. Such a patent has the advantage that there are no annual taxes to be paid on it, and the disadvantage that it is extinguished by the expiration or forfeiture of the original. Instead of being so protected, the improvement may be patented independently.

The infringement of a patent is a penal offense, punishable on the first occasion by a fine, and on its repetition by imprisonment. The counterfeit goods can be seized and delivered to the patentee, and he may also recover damages.

Whoever, having no patent, or after his patent has expired, announces himself as patentee by marking his goods "patented," or otherwise, or who, being a patentee, fails to add the words "Sans garantie du Gouvernement" (without government guaranty), renders himself liable to a fine.

A French patent usually costs an American in-

ventor from seventy-five to one hundred dollars, and the annual taxes usually amount to about twenty-seven dollars each year. This makes the average yearly cost about thirty-three dollars, as compared to seventy-five dollars for a British patent. The cost is somewhat reduced by paying several annuities together. In most cases when the invention is of any practical value, the American patentee succeeds in disposing of his French and other foreign patents in the course of the first two or three years, so that the expense of maintaining them subsequently falls on the buyer. It should be remembered that in taking foreign patents, whatever price can be procured for them in excess of their cost is clear gain to the inventor.

THE DURATION OF UNITED STATES PATENTS.

III.

In the previous article we have considered the character and extent of the limitation of the term of patents granted for inventions previously patented abroad, and the effect of the limitation not being expressed in the face of the letters patent. It now remains for us to consider what patents are subject to such limitation.

As we have already said, there is no doubt but that patents *granted* before the issue of any foreign patent on the same invention, are not limited in their term, but endure for the full 17 years. On the other hand, there is no doubt that a patent will be limited in its term whenever the same invention was patented in some foreign country before the patent

here was *applied for*. But until quite recently the profession has been in doubt as to whether the duration of a patent was limited in case the invention was patented abroad during the interval occurring after the filing of the application and before the issue of the patent. This doubt has now been set at rest by a decision of Judge Nixon,* rendered in August last, to the effect that a foreign patent granted after the filing of the application for and before the grant of the United States patent, will limit the term of the latter. In short, that the expression in the law, "*previously* patented in a foreign country," means so patented previously to the grant of the United States patent, and not previously to the filing of the application. This decision supersedes and sets aside the decision of Commissioner Paine, referred to in our first article on this subject, page 11.†

It is perhaps needless to say that this decision fixes the law in this respect so long as it stands unreversed by the Supreme Court, but we are impelled to observe, with all deference to the well-known ability and erudition of the learned Judge who rendered it, that its correctness seems open to grave criticism. Certainly in the case before him it works great hardship. The plaintiff was owner of a patent which was applied for Dec. 1, 1876, and granted Nov. 20, 1877; during this interval he applied for and was granted a Canadian patent for 5 years, which term expired Jan. 11, 1882. According to this decision his United States patent expired on the latter date, although the Canadian patent, having been extended in 1881, is still in force. The Patent Office did not require the applicant to give it information regarding any foreign patents he might

* *Bate Refrigerating Co.* vs. *Gillett*, 22 O. G., 1207.
† *Ex parte Mann*, 17 O. G., 330.

have obtained in the interval while his application was pending; there was no official rule which he failed to obey; there was only this vague and ambiguous provision in the law, which at that time the profession almost unanimously believed to have no bearing on such cases, and yet this patentee is punished by having the term of his protection, on an invention valuable enough to have been infringed, curtailed to less than five years. Much of this injustice is certainly due to the law itself, but is not some of it due to the construction put upon the law by this decision? And could not the decision have construed the law more liberally to inventors without departing either from the literal meaning of its language or its obvious intent? Could the makers of the law have intended to curtail the term of any patent that was applied for before the invention was patented abroad? We think it unreasonable to suppose that Congress could have intended any such injustice, and we are unable to perceive that their language is conclusive that they did intend it. The whole question hinges on the meaning of the word "previously," and this word stands quite alone, the immediate context affording no clue to its meaning. Judge Nixon construes the law as though it had been worded—

> Every patent granted for an invention which has been, previously *to such grant*, patented in a foreign country, etc.

And he says that it would seem "to be wresting the language of the section from its plain and obvious meaning," to interpret it as though it had been written thus:

> Every patent granted for an invention which has been, previously *to the application therefor*, patented in a foreign country, etc.

We are unable to see that the statute as it stands has any plain and obvious meaning; it seems to us

that it is susceptible of a double meaning; that consequently it was clearly within the option of the court to choose whichever meaning seemed most compatible with the exercise of right reason; and that that meaning should have been selected which would work the lesser injustice and render the law the more possible of execution. The court did not consider the effect of the application of this doctrine in the practice of the Patent Office, and perhaps was not informed of the impossibility in certain cases of executing it. The Office can compel an applicant to inform it what foreign patents he had obtained at the time of the filing of his application, because during the pendency of his application that is a time past; but he cannot inform the Office what patents will have been granted him by the time his United States patent is issued, because that is a time future. How, then, is the Patent Office to execute the law, and limit the patent, in the case of a foreign patent granted after the payment by the applicant of his final fee, and before the issue of his patent, an interval of about three weeks? It cannot do it. To execute the law, as now construed, in all cases, is a physical impossibility.

Judge Nixon says, "We are at a loss to understand what the time of filing the application has to do with the matter." It has at least this to do with it, that it is the only step in the obtaining of the patent that is fully within the control of the applicant. If there is a delay in the filing of the application, the applicant may justly be charged with it, for it is the fault of either himself or his agent. But the issue of his patent may be delayed by a variety of causes, not in any sense his fault or that of his agent; they may be wholly the fault of the government, or the result of circumstances the fault of neither party. It must be remembered that this

provision of the law is constructively *penal*, and the law should not be so construed as to punish a man for a default over which he has no necessary control, and over which in many cases he has absolutely no control, if its language admits of any other construction. In view of these considerations we cannot but incline to the belief that this decision will be reversed by the Supreme Court.

We would summarize the present condition of the law as follows, bearing in mind that it applies only to patents granted since July 8, 1870.

1. Every valid patent granted for an invention which has not been patented in any foreign country with the patentee's knowledge or consent, will endure for seventeen years.

2. If the invention has been patented in a foreign country with the patentee's knowledge or consent, but not until after the date of the United States patent, the latter will still endure for 17 years.

3. But if the invention was patented abroad before the application for the United States patent was filed, it is certain that the term of the patent will be limited.

4. And it has been decided that it will be likewise limited if the invention was patented abroad after the application for the United States patent was filed, and before the patent was granted. [But there is a fair possibility that this doctrine will be reversed by the Supreme Court.]

5. And if the invention was "previously patented" abroad, and the patent (having been granted since June 22, 1874), has upon its face no limitation of its term, it has been decided (though not conclusively) that the patent was void from the beginning. [There is a strong probability that this doctrine will be reversed by the Supreme Court.]

6. It has been decided that a patent that is limited

in its term by a previous foreign patent, will expire at the end of the *term* for which such foreign patent was granted, at the time the United States patent was granted.

7. If the term of the foreign patent is extended after the date of the United States patent, it has been decided that such extension will not prolong the limited term of the latter, even though such extension be a matter of right and not of favor (such as the extension of a Canadian, Austrian or Italian patent).

8. If the previous foreign patent which limits the term of the United States patent lapses because of non-working, or non-payment of taxes, its lapse will not affect the term of the latter patent.

9. If there be more than one previous foreign patent, only the one having the shortest term will have effect to limit the term of the United States patent; the others need not be considered.

10. An invention is "*patented* in a foreign country" (in our opinion) when the foreign patent begins to take effect to protect the patentee from infringement. It is so patented in Great Britain when the patent there is sealed; in France, Belgium, Germany, Austria, Italy or Spain, when the patent in either of these countries is signed, or sealed and issued. [We believe that the decision in *De Florez* vs. *Raynolds*,* is not conclusive against this view, because it contradicts itself, and because it was not rendered under the present law.]

We must already have said enough, incidentally, to show the gross injustice of this obnoxious provision of our law, even if given the most liberal interpretation possible. Nearly every invention of any value that has been patented here, has also been

* Referred to on pages 66 and 70 of No. 3.

patented abroad, and in a large proportion of cases the foreign patents antedate the United States patents. All such patents are now involved in doubt, and many are so discredited that it is impossible to place them to any advantage, for no manufacturer is willing to buy a patent that may have already expired, or, if not, the duration of which is doubtful. It is worthy of note that unimportant inventions, which are rarely patented abroad, are protected for 17 years; but many inventions of real value and importance are protected for an uncertain term, which may be one year, or five years, or fifteen years, or other term, according to circumstances.

Why should the law punish an inventor for patenting his invention abroad? The only reason we know of is that the laws of all other countries do the same. Foreigners have no right to complain of this feature of our law, for their own laws are just as bad, although more liberally construed. But our own citizens, and especially inventors and manufacturers, should join in an earnest effort to induce Congress to repeal this obnoxious provision. That would correct the injustice for the future: but they should do more. Provision should be made to correct the injustice done in the past, and being done now in each week's issue of patents. The cloud should be lifted from patents already granted which come under this section of the law. As to how this can best be done with due regard to the rights and convenience of the public, is a delicate and difficult question, deserving the grave and careful consideration of our legislators and of the patent profession.

THE UNITED STATES PATENT LAW.

[Continued from page 80.]

Joint Owners.—Joint inventors are joint owners of the patent, the same as joint assignees. Unless there be some proof to the contrary, joint owners are assumed to be equal owners. Either can manufacture, use and sell without accounting to the others ; can grant a non-exclusive license under the patent, and can assign his interest independently of his co-owners. But damages recovered for infringement must be divided between the co-owners in the proportions of their respective interests.

Marking Patented Articles.—Every article made under a patent must be marked "Patented," with the date of the patent, or, if the character of the article renders this impracticable, the wrapper, package or label must be so marked. The penalty for failure to mark is that no damages can be recovered for any infringement except those committed after the infringer has been specially notified of the existence of the patent. Every person who imitates a patentee's mark, or who marks "Patented," or other word of like import, on any article on which he has no patent, with intent to deceive the public, is liable to a penalty of $100 for each offense.

Infringement.—Any one who, without the consent of the patentee, either makes, uses, or sells a patented article or machine, or operates a patented process, is an infringer. The unauthorized manufacture, sale or use of an article different from that covered by the patent, is an infringement if it is a copy of the patentee's article in any *essential* respect, as defined by the claims in the patent. A difference only in proportion, appearance, or degree,

that does not materially change the function, capabilities or result of the patented machine or article, is an infringement. The alleged infringement may be a better and more perfect machine or article than that covered by the patent, but if it embodies the material portion of the patentee's invention, it is none the less an infringement for being also an improvement. The fact that the infringer is working under a patent for an improvement, does not relieve him of the charge of infringement. A patent protects a man in the new thing or feature that he has invented, but it does not give him any right to appropriate the invention of another patentee. On the other hand, the new article or machine may produce a result so much better than, and so different from that of the patented article or machine, as to raise a presumption that it is not an infringement of the patent. It is not an infringement if its construction or mechanism is materially different from that disclosed in the patent, and it produces a different effect (an effect differing in kind, not necessarily in degree), so that it bears no evidence of the patentee's novel ideas having been availed of in its production. The substitution of a mechanical equivalent for one of the parts or elements in the patent is not sufficient change to avoid infringement. The mechanical equivalent of a part is something that is known to have the same function or to effect the same result in substantially the same way. Thus a weight may be the mechanical equivalent of a spring, a wedge of a screw, a rope or rod of a chain, or one variety of gearing of another. Where a patent is for a new combination of parts, a machine omitting any of those parts and not substituting equivalents for them is not an infringement. If the patent is for a machine or a process only, the sale or use of the product is no infringement. An innocent in-

fringer is none the less an infringer because of his innocence. The government has no right to use an invention without the patentee's consent.

Infringement Suits.—Suits for infringement are brought in the U. S. Circuit Courts, with right of appeal to the Supreme Court. The patentee may apply to the court in equity to enjoin the infringer from further infringing, or he may bring an action in law to recover damages. In either case the defendant may claim that the patent is void, or that he is not infringing it. When an equity suit is decided in favor of the plaintiff, a decree is rendered forbidding the defendant to infringe in future, and an accounting is ordered to ascertain the amount of damages which the plaintiff is entitled to recover.

Damages.—In a suit at law the plaintiff may recover only damages; in equity he is entitled to recover the profits made by the defendant in addition to the damages. The law allows the court to enter judgment for three times the amount of the actual damages. Profits are the gains the defendant has made by the unlawful use of the patented invention; damages are the loss the plaintiff has sustained by the infringement. If a license fee has been established, that will be the measure of damages for the infringement. Where the patent is for an improvement, the damage is that sustained by the use of the improvement alone, and not by the use of the entire machine. If the defendant can prove that improvements which he had added to the patented invention contributed to the profit, the portion of the profit due to such improvements must be deducted from the total profit.

Disclaimers.—There are two kinds of disclaimers. (1). A clause or statement in the specification of a patent to the effect that a certain thing or feature is old, or not the invention of the patentee, is so called. If

such a statement has been erroneously inserted in a patent, it should be corrected by a prompt re-issue of the patent. (2). When a patent is found to be too broad, or to claim more than the inventor was entitled to, it should be limited either by filing a *disclaimer* or by applying for a *re-issue*. The former remedy is to be applied when the patent can be corrected by simply erasing a certain claim, or a certain clause in the specification; the latter when the specification or claims require to be rewritten in any part. If neither remedy is applied, the patent will remain valid in part only, and in any suit for infringement of that part the plaintiff cannot recover costs.

Re-issues.—A re-issue is a new and corrected patent, issued in place of a defective one which has been surrendered to the government. The corrected patent is issued only for the remainder of the original term, and does not extend the duration of the protection. A valid re-issue can only be obtained when the patent is either "inoperative or invalid," and that because of "a defective or insufficient specification," or because the inventor has claimed more than he was entitled to. The error must be proved to have occurred "by inadvertence, accident or mistake," and without fraud or deceit. The re-issue takes effect from its date, and covers only those infringements occurring thereafter. Re-issues have formerly been commonly sought in order to broaden patents that were erroneously limited; but a late decision of the Supreme Court has greatly modified this practice.* Now such a re-issue must be applied for without unreasonable delay after the limitation is discovered. If the defect is obvious, it is presumed that the patentee will discover it immediately, and the patent must be promptly returned for re-issue.

* See article, "Re-issued Paents," in No. 1, page 5.

Extensions.—Since March 2, 1861, all patents have been granted for 17 years, and cannot be extended except by special act of Congress. Such acts are very rarely passed, as Congress is in general averse to prolonging patents.

Interferences.—An Interference is a proceeding instituted by the Patent Office to determine which of two or more rival inventors of the same thing is entitled to the patent. An Interference is declared when two or more applications for a patent on the same invention are pending at the same time, or when an application is rejected on an unexpired patent, and the applicant shows that he made the invention before the patentee's application was filed. Each contestant is permitted to take testimony to prove when he made the invention, and the patent is generally given to the first inventor. But if a foreigner be a party, he cannot establish an earlier date for his invention than the date of his earliest foreign patent, or of a printed publication describing his invention, or of the arrival of the invention in this country. If any party takes no testimony, he is assumed to have made the invention on the day he filed his application, and if neither party takes testimony, the patent is given to the first applicant. The first inventor is he who first *conceived* of the invention, if he has used reasonable diligence in reducing it to practice. An invention is "reduced to practice" when it is first practically used; or when, in some instances, it is so embodied in an operative machine as to be capable of practical use, though not actually so used. The inventor first to conceive the invention, and first to reduce it to practice, is necessarily the first inventor. The only doubt arises when the one last to conceive is the first to reduce to practice; in such case, if the one who first conceived the invention did not forfeit his right by un-

reasonable delay in reducing to practice, he is entitled to the patent, notwithstanding the prior reduction by his competitor..

Interferences are first decided by the Examiner of Interferences; from his decision an appeal may be taken to the board of Examiners-in-Chief, and from them to the Commissioner, whose decision is final.

Caveats.—A Caveat is a notice given to the Patent Office that the caveator claims a certain invention as his own, in order to prevent a patent being granted for it without his knowledge to any other person who applies for it within the following year. A specification, drawing and oath have to be filed, and a fee of $10 paid to the government. If any one applies for a patent during the year, the caveator is notified, and the application is suspended for three months, during which time the caveator should file his application for patent, whereupon the two applications will be placed in interference, to ascertain which party is entitled to the patent. Caveats are rarely useful except when an invention is incomplete, and the inventor wishes to gain time to perfect it or make experiments. When an invention is already completed it is usually best to apply at once for the patent. A caveat may be continued from year to year by paying the $10 fee at the expiration of each year. Only a citizen or resident alien intending citizenship can file a caveat.

Design Patents.—Any new and original design, ornament or pattern to be placed on or worked into any article of manufacture, or any ornamental shape or configuration for any manufactured article, can be protected by a Design Patent.

The application should be filed before the design is made public or placed on the market. The patent is granted for either 3½, 7 or 14 years, at the option of the applicant, the government fees for the

respective terms being $10, $15 or $30. Design patents are granted chiefly for carpets, jewelry, furniture, stoves, printing types and fancy articles.

DECISION RESPECTING LABELS.

In a recently published decision of the Supreme Court of the District of Columbia in the case of *The United States, ex rel. The Wilcox & Gibbs Sewing Machine Company* vs. *E. M. Marble*, the Court held that the several acts of Congress authorizing the registration of prints designed to be used as labels do not exclude from registration a label containing matter which might be registered as a trade-mark; nor does the fact that a label bears such distinguishing marks as entitle it to registration as a trade-mark exclude it from registration as a label if the owner desires it to be registered as such. Whether the Commissioner of Patents is to regard it as one or the other depends wholly upon the will or choice of the owner.

This was an application for *mandamus* against the Commissioner of Patents to compel him to register as a label a label containing matter that might have been registered as a Trade-Mark.

The practice of the Patent Office heretofore has been to refuse registration to a label *as a label* if it contained matter which was registrable *as a trade-mark*, unless such matter had been previously registered as a trade-mark. The present decision leaves it optional with the applicant whether he will register as a label or trade-mark. It must be understood, however, that the decision does not in any way affect the force of the registration; the registration

of a trade-mark *as a label* does not give the mark the effect of a registered trade-mark, but only the effect of a label. The scope of the label, so far as the matter that may be embodied in it is concerned, is greatly extended by the decision, however, and many will doubtless take advantage of the law who were before unable to comply either with the provisions of this statute, as construed by the Patent Office, or with those of the trade-mark statute.

FOREIGN TRADE-MARK LAWS.

II.—CANADA.

The statute relating to trade-marks now in force in Canada is entitled "The Trade-Mark and Design Act of 1879," and was assented to May 15, 1879.

Any proprietor of a trade-mark may register the same by complying with the provisions of the act. This applies to aliens as well as Canadian subjects.

The Minister of Agriculture may refuse to register a trade-mark presented for that purpose: 1. If the trade-mark is identical with, or resembles a mark already registered. 2. If the trade-mark presented is calculated to mislead or deceive the public. 3. If the mark contains a scandalous or immoral figure. 4. If it does not contain the essentials of a trade-mark, properly speaking.

All "marks, names, brands, labels, packages, or other business devices, which may be adopted by any person in his trade, business, occupation, or calling, for the purpose of distinguishing any manufacture, product, or article of any description by him manufactured, produced, compounded, packed, or offered for sale, no matter how applied," are considered as trade-marks and are registrable as such.

Timber or lumber upon which labor has been expended by a person in his trade or calling is deemed a manufacture, product or article within the meaning of this statute.

Trade-marks are of two kinds, *General* and *Specific*. A *General* trade-mark "endures without limitation." A *Specific* trade-mark endures for twenty-five years, but may be extended indefinitely. The proprietor of a trade-mark must state, in his application, whether he wishes it registered as a *General* or *Specific* mark.

A *General* trade-mark may be employed to mark all of the various articles dealt in by the proprietor.

A *Specific* trade-mark may be applied only to "a class of merchandise of a particular description."

Any registrant may have his trade-mark canceled by making a proper request for the same.

A trade-mark is assignable in law, and the assignment should be registered.

The Minister of Agriculture may institute an investigation, should an application be made for the registration of a mark which has already been registered, and if he should be satisfied that the prior registration was an error, he may cancel it and register the mark of the later applicant.

For a willful infringement of a registered trade-mark the infringer of the mark may be fined for each offense, not less than twenty nor more than one hundred dollars, the fine to go to the proprietor of the mark infringed, together with the costs of enforcing and recovering same. All complaints must, however, be made by the proprietor or some one acting in his behalf.

The usual cost of registering a trade-mark in Canada is forty-five dollars for a *General* mark and forty dollars for a *Special* mark.

PATENTS ON INVENTIONS.

NUMBER 5. MARCH, 1883. QUARTERLY.

PATENTS IN GERMANY.

Twenty-six German kingdoms, principalities, grand-duchies, duchies, and free-towns, including the Reichsland of Alsace-Lorraine, were consolidated, on April 16, 1871, under the name and title of the German Empire. Previous to this, nearly all of these several states had patent laws, but the territory covered by each was so small, and the cost of procuring a patent so great, in some cases even exceeding the cost of a British patent, that few inventors cared to avail themselves of the privilege. Prussia, by far the most important individual state, granted a few patents, but her law, or the practice under it, was very illiberal, especially to foreign applicants. Six years after the erection of the German Empire, a new patent law was decreed, which extends throughout the entire confederation, and is quite fair and just in most of its provisions.

The German Empire covers an area of 212,091 square miles, and in 1880 it had a population of 45,238,829, being about equal in area to France, but ex-

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ceeding the latter country in population by 8,000,000. In 1880 the exports from Germany into Great Britain alone amounted to over £24,000,000, and its merchant marine numbered 4,777 vessels, with an aggregate tonnage of 1,171,286. In 1881 the Empire had in operation 21,000 miles of railways and 135,000 miles of telegraph wires. In 1878 there were mined in the Empire 2,300,000 tons of iron, zinc, lead and copper, and 50,000,000 tons of coal. We have no complete statistics of the manufactures of the Empire, but in 1878 Prussia alone had more than 100,000 men employed in the smelting works and foundries of that kingdom.

These statistics will convey some idea of the importance of Germany to the patentee. Since the new patent law, extending over the entire Empire, has been in force, we have been called upon to procure patents for our clients in this country with nearly the same frequency as in France and England, and where the patentee has followed up his patent with the energy required to make any patent privilege productive, he has been rewarded with success. The industries of Germany are very similar to our own, and any invention that will prove remunerative here should also yield a return there. We would advise any inventor who has a meritorious invention, and who is prepared to take the required steps to introduce it properly, to secure it by a German patent.

The duration of a patent in Germany is 15 years, and the cost does not much exceed that of a patent in the United States. Unlike the practice in most foreign countries, in Germany a rigid examination is made before the patent will be granted, to ascertain if the invention be novel. If it be found that the invention has been known before, a patent will be refused. In this respect the German law does not differ materially from our own ; but the German

officials have construed the law—erroneously, as we think—to mean that if the applicant has permitted his invention to be illustrated or described in any public print, previous to his application in Germany, no matter where such publication shall have been made, his right to a patent shall be forfeited. As the issue of a patent of the United States for the invention is held to be such a publication as would work a forfeiture of the inventor's rights in Germany, it becomes necessary for him to file his application in Germany before the day of issue of his United States patent. As the German patent bears date one day after the filing of the application, and as the United States patent is dated the day of its issue, it has been our custom to file the German application on the day the patent issues here, if possible, so that the United States patent will date one day earlier than the German. The duration of a German patent is not affected in any way by the terms of prior foreign patents for the same invention.

Any person may obtain a patent in Germany, whether he be the inventor or not; but if the essential features of the invention have been taken from the drawings or models of another, without his consent, the patent so obtained will not be valid.

If, after three years from the date of the patent, the patentee refuses to grant licenses under the patent, for the public interest, and for an adequate compensation with good security, the patent may be canceled.

To maintain a patent in force in Germany, two things are requisite: The payment of an annual tax, which increases at the rate of about $12.50 per year, the tax for the second year being $20. This tax must be paid in advance; but three months grace is allowed. The invention must be worked in Germany within the first three years next after its

date. The phraseology of the law on this point is rather vague, and as yet there have been no decisions to guide us as to the real meaning of the statute. We are informed, however, that it is the opinion of the best authorities in Germany that it is not necessary to actually *manufacture* the patented article in Germany, and the law will be fully satisfied if the articles be imported and advertised for sale. The law seeks only to compel the patentee to supply the demand that may arise for the thing patented, to the best of his ability. The law does not distinctly say whether the three years shall be counted from the *date* of the patent, or from the day of *issue*, which is often many months later; but it is safest to assume that it is the earlier date.

We cannot recommend our clients to rely implicitly upon the above construction of the law, and would advise them, where it is possible, to take the proper steps for carrying on the actual manufacture within the three years. This may often be done with comparatively little trouble and expense, and we can sometimes arrange for the manufacture, in quantity sufficient to satisfy the law, through our correspondents in Germany.

Patents of addition are granted for improvements on any invention that has been already patented in Germany, and no separate taxes are required to be paid for these. The first cost, however, is about the same as for an original patent. These patents of addition expire, ordinarily, with the patents upon which they are based, but if the original patent be annulled, as for want of novelty, for instance, the patent of addition will not necessarily fail.

The law does not require the marking of patented articles, but it is suggested officially that the same should be marked with the words "Deutsches Reichs-Patent," or the initials "D. R. P.," and the number of the patent.

German patents may be assigned, in whole or in part, by an instrument in the German language.

Any person who deliberately infringes a German patent is liable to fine and imprisonment, in addition to the payment of damages to the injured party.

GOVERNMENTAL POLICY IN PATENT LAW.

In this age, how universally used is the word "patent." It represents an element which enters most intimately into daily life, in all civilized countries. Nearly everything we use is either patented itself, or is made on patented machinery, or by patented methods. Every branch of industry feels the influence of the patent system, and many trades owe to it their origin and prosperity. There is now scarcely any manufactured article on the market, not even a handkerchief, or button, or pin, that is not affected, in some degree, by this all-pervading system, which has become so firmly established as one of the essential factors in modern civilization.

And yet, notwithstanding the universality of patents, comparatively few people have any correct understanding of the underlying principles upon which this institution is based. We doubt if one man in a hundred could give a reasonably correct definition of a patent, and those are still fewer who have any well-defined idea of what is desirable in a patent system. Unfortunately, the writers on the public press are, as a rule, sadly ignorant on this subject, and their comments on patent questions are replete with blunders.

The material and industrial improvements so characteristic of the present time—all those numerous appliances that we have, and our forefathers had not—are, almost without exception, primarily the work of inventors. The world's indebtedness to this class of men is much greater than is ordinarily realized. Neither writers, artists, statesmen, nor capitalists have done so much toward the material progress of civilization as inventors have done, under the effective stimulus of patent laws. Since these laws were first liberalized to a sufficient extent to make them effective, the march of progress has been hastened many fold.

Human ingenuity has discovered but two methods of stimulating invention. One is to reward inventors by means of bounties or pensions, or by conferring certain honors upon them. The other is to give them the exclusive right to the new thing which they have invented. The former method has never been established as a uniform system, but has been applied in a number of cases by special grants or statutes. It is defective in that it cannot be justly applied by means of a general law, which shall stand as a continual incentive to ingenious men to invent, for the reasons that it is impossible to make any correct estimate of the comparative value of different inventions, that such a system would open a wide door for fraud in awarding the bounties, and that the cost of the latter would be contributed necessarily by the taxpayers or the public at large, whereas the inventions for which the rewards are given, benefit each only a certain class of persons. The inventions which directly benefit the entire public, or even a large majority of the public, are comparatively rare.

The latter method is known as the patent system. A law is enacted, offering to all persons who make

new and useful industrial inventions, the exclusive right to the benefits of their inventions for a certain period. This law amounts to a standing offer or inducement to make it to the interest of men to invent. To avail himself of this offer, a man must conceive and perfect an invention ; he must embody it in such form, by means of a description and drawings, that others can understand it, and he must comply with whatever other conditions the law requires. He then receives the right which the law has promised him, and the transaction, thus completed, constitutes a contract between the parties. The tangible evidence of the inventor's right is a certificate from the Government, called "letters patent," and his right is hence familiarly known as a "patent," or patent right. Its practical value to him consists in the power it gives him to compel all other persons, who desire to avail themselves of his invention, to do without it, or to use it on his terms. In this way, if his invention has real utility, he may make his patent profitable by compelling those persons who are benefited by it to pay tribute to him. Those who have no need of his invention, and those who are content to follow the old methods in use before it was introduced, are not forced to pay him anything. Thus, the reward that is paid as recompense for the invention is contributed by those who are the recipients of its benefits, and who, consequently, are able to pay for it, and the amount of the reward is proportioned to the actual value of the invention, as determined by the natural laws of supply and demand.

The arrangement between the inventor and the public is purely and equitably reciprocal. The people, through their government, agree to keep their hands off the invention for a certain number of years, in consideration of its afterward becoming

public property forever. It must be remembered that the thing which the people thus agree to refrain from using during this term of years, is something which they never have used, because it never before existed. It was created by the mind of the inventor, and brought forth into tangible and practical form by his labor. The public, therefore, loses nothing—parts with no rights—by this agreement, and, at the end of the term of years, it becomes the absolute possessor of something that before did not exist.

Before viewing the patent system more in detail, let us try for a moment to imagine what would occur if there were to-day no patent laws in the world. Scientists might still, from love of their work, pursue their abstractions, and the march of physical discovery might continue, almost unchecked. But what inducement would there be for men to become inventors, to follow patiently in the path of the scientists, and apply the abstract principles they discover to the ameiioration of human wants? There would be the same inducement for them that there would be for a man to work with his hands and produce goods, if the right of property in them were not recognized and protected by law, and any marauder could wrest them from him with impunity. There would be the same inducement for them that there would be for authors to write books, if there were no copyright law—except that authors sometimes work for fame, an incentive that rarely tempts inventors. The most useful and important inventions have been made by poor men, ambitious to advance themselves and provide better for their families. With no patent laws, such men would find it more profitable to work steadily on in the old ruts, than to spend their time and efforts in seeking new things. Occasionally some one might make an in-

vention and carry it into practice, but it is probable that he would never do the like a second time. After conceiving of the main idea, and carefully thinking out all the details, he must construct the device; in doing so, he must ordinarily anticipate disappointments and unlooked-for obstacles to success, to be overcome only by ingenuity and repeated experiments. Having finally successfully completed his invention, his labor is little more than begun. He has next to put it on the market and introduce it to public notice—to overcome public prejudice, fixed habits and indifference—and, having accomplished all this at great expenditure of effort and money, he may in time find a ready and profitable demand for the invention. But no sooner is this point reached, than others copy his product and offer it at a price so low that his is crowded out in the competition that ensues. They can afford to undersell him, and make a profit where he would suffer loss, because their ideas, being copied ready-made, have cost them nothing, while his have been evolved at great expense of money and time. Under these circumstances, what inducement would there be for men to invent? And is there any cause for wonder that industrial progress was so slow before the era of patent laws?

In the absence of a patent law, the only inventions that can be made profitable are those which can be worked in secret, as certain machines and processes. This has been done, to some extent, in all ages, and many unique arts have been handed down from father to son for several generations before their exclusiveness has been destroyed. But is this state of affairs desirable? Should every workshop become a strong-room, and every factory a fortress? Should it be necessary that workmen be sworn by most awful oaths to secrecy, and that man-

ufacturers maintain a perpetual picket guard against industrial spies? Is it not better that these secret processes be made known to all, and that their originators be protected in peaceful but open exclusiveness for a limited time, that their improvements may afterward be freely used by everyone during all time?

We will not review the history of patent laws further than to say that the earliest patents were granted by the sovereigns of England, and of European countries, without restraint of laws; that this prerogative was first limited by statute in the reign of Queen Anne; that subsequently the British law underwent several further changes, and that the first Federal patent law in this country was enacted in 1790. This law was liberal in its scope and intent, but was crude and imperfect, and was soon afterward amended, but it stands forth in most creditable contrast to the French law of the same year, which was a monumental piece of short-sighted narrowness. It provided, among other things, that every patent granted should be void, if the invention were patented in any other country!

The proper duration of the inventor's protection has always been a mooted question. In justice, his monopoly should endure long enough to give him a reasonable opportunity to make sufficient profit from his invention to repay him for the genius, study, labor and expense that he has expended in its perfection and introduction. But this period varies widely with different inventions. Some may repay their inventors sufficiently in two or three years; others would not yield adequate profit in a half century. As it would be practically impossible to determine in each case what duration would be just, the plan has been adopted of treating all alike, and different countries have adopted terms of from five to twenty years, the most common term being fifteen years.

In Great Britain it is fourteen, and this duration was adopted in the United States until 1861, but with a privilege of extension, in exceptionally deserving cases, for seven years longer. Many abuses grew up under the extensions system, and in 1861 it was decided to prohibit extensions and adopt a fixed duration. Some were in favor of fourteen or fifteen, and others of twenty years, and finally, as a compromise, the term of seventeen years was fixed upon, and has continued ever since. In the great majority of cases it is a just and sufficient term.

It is important that the durations of all patents be definitely fixed, in order that everyone may readily ascertain when any patent is to expire. Otherwise all is confusion and uncertainty, as has to a great extent been the case under the section of our present law, providing that patents on inventions previously patented abroad shall expire with the previous foreign patent.

Some foreign laws require the payment of taxes on each patent annually, or at longer intervals. The ostensible purpose of this provision is to "weed out useless patents," the theory being that if an invention proves worthless, the patentee will default on his taxes, and his patent will thereupon become void. In many cases this may be so, but what benefit does the public derive from the annulling of the patent? If the invention is worthless or unprofitable to the patentee while he has the monopoly of it, of what value can it be to others, who have no monopoly of it? If an invention is worthless, the public cannot be injured by allowing the patent to run its full term, and if its unprofitableness is not due to worthlessness, but to the inability of the patentee to introduce it, or to his poverty, or to the invention being in advance of the need for it, it is manifestly unjust to deprive the inventor of his right, because

he has been unfortunate, or has met with disappointment at the outset. The practical result of such laws is that a patentee who is able will pay his taxes, and keep his patent in force year after year, so long as he believes that ultimately it will become valuable, while a poor man is forced to let his patent lapse from sheer inability to raise the tax, and so loses not only his hope of future profit, but all the time and money he has already expended on his invention. Such a provision is cruelly hard on poor inventors. It "weeds out" not only such patents as are admittedly valueless, but all patents owned by men too poor to afford the taxes, and it fails to weed out patents on utterly worthless and frivolous inventions, owned by well-to-do men, except when the patentees themselves become convinced of their worthlessness.

Another feature of several foreign laws is the requirement that the invention shall be put in actual practice within a certain time, as within one, two or three years. The object is to compel the patentee to establish the industry in the country, and give the people the benefit of his invention. But this theory is open to the objection that a patentee never willingly "acts the dog in the manger;" his interest is to have his invention go into the widest possible use, and he may therefore be safely trusted to put it within reach of the public as soon as is practicable. In practice, such provisions of law are so easily evaded by a nominal working, that they amount to nothing more than a source of annoyance and expense to the patentee,—a useless and unwise addition to the burdens which he must inevitably bear.

The theory of both these provisions of law is founded in error, and their policy is so short-sighted that it is surprising it has so long governed in the countries where it has prevailed. After encouraging

invention by promising the inventor the protection of a patent, they proceed to nullify much of the inducement thus held out by attaching onerous conditions to the right. The inventor must pay heavy taxes; he must operate the invention within a limited time; he must not import from other countries. To save his right he must comply with these conditions, often at *great cost and inconvenience.* If it is impossible for him to comply with them, the government confiscates his invention, and gives it to the public. The apologists for these laws say: "We require the inventor to do what it is best for the public, and for himself, that he should do, and if he fails to do it we punish him, and benefit the public, by making his invention free to all; in either case, the general good is subserved." This is a fallacy. The general good is not subserved by doing an injustice, and the public is not benefited by depriving the inventor of his patent. It sounds paradoxical, but it is true, that the people are better off when some patentee has exclusive monopoly of a new invention, than when it is free to all the people to make and use it. The reason is that the patentee is interested in introducing the invention into use, and no one else will work so hard as he to accomplish this end. "What is everybody's business is nobody's business." An invention that everybody can use will, for a long time, be used by nobody, because it is the special business of nobody to introduce it, to push it and advertise it. But even after the invention is thoroughly introduced, it is not often best for the public that it should become public property at once. In the great majority of cases, the patentees, or manufacturers licensed by them, can and do place their inventions on the market at a cheaper price, and with a better construction, than is the case after their patents expire. Then compe-

tition commences ; rivals cut in prices, and, to save themselves from loss, make an inferior article. But while the patent remains in force, the manufacture is all concentrated in a single factory; the trade is all under one control, and the manufacture and introduction of the invention are reduced to the most economical and effective conditions. The patentee knows that he has but a limited period of monopoly, and he must make the utmost profit while that lasts. To do so he must push his invention with energy, and must offer it at a price so low that the demand for it will be widespread.

The same remarks apply to the mistaken policy of denying valid patents in cases where the invention has been previously made public. After an invention has once been published in any country, it cannot be validly patented in France or Germany. Hundreds of meritorious inventions are never introduced into these countries, because of this absurd restriction. The loss to France and Germany is greater than the loss to any inventors. In the United States, on the contrary, the invention may be put in public use, or on sale, for two years before the right to obtain a patent is forfeited. Thus an inventor is enabled to practically test his invention, to try whether it is salable, and whether it is worth patenting.

The law of Great Britain by which any person, whether the inventor or not, can patent a foreign invention, is another evidence of bad policy, to say nothing of its obvious injustice and the opening it makes for fraud. It might properly be characterized as a law to encourage the stealing of other men's inventions, whereas the sole purpose of a patent law should be to encourage the making and introducing of original inventions.

The British law is an illustration of another unwise

policy, that of imposing excessively high fees upon applications for patents. The theory of this provision is that it will prevent the patenting of worthless or trivial inventions, but this has not proved to be the case. Probably as high a proportion of British patents are for trivial inventions as those of any other country. A man who rides a hobby is bound to ride it at any cost, and far more hobbies are ridden by well-to-do men than by poor men. The latter are the most practical inventors, because their lives bring them face to face with the stern realities of life, and their inventions are more frequently confined to their own trades, the requirements of which they thoroughly understand. High patent fees are a discouragement to poor inventors, and have stifled many inventions that would otherwise have conferred much benefit on the public.

But one question of policy remains to be discussed, and that is one of far-reaching importance, both to patentees and the public. It is how patents should be granted, whether to all applicants, without any examination of the merits of their claims, or only to those who are adjudged entitled to protection, after a careful examination by experts. The former method prevails in perfection in Great Britain and France, the latter in the United States. The difference is that under the British system anybody can obtain a patent for anything, whether new or old, and no one can tell from the patent alone just what is the extent of his legal right ; whereas, under the American system, every patent must pass a rigid examination, only those being granted which are believed to be for new inventions ; and, after a patent is granted, any person familiar with the principles of patent law can tell, by reading the specification, almost exactly what it covers. He can tell to a certainty what it does not cover, and, by a compara-

tively cursory examination, he can ascertain the precise limits of the exclusive right. The reason is that in every patent there are one or more concise definitions of what is believed to be new, called the "claims," a separate claim being drawn to each feature of novelty. The patent conveys no broader monopoly than these definitions indicate, and the only chance for error is that the invention, as defined, may not be wholly new, and the examiners have failed to discover this fact. But this occurs with extreme rarity when the immense number of patents granted is considered. In practice, more than one-third of all the applications filed are rejected, because of want of novelty or utility in the inventions, and of those that are granted, the claims of nearly all are amended and made more exact while the applications are pending. The amount of labor, expense and uncertainty that is saved to the public, by the thorough and conscientious work done by the officials of the Patent Office, is simply incalculable. The only plausible objection to this American system of examination is that, occasionally, deserving inventors are unjustly refused patents, but this occurs so rarely, and is so perfectly corrected by the provision of a series of appeals, that the criticism has little weight. The British system, on the other hand, is open to the much more important objection of public uncertainty, as no one can determine the scope or validity of any patent until it has been adjudicated upon by the courts. One may approximate to its scope by having a professional expert make an exhaustive search, and render his opinion, but this is costly and is rarely resorted to. The "claims" give little idea of what is new in the invention, as they are loosely and vaguely drawn, and are in no proper sense definitions. Inasmuch as the expense of an official examination may be paid wholly

from the fees contributed by inventors, without rendering these fees extortionate, it seems to us highly in the interest of both public and patentees that a system of examination should be adopted in every country.

In conclusion, it should be remembered that inventors are public benefactors, and should be encouraged and rewarded—not discouraged, overtaxed, or treated unjustly in any way. The best policy for the public is to keep its faith with them inviolate. The rights secured to them are not franchises, for which they should be taxed, but are an acknowledgment of their service to the public. The man who knowingly infringes a valid patent is no better than a thief or counterfeiter. Those countries which have been the most liberal toward inventors, have been themselves benefited by this course far more than the patentees whose rights they have protected.

NEWSPAPERS AND PATENTS.

Has the reader ever read any editorials in the newspapers on the subject of patents, or the patent system? If so, he cannot fail, having himself some knowledge of the subject, to have observed the deplorable want of information almost invariably displayed by the writers of these articles. They are evidently written, as a rule, by plausible writers, who know nothing of patents, but who "cram" a little for the occasion, and, unfortunately, their crude and partial views pass with the majority of unthinking readers for truth and good logic, so little does the general public know about this important subject.

Some four or five years ago, the *New York Herald*

published, in a prominent manner, a sensational dispatch from Washington to the effect that the Attorney-General had just decided that all patents granted to assignees of the inventors, instead of to the inventors themselves, were void, and that thousands of patents were invalidated by this decision. The article attracted considerable attention, and for a time excited much alarm among assignees of patents. The reporter had blundered, of course, and the editor, in his comments, had accepted the report as true. The fact was that the Attorney-General had rendered an opinion that all patents granted to two persons as joint inventors, where only one of them was the real inventor, were void from the beginning and could not be reissued. There was no occasion for alarm. The same thing had been decided long before, and was well understood by the profession. Instead of thousands of patents being invalidated, probably less than a hundred of all patents existing were defective in this particular, and in these cases the patentees, in a certain sense, deserved their loss, because of their negligence in not having their applications properly made.

A more recent instance of journalistic misinformation may be found in an editorial entitled "The Patent System Overdone," in the *New York Times* of January 14, 1883. It commences thus:

> A recent Washington dispatch says that patent solicitors and others are urging, by memorial, that patents once issued shall run the full seventeen years, the alleged reason for this queerly worded request being that several hundred patents per week are issued, and that many of them infringe on one another, by want of novelty, or insufficiently defined claims.

The hand of the blundering Washington correspondent is here again manifest. The memorials to Congress were directed against an absurd provision of our law to the effect that inventors who patent their inventions in foreign countries shall be pun-

ished for so doing by having the terms of their patents here cut down, and not that only, but that in many cases it is impossible for them, or any one else, to tell how long their patents will remain in force. All that the memorialists have asked is that Congress correct this defect in our law, in the interest of justice to the wronged patentees, and establish a definite and certain rule so that the public may know when every patent is to expire. The number of patents issued per week, or their conflict with one another, have nothing to do with the question.

The author's idea is that too many patents are issued—that they pass the scrutiny of the Patent Office too easily. This is to some extent true. There certainly are many patents granted on utterly worthless and trivial inventions, and there are some granted on inventions which are not new; and there are some others granted on inventions which differ in only a microscopical degree from what has gone before. But the patent system is not in that way "overdone" enough to occasion any alarm. The evils resulting from these causes are inseparable from a patent system when its execution is entrusted to frail and erring mortals, but they are so slight as to be inconsequential when compared with the grand and useful results that flow from this institution.

Our author proceeds to define a patent, and in doing so confounds the right, which is given the inventor, with the government's certificate of that right, and then says:

> . . . . . Having sold a certain industrial field, the United States declines to keep off trespassers, or to warrant the title it conveys. This title is becoming less presumptive, and the presumption is even getting the other way, in case of freshly issued patents, which are not in a new field of art.

The government does not, in issuing a patent, "sell an industrial field" in any sense. One cannot

sell what he does not own, and the government certainly does not own the inventions it grants patents on. The government merely pledges itself to protect the patentee in the exclusive use, for seventeen years, of the new thing which he created. It cannot engage to "keep off trespassers." That would require an army of detectives and marshals that would impoverish the country. The patentee must be his own detective, must watch his own rights, and when he discovers that these have been invaded, then the government affords him redress through its courts. There is no other feasible way. The government cannot "warrant the title it conveys"—it cannot uphold every patent as valid—because there is no possible way for it to ascertain, before it grants the patent, whether the invention is new or not. If the Examiners cannot find that it is old it is necessarily presumed to be new, but it may in fact be old for all that. To uphold all patents, no matter how searching the examination made by the Patent Office, would in many cases be a most outrageous tyranny. Our author continues:

> Obviously, therefore, the value of patents depends entirely upon the intelligence, care and strictness of their issue; failing as far as they fail in this, they not only defraud those who buy them and invest capital in them as foundation, but stir up litigation. A patent is only the personal certificate of an Examiner that the claim possesses patentable novelty, and is new, as far as his knowledge goes.

Here he seems to have some vague idea of the truth, but his way of expressing it is not felicitous. The value of a patent depends first on the industrial worth of the invention; second, on the extent to which it is new; third, on the skill with which the application is prepared, and lastly, on the thoroughness with which the Examiner does his work. Very little capital is invested in patents without having them first carefully examined by skilled professional men, and hence the number of patents which "de-

fraud" buyers are very few. A man who purchases a patent without having it examined deserves to lose his money just as much as one who buys a house or farm without having the title searched.

Further on our author ventures the opinion that "the excessive liberality" of the government "resembles that of the spendthrift, who wills generally what he does not possess. Government has less and less of exclusive right in its power to give." The absurdity of this view must become manifest when we state that in granting a patent the government cannot give anything that it possesses, or that the people possess. If it does so in terms, the patent is void. What is probably meant is that since so many inventions have been made and patented already, the liability of re-inventing and re-patenting old inventions is much greater than in former years. The great increase in the number of patents issued has vastly increased the labor of the Patent Office, and the officers are at present greatly overworked. That they occasionally grant patents which should be refused is not to be wondered at.

Toward the end of this remarkable article we read:

> The foundation of patent systems is that the transient evil of monopoly is accepted for the greater public good, and the public right must override. Under that it follows that the degree of invention—originality and usefulness combined—should be the measure of reward.

This writer must have been writing anti-monopoly and anti-tariff articles until he has become a trifle confused. The transient "monopoly" given to a deserving inventor is not an evil that the public submits to—it is a right that the public willingly accords. The suggestion conveyed in the final sentence, that inventions of different merit should be protected for varying periods, is impracticable. By what rule could the proper duration for each patent

be equitably ascertained? By establishing a uniform term each inventor is rewarded in proportion to the value of his invention to the public, as determined by the unerring laws of supply and demand.

We read this article with much regret for we should have expected better views from so able a paper as the *Times*. This is, however, a repetition of the experience that too much reliance is not to be placed on the views we find expressed in the public prints, especially on technical subjects.

But the technical papers are not free from blundering of this kind. A recent article in *Mechanics* is ludicrous in its exhibition of ignorance. It begins:

> It is a fiction of our patent laws that a patent must contain such a description of the thing patented as to enable one skilled in the art to produce the article. When one turns to the *Official Gazette* of the Patent Office and looks over the specifications [!] and claims of patents, he comes to the conclusion that one much more needs to be skilled in the slang of patent agents than in the arts. The most extraordinary combination of words and sentences is found, and it would seem that the principal aim of many patent lawyers and patent agents is to conceal the ideas by the use of slang which shall be unintelligible. In a recent number of the *Gazette* we find a patent in which the words "substantially as set forth" occur three times in one single short sentence, yet the "setting forth," so far as we could see, had not been done in any portion of the patent or its claim.

This man has evidently got hold of a copy of the *Gazette*, and imagines that the little fragment of each patent which it contains is all that there is of the specifications and drawings. He does not know —what every inventor knows—that, as a rule, nothing is printed in the *Gazette* but one single view of the drawings and the claim or claims of each patent. Occasionally a few lines of description are added by the Examiner, called a "brief," but the specification, which is the description from which those "skilled in the art" may learn how to avail themselves of the invention, is never contained in the *Gazette*. This man evidently has no idea of the real purpose of the

"claims;" he fancies they should contain a description of the construction and operation of the invention, and does not know that their sole function is to define what is new, as distinguished from what is old. The claims are worded according to a most exact and well-understood system, and their language is necessarily technical. This technical "slang," as our writer is pleased to designate it, is enforced by the Patent Office for the sake of uniformity and exactness, and, if departed from in drawing a claim, that claim is rejected because of informality. Further on we read: "If this rubbish did convey a clear meaning to any one, there might be some excuse for it, and it would be tolerated, but it conveys ideas neither to Examiner, patentee, nor public." On the contrary, it conveys most exact ideas to the Examiners and to such patentees and such of the public as have any correct understanding of the theory and operation of our patent system, which this writer obviously has not. We hope he will take the trouble to inform himself more accurately before he attempts to write another article on this subject.

THE COMMISSIONER'S REPORT FOR 1882.

The business done by the Patent Office in 1882 was the largest it has ever transacted, and exceeded that of 1881, the next in importance, by over fifteen per cent. We give below a brief synopsis of the Annual Report of Commissioner E. M. Marble.

There were 35,423 applications filed during the year, of which 31,522 were applications for patents, including design patents and reissues. Of these applications, 20,518 were granted and issued, 19,267 of

these being patents, and the remainder trade-marks and labels. The increase of business over 1881 is 2,463 applications for patents, and 2,683 patents granted. There were 691 appeals from decisions.

The receipts of the Office during the year were $1,009,219.45, and its expenditures $683,867.67, leaving a surplus of $325,351.78. This swells the "patent fund" in the treasury to nearly two and a quarter millions, the precise amount being $2,205,471.10.

Congress added somewhat to the force of the Office last year, by creating a new grade of Assistant Examiners, at low salaries. These positions were filled by competitive examination, and, of course, with inexperienced men. The Commissioner requests a further increase in force, to enable the Office to keep pace with its continually increasing work. He also calls attention again to the lack of room under which the Office has so long labored, and states that at least 30 more rooms are urgently needed. He also requests an appropriation to enable the Office to resume the work of preparing digests of patents already issued. These digests are much needed, and their publication would effect a decided economy to both the Patent Office and the public.

The Commissioner also makes some recommendations to Congress to cure certain defects in the Patent Law, which he points out with great clearness.

Since this report was submitted, a few changes have been made in the personnel of the Patent Office officials. Mr. R. G. Dyrenforth, formerly of the Board of Appeal, has been appointed Assistant Commissioner, in place of Mr. V. D. Stockbridge, resigned; and Mr. Robert J. Fisher, Jr., formerly an Examiner, has been promoted to fill the vacancy in the Appeal Board.

PATENTS ON INVENTIONS.

NUMBER 6. JUNE, 1883. QUARTERLY.

PATENTS IN BELGIUM.

Belgium is the most densely inhabited country in Europe, having a population of 487 per square mile in 1879. It became an independent State in 1830, having previously been a part of the Netherlands. It has an area of 11,373 square miles, and a busy population of nearly six millions. It is a rather curious feature of this country that immigration is rather in excess of emigration.

The patent law of Belgium is similar to that of France, but lacks some of the stringent characteristics of the French law. Patents are nominally divided into three classes, namely, patents of *invention*, of *importation* and of *improvement*. A patent of invention is granted to the inventor who applies for his Belgian patent before making an application in another country. The term of such a patent is twenty years. A patent of importation is granted when, previously to applying for a patent in Belgium, the applicant has applied for a patent in another country. The law provides that a patent of impor-

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tation shall expire with the previous foreign patent having the *iongest term ;* but it is always understood that such a patent will expire with the foreign patent which was referred to in making the application. Owing to certain peculiarities of the French law and the nearness of this country to Belgium, it is the general practice, among foreigners at least, to procure the French patent first and quote it in the Belgian patent. This places the latter in the category of a patent of importation, with a term of fifteen years.

A patent of improvement may be obtained on any improvement made on a previously patented invention. The application must be made by the patentee, and during the life of the original patent. These patents of improvement form a part of the original patent and expire with it. The advantage of this provision of the law lies mainly in the economy effected in the payment of annuities; no separate annuities are paid on patents of improvement, the tax on the original patent answering for all. Separate patents may, however, be taken on each improvement, subject, in that case, to separate annuities. These patents run the full term.

Practically any person, whether he is the inventor or not, may obtain a patent, but if the applicant is *not* the inventor, and has not permission from the inventor, he is liable to have his patent canceled at any time. A simple power from the inventor, authorizing any one to take out the patent in his own name, is sufficient, if properly stamped and registered.

The patent dates from the day the application is filed, and is issued usually in about two months afterward. It is subject to the payment of an annuity which amounts, with all expenses of payment, to $10 for the second year, $12 for the third year, and so on, increasing two dollars per year. This tax is due on each anniversary of the date of the

patent, but its payment may be delayed a month without incurring any penalty, and it may be paid at any time within the following five months by adding to it a penalty of two dollars.

The patent becomes void if the tax for every year is not paid within this time, and it may be declared void if the invention is not worked in Belgium within twelve months of its being worked *commercially* in any other country, and this working must not entirely cease for any consecutive twelve months thereafter. The working must be *bona fide*, and as many of the patented articles made as there is a demand for. If the invention is a process, this must be put into practice within the kingdom. The importation of the patented article in small quantity, to serve as models or samples, is not prohibited; but the importation for general use or sale will endanger the validity of the patent.

There is no examination into the novelty of the invention, and the patent is granted as a matter of course. But any patent may be declared null and void if it be proved that the same thing had been "used, executed or worked" by any party, other than the inventor, in the kingdom prior to the date of the application; or if the invention has been previously patented in Belgium, or if a complete description of his invention, with the necessary drawings, have appeared, previously to his application, in any printed or published work. A previous foreign patent granted to the same person is not, however, considered such a publication; therefore the inventor may safely take out his Belgian patent after the grant and publication of his United States patent.

A Belgian patent may be assigned, and the assignment should be in the French language. It must be signed by both assignor and assignee, and their signatures be legalized by the Belgian consul.

The Belgian law does not require the marking of the patented article.

Although not a large State, the population of Belgium is actively engaged in all classes of manufacturing pursuits, and the country affords a fair field for the patentee. A patent costs but little more than one for the United States, and somewhat less than a French patent. The Duchy of Luxembourg, although properly within Belgian territory, has its own patent law.

CAVEATS.

When a person has conceived of an invention, and is proceeding to work it out and perfect it, he is apt to fear that some one else may think of the same thing and patent it before he does. This most frequently happens when the invention is one for which there is an urgent and recognized public need, in which event it is a common occurrence for several minds to be busied with it at the same time. It is to meet such cases as this that the law provides the remedy known as a *Caveat*. This word means literally "Let him beware," and, as used in law, means generally a notice given to an officer not to do an act until the party giving the notice shall have had a hearing. The caveat provided for by the patent law is a notice to the Commissioner of Patents not to grant a patent to any other person, for the invention in question, until he has first given the person filing the caveat an opportunity to prove his claim to the invention. The invention is identified by means of a drawing and description, which must be "as full, clear and exact as the inventor is at the

time able to give," and must be prepared according to certain forms, and attested by oath. The opportunity to prove his right to the invention, which the law requires the Commissioner to give the caveator, is a notification that a patent on the invention is claimed by another person, and a delay of three months, during which the application is suspended. Within this period of three months, the caveator must complete his invention (if he has not already done so), and must file his application for the patent. If he neglects to do this, the applicant will be granted his patent, unless there be some other reason for withholding it. But if the caveator files his application in time, the two applications will be placed in "Interference," and each party will then be given an opportunity to take testimony to prove when he made his invention, after which the patent will be granted to the one who is adjudged to have been the first inventor.

Caveats are required by law to be kept in strict secrecy at the Patent Office, and no one has access to them but the sworn officers of the department. Certified copies may be obtained from the Office on the caveator's order, and these copies are positive proof that the invention, as disclosed in the caveat, was made at the time the caveat papers were executed. In this way caveats have frequently proved of value as record evidence of an invention, in cases where the date of the invention has been questioned.

The duration of a caveat is one year from the date of filing, but it may be renewed from year to year by paying each year the government fee of ten dollars.

When an invention is already completed, and has been found to operate successfully, we advise that a patent be at once applied for, unless the inventor is unable to meet that expense. In such cases, to apply for a caveat first would entail, in the end, an ad-

ditional expense of about twenty-five dollars, and would have no compensating advantage; it would serve only to gain time which would not be needed.

A caveat is only useful when the inventor is not ready to apply for his patent immediately, and wishes to gain time in which to experiment, or to bring his invention to the attention of capitalists. It affords, practically, good protection against the piracy of his invention by others, and enables him to exhibit it to strangers with as much safety as though he had already filed his application.

Foreigners cannot file caveats. This privilege is restricted to citizens, and to aliens who have declared their intention of becoming citizens.

ASSIGNMENTS AND LICENSES.

Three methods are provided whereby the patentee may transfer to another an interest in his patent. If he wishes to convey the whole interest, or some undivided portion thereof, to another, he accomplishes the transfer by an assignment. In this case the title, either in whole or in part, is vested in the assignee. If he assigns the entire patent to himself and one or more persons besides, they all become joint and equal owners, unless there is a special stipulation in the assignment to the contrary. If, however, the owner transfers by assignment some specified portion of the patent to another, as one-half or one-fourth, then either may dispose of the whole or any portion of his undivided interest independently of the other, and either may work the invention independently of the other, but neither can give an exclusive license to manufacture.

If the patentee wishes to convey to another a ter-

ritorial interest, this is effected by a grant. The grantee has the same rights and privileges within the State, county, or other territory covered by the grant that the patentee would have had if the transfer had not been made. The grantee may assign his entire interest, or any portion thereof.

All assignments and other transfers which affect the title of the patent must be recorded in the Patent Office within three months from their date, to be valid against an innocent third party without notice. That is to say, if A assigns to B an interest in a patent, and B fails to record the same within three months from its date, and A then transfers the same interest to C, who knows nothing of the former transfer, the title of C will be good.

A patentee, or other owner of a patent, may accord a license to another to manufacture and sell his invention, either for a consideration paid down, for a royalty, or for both. If the licensor owns the entire patent, he may grant an exclusive license; otherwise it will be restricted. Licenses vary greatly in their terms and conditions, and are based wholly upon the circumstances attending each particular case. Sometimes they are accompanied by, or merged with, an agreement, signed by both parties. Where a license limits the licensee to one manufactory, it is usually called a shop-right. A license does not pass the title in the patent, even though the owner should give an exclusive and unconditional license to run for the full term of the patent.

The transfer of an interest in a patent does not necessarily make the parties partners in the business of working the invention. If they propose to manufacture the invention jointly, and each share in the profits, they should enter into a regular partnership.

The right of each part owner of a patent to make, use and sell the patented article is entirely inde-

pendent of the magnitude of his interest therein, the possessor of a one-hundredth interest having the same rights, in this respect, as the owner of one-half the patent. And the profits made by one part owner in a patent, through the working of the invention, are not shared by the other owners, except by stipulation to that effect.

Inventions being of a varied character, it follows that the best methods of working them will be likewise varied. In some cases the best result can be attained by disposing of shop-rights; in others, by the sale of county and State rights; in others, again, by licensing manufacturers to manufacture under a royalty. Another favorite method is to organize a stock company, or several companies, to work the invention. The patentee should bear in mind, however, that he cannot well adopt more than one of these methods; for example, if he gives a manufacturer an exclusive license, he cannot afterward grant territorial rights. Likewise, if he has sold a State right, he cannot afterward grant an exclusive license, except as to the territory remaining in his possession.

An inventor may assign the whole or any undivided portion of his interest in his invention before the grant of letters patent therefor, and even before he has applied for the patent. In such a case the assignment should be recorded before the payment of the final fee on the patent, when the latter will be issued to the assignee or assignees of record. If it should not be so issued, however, the rights of the assignee will not be affected thereby; his title will still be good. When an invention is assigned before a patent is obtained, it is understood that the assignee's interest extends to and comprehends the patent privilege; because an inventor has no legal proprietary interest in his invention other than that

included in the patent privilege, and, therefore, aside from the latter, he has nothing that he can legally convey to another.

In assigning an interest in an invention before any patent has been obtained, care should be taken to fully identify in the instrument the particular invention intended to be assigned; otherwise, when a patent is subsequently obtained, there may be serious question whether it covers the particular invention in question. The usual practice is to execute the application for patent and the assignment on the same day, or, to first file the application, and then identify it in the assignment by date of filing and serial number. The latter is a sure identification, as each application, like each patent, has its own particular number.

It is a rather common practice with inventors to embody in an assignment of a patent a further clause conveying, or promising to convey, all further improvements on the invention embodied in the patent that they may make in the future. Such conveyances are of doubtful validity, as they seek to convey what has, at the time, no existence, and may never have. It is an attempt to mortgage one's intellect or inventive faculty. Even if the validity of such a transfer be granted, it will still be an open question, in most cases, whether a future invention, if made, is legitimately an improvement on the thing originally assigned.

An ordinary assignment is not revertible. That is, A may assign to B, and B may enter into an agreement with A as to the manufacture under the patent. If B fails to fulfill his contract the title in the patent does not revert to A; but A may recover from B, by suit, for any damages suffered by him for breach of contract. To be revertible the assignment must contain a clause to that effect.

Extraordinary care should be exercised in drawing up all instruments in the nature of transfers, licenses, agreements, etc., in order to avoid the risk of loss and vexatious suits to determine ownership. Inventors will, therefore, usually find it advantageous to consult experienced counsel before taking any important step of this character.

THE AMENDMENT OF THE PATENT LAW.

A number of bills were introduced at the last session of the late Congress, designed to amend that portion of the United States patent law which provides that a patent granted on an invention previously patented abroad shall expire with the previous foreign patent,* and several of these were considered by the Patent Committees, but unfortunately no action was taken until too late to secure the passage of any bill. This result must be attributed chiefly to the greater importance of the tariff bill, which cast all other legislation into the background; but it was in part due to the indifference of those whose interests are most involved in the proposed amendment. A renewed effort is to be made before the next Congress, and it is to be most earnestly hoped that patentees and manufacturers will join in an urgent demand for an amelioration of the onerous and unjust provision of the existing law. Meanwhile, a brief statement of the several propositions before the last Congress will be instructive.

It will be remembered that Judge Nixon decided last summer that when a foreign patent was granted after the application for the United States patent

* Section 4887 Revised Statutes. The present condition of the law as construed by the courts is summarized on page 99.

was filed, and before it was granted, the United States patent when granted was limited under the law to expire with the foreign patent. In the case in question the foreign patent was a five-year Canadian patent, and it consequently reduced the term of the United States patent to a little less than five years, instead of seventeen years. The manifest injustice of this feature of the law (if it is correctly interpreted by this decision) has led to the introduction of several bills which, if passed, would have amounted to a declaration by Congress that the law meant something different from what the courts have decided it to mean. As the function of Congress is not to construe laws, but to make them, the propriety of the passage of an act of this nature is open to question, and we are therefore inclined to favor remedial rather than declaratory legislation. The proposal of this character which received the most support was worded as follows:

> Every patent heretofore or hereafter granted and based on an application made in this country before the grant of a foreign patent for the same invention, shall be for the term of seventeen years, and the Commissioner of Patents is hereby authorized to properly state the term of any patent in accordance herewith.

It is obvious that this is only a partial cure for a radical defect in the law, and that it does not go to the bottom of the difficulty by any means. The real imperfection consists in making the duration of the patent here dependent on that of a foreign patent. This causes a vast amount of uncertainty, confusion and annoyance, and if not soon remedied cannot but be fruitful of litigation. Next to knowing that a patent exists and what it covers, the most important question to all parties interested is, when it will expire. How much better it would be to fix a definite duration for each patent, so that any one could tell in a moment exactly how long it would remain

in force! Several bills had this end in view, one of which, prepared in the last week of the session under instructions from the House Patent Committee, provided that all patents granted in future should be for seventeen years, whether the inventions were patented abroad or not. This would give foreign inventors who delayed patenting their inventions here until they had made them profitable in their own countries, as long a period of protection as American inventors who were diligent in applying for their patents. It would be better to give foreigners some special inducement to be prompt in applying for their patents here, and another bill, an excellent measure so far as it went, proposed to accomplish this by making the United States patent expire in seventeen years from the date of the earliest foreign patent. If the United States patent were applied for before the grant of any foreign patent, it would endure for seventeen years from its own date. Thus, if a foreigner delayed two years in taking his patent here, he would receive a fifteen year patent; if he delayed five years, he would receive a twelve year patent, and so on; the duration of his patent here being in exact proportion to his diligence in applying for it. This would be a revival of an excellent feature of the laws of 1839 and 1861, a policy that operated so well that it should never have been departed from.

Another bill, which was introduced by Senator Platt and Mr. Valentine, was somewhat remedial in its nature, in that it provided that "all patents for inventions first patented in a foreign country which *have not expired* at the date of the passage of this act, shall remain in force for the term of seventeen years." There are three objections to this: first, that it is in many cases impossible to determine whether a patent has expired under the operation of

§4887 or not; second, that this measure will fail to relieve the worst cases of hardship and wrong, those in which the patents *have* expired, as in the case before Judge Nixon, already referred to; and third, that to extend all patents which have not expired to seventeen years, without discrimination as to the relative diligence of the patentees, would be an act of wholesale generosity wholly uncalled for, and which would in many cases impose a hardship on the public. Take for instance the case of a British patentee whose home patent was granted nine years ago: he applies for a patent here, knowing that he is entitled to only a five year patent, and under the old law his patent would be granted for only five years, but if after its grant this bill were to become a law, his patent would have twelve years added to its term—twelve years to which he was not entitled and which he did not expect, during which the public would be deprived of its proper right to use the invention.

We hope to see some better propositions before the next Congress. There are two things to be done: first, to enact a better law for the future, and second, to remedy the wrong done by the existing law in the past. The first can be readily accomplished by some such provision as this:

> Every patent hereafter granted which is based on an application filed before the application for any foreign patent on the same invention, shall remain in force for seventeen years from its date;
>
> And every patent hereafter granted, the application for which was filed after any application for a foreign patent on the same invention, shall expire at the end of seventeen years from the date of such foreign application; or if there be more than one, from the date of the earliest one; and it shall be the duty of the Commissioner of Patents to print the date of expiration of every such patent on every printed copy thereof, and in the *Official Gazette*, for the information of the public.

We prefer to use the date of application for the foreign patent as the criterion, because it is unmis-

takable, which the "grant," "issue" or "date" of the patent is not in all cases, and because it is known during the pendency of the foreign application, and can be sworn to by the applicant, which is not the case with the issue date of foreign patents. To use this date as the criterion will avoid all confusion, save much delay, and greatly facilitate the execution of the new law.

Such a measure as we propose will be both simple and effective. A foreign inventor will know that if he files his United States application first he will secure a seventeen year patent here, but that if he files any foreign application first, his United States patent, whenever he takes it, will expire in just seventeen years from the date of filing that foreign application. American inventors nearly always file their applications here first, and they will receive full term patents.

The other desideratum, that of remedying the wrong already done by the present defective law, will not be so easy of accomplishment. It involves two considerations: first, that of fixing the term of patents that have not yet expired, and second, that of granting a just renewal of those patents which have prematurely expired, such as that decided by Judge Nixon to have expired in five years because of the inventor's having previously taken a Canadian patent. For properly fixing the terms of limited patents, some definite standard of measurement should be adopted; and none has yet been suggested which seems to us so simple and effective as to have the United States patent expire in *fifteen* years from the earliest date of application for any foreign patent on the same invention. We put it at fifteen years because that is the duration of most foreign patents, so that if thus limited, nearly every patent here will expire simultaneously with the first

previous foreign patent on the same invention. This fixing of the date can be done by the Commissioner of Patents under some such provision of law as the following:

The Commissioner of Patents may, by certificate to that effect, prolong the term of any patent heretofore granted, the term of which is alleged by its owner or owners to be limited by reason of any previous foreign patent, and which in the judgment of the Commissioner of Patents shall not have expired by such limitation at or within six months after the passage of this act, or at or within six months after the filing of the application for such prolongation; and in every case where it shall appear that at the time of filing the application in this country, no application had been filed for any foreign patent on the same invention, the term of the patent shall be prolonged to expire in seventeen years from the original issue of the patent; and whenever it shall appear that any such foreign patent was first applied for, then the term of the United States patent shall be prolonged to expire in fifteen years from the date of the earliest application for any foreign patent on the same invention. .

In providing for the *renewal* of expired patents, or those that are soon to expire, more must be left to the discretion of the Commissioner, in order to do justice to those who have been wronged, and at the same time guard against invasions of the public rights. We would favor the following provision:

Any patent heretofore granted which has expired, or shall in future expire, or shall be admitted by its owner or owners to have expired, by a limitation of its term by reason of a previous foreign patent, may be renewed by the Commissioner of Patents in his discretion, and on a proper showing of facts being made to him, provided that no such renewal shall be granted for a longer term than, added to the original term, shall equal a total term of seventeen years; and provided also that no patent the application for which was filed after the filing of any application for a foreign patent on the same invention, shall be prolonged for a greater term than, added to its original term, shall equal a total term of fifteen years, less the time intervening from the date of the earliest foreign application to the grant of the United States patent.

This we think sufficiently guarded. A special examiner should be appointed to consider all applications for prolongation or renewal, and he should have as many assistants and clerks as shall prove necessary. This force could be paid by the exaction

of a fee of $5 from each applicant, which would not be strictly just, but would be gladly paid by patentees to secure any adequate relief. All prolongations and renewals should be noticed in the *Official Gazette*.

We shall be glad to receive any suggestions in regard to this matter, and we must urge upon our readers the importance of making an effort to influence the next Congress in this direction. If every patentee and manufacturer will take the pains to call the attention of the member from his district to the defect in the law as it stands, and to discuss with him the best way of remedying it, the chance of some action being taken at the next session of Congress will be greatly increased. The law as it now stands is a disgrace to our patent system, and every consideration of patriotism and common sense favors its amendment.

DOUBLE USE.

It is a well settled principle of patent law that the mere application of a known device or thing to a new but analogous purpose is not patentable. This has come to be called, for convenience and brevity, the doctrine of "double use," and its application in the practice of the solicitor is of such frequent occurrence that a brief explanation of its force and relations may be of advantage to such inventors as are not already familiar with the subject.

The law of patents is based on the principle that the inventor should be rewarded for his creation in order that the public may benefit thereby. The leading purpose is to benefit the public. From this it follows that before the inventor is entitled to re-

ward he must effect a true creation; he must give the public something that did not before exist. He must even do more than this; he must effect that which would not have been suggested by something already in existence and accessible to the public. For if he only produces what the ordinary skill and judgment of any one might produce, acting on a suggestion furnished by what is already in existence and accessible to all, he has not exercised the inventive faculty, and cannot, therefore, receive the reward of letters patent. If he could, he would be rewarded for reproducing what was already practically in possession of the public.

To ascertain whether an alleged invention is a mere "double use" of an old thing, the nearness or remoteness of analogy must be considered, for upon this everything depends. If the structures are identical, or nearly so, then the purpose of the invention must be considered. If it be found that both structures perform substantially the same functions, and the uses to which they are applied are analogous, it may be considered a clear case of "double use."

If, on the other hand, it be found that the structures are similar but the uses to which they are applied are not analogous, and the functions they perform differ materially, then it is not a case of "double use."

The test to be applied in most cases is this: Would a knowledge of the known structure or thing suggest the application set forth in the alleged invention, and require only ordinary skill and judgment to so apply it? If it would, then the alleged invention is already the property of the public and cannot be patented.

As an illustration we may cite a case where an application was made for a patent for an improved *face-cloth for printing presses*. The application

was rejected by the examiner on a patent previously granted for a *roofing fabric.* The fabrics were almost identical in structure, but the uses to which they were applied, and the functions they respectively performed, were not analogous. It was argued by applicant that the analogy between the devices, as to their uses, was too remote for one to suggest the other; and that, therefore, applicant had exercised his inventive faculties to the extent required in order to entitle him to a patent. There was certainly nothing in a roofing fabric, or in the purposes for which it was intended, to suggest to the mind, even of "one skilled in the art," the use of a similar but more delicate fabric as a face-cloth for the cylinder of a printing press. The question at issue then was this: Would the grant of a patent to applicant deprive either the public or the former patentee of any rights of which they were already possessed? As for the patentee this was easily answered; he had limited his claims to a roofing-fabric. So far as the public was concerned, it was easy to see that if the old device would not suggest the new application, then the public had nothing to lose, and could only be benefited by the grant of the patent. On this argument the patent was allowed.

The above illustration has been given at some length, for the reason that it sets forth very fully and clearly the distinction between a true patentable invention and a mere "double use" of an old device.

A collateral branch of this doctrine relates to machines. Although in his patent an inventor may set forth but one use for his machine, he is entitled to employ it for any purpose to which it is adapted. And should another person manufacture a like machine, but for a use entirely distinct from that set forth in the patent, he will still be an infringer. The patent is held to be for the machine itself, independ-

ently of the purpose for which it is intended, because the same machine must always perform the same functions, even though the products or things acted upon may be different. For example, if A patents a peculiar ring-holder or clamp for suspending a broom, B may not employ a like holder for suspending other things, as tobacco-stocks, hoes, rakes, etc. In this case the holders are alike and perform the same functions, namely, the suspension of the thing held, although the articles suspended may differ.

It must be borne in mind, however, that the application of the doctrine of "double use" differs somewhat in respect of machines or mechanical devices and fabrics. Analogy has little to do in the former, while it has everything to do in the latter case. The machine is active in its functions, the fabric passive. By making slight changes in its structure the latter may be made to perform totally different functions, and may be employed for non-analogous purposes. The machine will always perform the same functions, but may act on things or materials of different kinds.

Our space does not permit us to cite decisions on this subject, but the principles which govern are quite well established, and we trust the foregoing explanations and illustrations will suffice to make the matter clear.

EXPERTS IN PATENT SUITS.

The testimony taken in suits for infringement is usually of two kinds, that bearing upon the facts in the case, and that bearing upon the identity of structures or machines. The latter also includes

opinions as to the scope of letters patent and their validity to some extent. Testimony as to the facts must, of course, be obtained from those conversant with the facts; but testimony as to the identity of inventions, their differences, and the scope of the letters patent therefor, is usually furnished by an expert. Such an expert must be distinguished from a special expert, who confines himself solely to one branch of science or art, as an expert in musical science or in toxicology. The general expert in patent suits should have, above all things, an extended experience in questions relating to the similarity and dissimilarity of mechanical devices, processes and compositions of matter, and especially where such questions relate to patentability also. It follows, then, that he should be familiar with all the intricacies of patent law and practice. Such knowledge can only be acquired by long experience, aided by natural adaptability; and the best training for an expert is the profession of a solicitor of patents. The multitude and variety of inventions brought before the solicitor, and the many intricate questions of identity, function and purpose he is called upon to answer, necessarily store his mind with precisely the information called for in an expert.

But knowledge is not the only quality necessary in an expert; he must be acute, in order to comprehend at a glance any similarity or dissimilarity; patient and industrious, in order that he may thoroughly understand the matter in hand; and conscientious, in order that his testimony may have that weight which honesty only can impart.

The purpose of expert testimony is to aid the court in its decisions, not upon questions of fact so much as upon questions which must, of necessity, rely upon the opinion of an expert for solution. Eye-witnesses can testify as to facts, and the court reserves to it-

self the solution of legal problems. The expert gives his opinion upon questions with which neither the ordinary witness nor the court are supposed to be familiar.

As all patentees are liable to be interested in suits for infringements of patents, we believe that the brief explanation of the functions and qualifications of an expert here given will be acceptable, as few suits of this character are now prosecuted without the assistance of this valuable auxiliary.

CONDITION OF THE PATENT OFFICE.

The business of the Patent Office for the current year will, it is estimated, exceed that of last year by over $200,000. Never has the number of applications before the Office been so great, and at no time has the force been so inadequate to the demands upon it as at present. The business of this important bureau is increasing each year so rapidly that unless some adequate increase is soon made in its facilities, serious inconvenience and loss will certainly ensue. At present, applicants have to wait an average of a month before their cases are acted on for the first time, and in several classes as long as two or three months. Actions on amended applications are delayed to nearly the same extent—in some rooms even longer. The classes of electricity, civil engineering and printing, are especially delayed with their work.

Notwithstanding the palpably inadequate force of the Patent Office, the late Congress enacted in the appropriation bill for the fiscal year beginning July 1, 1883, that the force should be reduced from 491 to 470 persons. This piece of legislative stupidity

will have the effect of compelling the Commissioner to discharge 21 clerks, mostly from the copying division, where they are now earning for the government more than their salaries amount to, in making copies of official records for outside parties. The folly of economizing in the force of a bureau of the government which is not only self-supporting, but has a surplus in the treasury of over two million dollars, must be obvious to every one who gives it a moment's thought, and the narrow and illiberal policy of Congress in this respect must be attributed to hasty and ill-considered action, rather than to any deliberate attempt to injure inventors or patentees as a class. If members of Congress more fully appreciated the importance of patents and the patent system to the public at large, they would doubtless deal more liberally by the Patent Office.

PROPOSED AMENDMENT OF THE BRITISH PATENT LAW.

A bill for the amendment of the patent, design and trade-mark laws of Great Britain has been introduced into Parliament by the government. The principal changes it makes in the present law are the reduction of the government fees on obtaining a patent from £25 (the present tax) to £4; the postponement of the time for paying the £50 tax from the third to the fourth year; the extension of the time for filing the final specification and drawings from six months to nine months; the simplification of the formalities attending the application for patents; and the extortion of licenses from patentees under certain circumstances. Patents are to be

limited more strictly to one invention, and examiners are to be appointed to review all applications, to ascertain whether the invention claimed is proper subject-matter for a patent, whether it is correctly described, and that all papers are in correct form. Definite and distinct claims are to be required, and an illustrated patent journal is to be published.

This bill contains three excellent features, namely, the reduction of the expense of securing a patent; the limitation of the right to obtain a patent to the true inventor, thereby terminating the opportunity for that piracy of inventions that is the reproach of the existing law; and the appointment of examiners to enforce that the specifications and claims of patents shall be exact and definite. But with these desirable features are coupled others that are crude, clumsy, and unjust, and which we hope will be materially modified before the bill becomes a law. As an instance of these, the amendment of a specification or claim, which in the United States is accomplished by a brief paper signed by the inventor or attorney, and filed at the Patent Office, can under this bill be effected only after filing a request, having the proposed amendment advertised in the patent journal, and enduring a delay of three weeks after the publication of the advertisement, during which interested parties may oppose the admission of the amendment. Such red tape as this is in the interest of neither patentees nor the public, and will only benefit the patent agents. We doubt if the real cost of securing a patent will be reduced to any extent by this bill, unless all such provisions as this be stricken from it. Another defect of this character is the publication and advertisement of specifications before the grant of patents, to invite opposition. What chance would a poor inventor have if any wealthy manufacturer or corporation who

desired to avail themselves of his invention could, by expert counsel, oppose the grant of his patent, with a full knowledge of his invention and claims? It is a clumsy attempt to force the public whose interests may be affected, to oppose the grant of patents on old inventions—a work that could be much better done by trained official examiners, without the interference of interested outside parties. The American system is much better, and if any attempt is to be made to check the issue of undeserving patents, that system should be adopted in its entirety, and its execution be entrusted to men of liberal minds and mature judgment, who may be trusted not to make it the farce it has become in Germany. The most unjust feature of the proposed law is that providing for compulsory licenses: the Board of Trade (an executive department of the government) may order a patentee to grant a license under his patent on such terms as it shall dictate, to any person who can prove that, because of the refusal of the patentee to grant licenses, the patent is not being worked, or that it is not worked sufficiently to supply the public demand, or that "any person is prevented from working or using to the best advantage an invention of which he is possessed." The latter reason might place the pioneer patentee at the mercy of a mere subsequent improver. This entire provision is unnecessary, and places it in the power of officials to do great injustice to patentees. They might exercise this power with such moderation that no real injustice would be done, but such a result would be due to their moderation, not to the wisdom of the law.

There is no probability that this bill will pass in its present form; indeed, there is little chance of any patent bill being passed during the present session of Parliament.

PATENTS ON INVENTIONS.

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A NEW PATENT LAW IN GREAT BRITAIN.

After many years of discussion and after the defeat of several different measures in successive sessions of Parliament, Great Britain has at last a new patent law. "The Patents, Designs and Trademarks Act, 1883, which received the royal assent on the 25th of August, is the first important measure relating to patents which has passed the British Parliament since 1852. It makes several sweeping changes in the present patent system of the United Kingdom, and is certainly destined to revolutionize the patent practice of that country. Some of the changes which it introduces are wise and sensible, fully in keeping with the advanced views of the present time on this important subject, and calculated to foster invention and ameliorate the hardships of inventors; but unfortunately it contains also some provisions which are no credit to the statesmen who framed, or the legislators who passed it, and which, we fear, will be the source of injustice and oppression. We present in another article an abridgment

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of the new law, which, by the way, will not take effect until January 1, 1884. After that date a mere importer of an invention into the kingdom will not have a right to patent it, nor will a patent be granted covering more than one invention. The existence of a foreign patent on the same invention will not affect the duration of the British patent. The patentee will be given the option of paying his stamp taxes of £50 and £100 (due formerly in three and seven years), in annual installments, commencing with £10 the fourth year, and increasing to £20 the thirteenth year, or, if he prefers, of paying the £50 tax at the end of four years, and the £100 tax at the end of eight years. The government fees on applying for a patent will be reduced from £25 to £4, and several useless formalities required under the old law will be discarded. All of these features are commendable, and constitute a marked improvement over the present system.

Of the undesirable provisions of the new act, the one which we anticipate will cause the most injustice is that requiring every application to be advertised and its complete specification published, after it has been examined by the officials and found admissible, in order to give the public an opportunity to oppose the final grant of the patent. Formerly, a person opposing the grant of a patent has presented his case without knowledge of the contents of the specification, trusting to the Law Officer, an official so high in rank as to be above suspicion, to decide whether the applicant's invention conflicts with the one in which the opposer is interested. Under that system there was little opportunity for fraud upon the inventor, and yet the rights of others were as well guarded as could well be under any system of opposition. But under the new law any person can inspect the applicant's specification and obtain a full

knowledge of his invention, and then with the aid of that knowledge he can proceed to trump up evidence against the novelty of the invention to support his opposition to the grant of the patent. The evidence might not be sufficient or conclusive, but by the employment of acute legal talent it might be made to appear so, particularly in the case of a poor inventor who was unable to employ equally skillful legal advisers. A wealthy company might in this way place impediments in the way of a poor inventor which would discourage him and induce him to abandon his invention or part with it for a song. The whole and only purpose of opposition is to prevent the issue of patents to applicants who are not entitled to them. This work the English system throws on the public, who are unskilled, have no special knowledge to equip them for the task, and are necessarily too indifferent to exert themselves, except when interested adversely to the applicant. With due deference to the views of our British friends, we are decided in our opinion that the American system of subjecting all applications to the criticism of skilled, experienced and impartial officials, uninfluenced by the voice of persons who have adverse interests, is the best for both the inventor and the public. The only faults with our system as at present administered, are that the volume of business has grown beyond the capacity of the Patent Office to transact it with the thorough attention to each case that should be given, and that an ill-advised parsimony has kept the salaries of the officials so low that many of them resign when they become experienced, and leave vacant places to be filled by comparatively untrained men. But even laboring under these serious disadvantages we believe that the American system is productive of more good results and works less injustice than

can possibly be the case under the British system, however thoroughly it may be executed.

Another objectionable feature of the new law is the provision for extorting licenses from patentees. An executive bureau has the power to compel a patentee to grant a license on such royalty and with such security as it shall determine, whenever it is proved that the invention is not being worked, or not sufficiently worked to satisfy the public demand for it, or that "any person is prevented from working, or using to the best advantage, an invention of which he is possessed." If this law is executed with great moderation and discretion, as we hope, it is probable that no considerable injustice will be done under it, but at best it places a dangerous amount of power in the hands of an executive department. We hope to see this provision repealed, or at least greatly modified and more wisely guarded, in the near future.

A very clumsy method of amending specifications is imposed by the new law. Amendments of pending applications are apparently put on the same footing as amendments of patents already granted, which correspond to our reissue or disclaimer, and are attended with considerable formality, including advertisement and a delay of one month to invite opposition. We trust that this will be remedied before it has caused much annoyance or expense to applicants.

On the whole, the new British law is a great improvement over the one now in force, and will certainly greatly stimulate the inventive industry of England. The reduction of fees will effect a saving of at least a hundred and ten dollars on each application, the natural result of which will be to largely increase the number of patents applied for. An illustrated periodical is to be published, somewhat

after the plan of the *Official Gazette* of our Patent Office, which will doubtless prove of considerable value to the inventive public.

THE NEW BRITISH PATENT LAW.

The following is a somewhat free synopsis or abridgment of the new patent law of Great Britain, which will go into effect January 1, 1884.

Application for Patent.—Any person who is in possession of an invention of which he claims to be the true and first inventor, may apply for a patent thereon. Two or more persons may apply for and obtain a joint patent, but in such case one of them at least must be the inventor; that is, the inventor may associate others with him, and the parties so associated may obtain the patent together. If the inventor dies, his legal representative may make the application within six months.

An application for a patent is made by filing at the Patent Office a declaration and specification, with drawings if required, and a government fee of £4. The specification may be either a provisional specification, containing a short description of the invention, or a complete specification with claims and drawings. As a complete specification must be filed eventually, it will effect a saving of time to file it first, which will probably be done in nearly all cases. When the invention is thought to be incomplete, or when it is desired to keep it secret for a time, it will be advisable to file a provisional specification. In such case, the complete specification must be filed within nine months after filing the provisional, or the patent will be considered aban-

doned. Every specification, when it is filed, will be examined by an Examiner, who will report whether it is properly prepared, whether the invention has been fairly described and illustrated, and whether the title is correct. If he reports it as defective in any respect, or as covering more than one invention, the Comptroller of the Patent Office (an official answering somewhat to our Commissioner) may require that the application be amended before it proceeds further. Complete specifications will be examined to see if the invention is distinctly claimed, and in case a provisional specification has been first filed, it will be ascertained whether the complete specification describes and claims essentially the same invention as the provisional. When the Comptroller refuses to accept a specification, the applicant may appeal to the Law Officer (the Attorney-General, or the Solicitor-General of England), who will hear both the applicant and the Comptroller, and will determine whether, and subject to what conditions, if any, the specification shall be accepted. Unless a complete specification is accepted within twelve months from the date of application, the application will become void, except an appeal has been lodged against a refusal to accept. On the acceptance of a complete specification, the Comptroller will advertise the acceptance, and the specification and drawings will be open to public inspection. Any person may then oppose the grant of the patent within two months from the date of advertisement. Opposition must be on the ground that the applicant has obtained the invention from the opposer, or *that the invention has been patented in the United Kingdom on an application of prior date* (that is, the invention is not new in the Kingdom, having already been patented by somebody else), or that an Examiner has reported to the Comptroller that the

specification appears to be for the same invention as the specification of a previous application. The Comptroller will hear both the applicant and the opposer, and will decide, subject to appeal to the Law Officer, whether the patent shall be granted. If there be no opposition, or in case of opposition if the decision is in favor of the applicant, the Comptroller will cause the patent to be sealed. (The sealing of an English patent is equivalent to the grant and issue of a United States patent.) When the complete specification is filed at first, and there is no opposition, the patent can probably be sealed in three or four months from the date of application, and in any case it must be sealed within fifteen months, unless the sealing is delayed by an appeal, or by opposition, or in case of the death of the applicant. If, while an application is pending, another application be filed, describing substantially the same invention, it will be the duty of the Examiner to report that fact to the Comptroller, and to notify both applicants that he has so reported, in order to give each an opportunity of opposing the grant of a patent to the other. The Comptroller may then refuse to seal a patent to the later applicant, his decision being subject to appeal to the Law Officer. The later applicant, however, may oppose the sealing of a patent to the earlier one, on the ground that the earlier applicant had obtained the invention from him, and on his proving this, he would be granted his patent. But in case no fraud or piracy had been practiced, the party who first applied for the patent would receive it.

Patents.—Every patent will bear date from the day of application, but the unauthorized use of the invention by others will not constitute an infringement until the complete specification is made public, and no proceedings to restrain infringement can be

commenced until after the sealing of the patent. Patents will be granted for only one invention, but if granted for more than one they cannot be invalidated on that account. The territory covered by a patent is Great Britain and Ireland and the Isle of Man. Patents run for 14 years if the taxes be duly paid. Taxes may be paid in either of two ways, at the option of the patentee; either £50 may be paid before the end of four years, and £100 before the end of eight years, or the payments may be made annually, as follows:

4th, 5th, 6th and 7th years, £10 each.
8th and 9th years, £15 each, and
10th, 11th, 12th and 13th years, £20 each.

In either case the amount is the same, £150. Patents granted before the new law goes into effect come under its provisions relating to the payment of taxes. There are no taxes for the first four years.

The patentee is not required to put the invention into practical use, but the Board of Trade (an executive department of the government) may order him to grant licenses on such terms and with such security as it may deem just, whenever it is proven that (*a*) the patent is not being worked, or (*b*) that the reasonable requirements of the public cannot be supplied (which probably means that the public demand for the invention is not supplied), or (*c*) that "any person is prevented from working or using to the best advantage an invention of which he is possessed." It is not probable that many compulsory licenses will be granted under this provision.

Revocation of Patent.—Any person claiming that a patent was obtained in fraud of his rights, or of the rights of a person whom he represents; any person claiming that he is the true inventor of an invention covered by a patent; or any person claiming that he, or his predecessor in any business, had

publicly manufactured, used or sold within the realm before the date of a patent anything claimed in that patent, may apply to the courts to have the patent revoked. In case of the revocation of a patent on the ground of fraud, the real inventor may be granted a patent in place of the annulled patent, and for the unexpired portion of its term.

Actions for Infringement in England are to be brought in the High Court of Justice, accompanied by a statement of claim and particulars of the alleged infringement. If the defendant disputes the validity of the patent, he must state on what grounds he disputes it, and if he alleges that the invention was not new, he must state the time and place of its previous publication or use. An effective remedy is also provided in case any person claiming to be a patentee makes groundless threats of taking legal proceedings under his patent, to the injury of others. Government may use any patented invention for the public service, but the patentee will be remunerated.

Amendments.—An applicant or a patentee who wishes to amend his specification must apply for leave to do so, stating what changes he wishes to make, and his reasons for making them. The nature of the proposed amendment will then be advertised, and any one may oppose the amendment during the ensuing month. The Comptroller will hear both parties, and decide the matter, subject to appeal to the Law Officer. No amendment will be allowed that would make the specification claim an invention substantially larger than or substantially different from the invention claimed by the specification originally.

Extensions.—Patents may be extended by Her Majesty in Council for a further term of seven years, or, in exceptional cases, fourteen years, if in the opinion of the Judicial Committee the patentee has

been inadequately remunerated by his patent. The application for extension must be made at least six months before the expiration of the patent.

Assignments.—Patents may be assigned, in whole or in part, and for the whole or any part of the territory covered by them. All assignments and licenses must be recorded at the Patent Office.

The cost to an American inventor of applying for a British Patent, and carrying it four years, will be about one hundred and twenty-five dollars, or about one-half of what it has heretofore cost to carry the patent three years.

PATENTS IN AUSTRIA.

Since the year 1867 the Austro-Hungarian monarchy forms a bi-partite State, comprising a German, or "Cisleithan" monarchy (Austria proper), and a Magyar, or "Transleithan" monarchy (Hungary). The Emperor of Austria has also the title of King of Hungary.

The Austrian Empire, exclusive of the Turkish provinces annexed in 1878, but not yet formally incorporated, has an area of 240,942 English square miles, with a population at the last census, in 1880, of 37,754,972, or in the proportion of 159 per square mile. Of this population Hungary has about 16,000,000.

A large proportion of the trade of Austria-Hungary is with Germany and Turkey. The exports of the empire in 1879 amounted in value to $337,550,000, and the imports to $275,700,000. This was in merchandise, and exclusive of bullion. In 1879 there were 11,255 miles of railway open to traffic, and

2,630 miles under construction; and of telegraph lines there were in operation in 1881 about 31,000 miles, with 89,000 miles of wire.

The above statistics will serve to convey to the inventor some idea of the value of this empire as a field for the working of an invention.

While in some respects more liberal than those of France and Germany, the patent laws of Austria are not so liberal and encouraging as our own. It is not necessary that the application shall be made in Austria prior to the issue of the patent for the same invention here; indeed, owing to a peculiarity of our own laws, coupled with a peculiarity of the Austrian law, it is really necessary that the United States patent be allowed to issue first. It will be remembered that where the inventor has been already granted a patent in a foreign country, and then procures his patent here, his United States patent will expire with the foreign patent having the *shortest term.* In Austria, patents are really granted for but *one year*, but are renewable, by the payment of an annual tax, from year to year up to fifteen years, but no farther. Consequently, if the Austrian patent be applied for first, the United States patent will expire at the end of *one year* from and after the grant of the Austrian patent

Two things are absolutely necessary to keep an Austro-Hungarian patent in force. These are, first, the payment of the renewal or prolongation fee in advance each year on or before the anniversary of the date of issue of the patent; and second, the working of the invention within the empire within one year from the date of issue of the patent. The working must be *bona fide*, and it must not cease for any consecutive two years thereafter. This working is a matter of the greatest importance, as the patent will be officially canceled and declared void if proof

of the commencement to work has not been furnished to the proper authorities within one year from the date of issue of the patent. It will not serve to merely import the parts of the device and put them together within the empire. One specimen at least must be made within the country.

In lieu of paying the taxes every year—which involves some trouble, as the patent itself must be forwarded to have payment and prolongation endorsed on it—they may be paid for a number of years in advance. The tax for each of the 2d, 3d, 4th and 5th years amounts to about $25, and this increases at the rate of about $5 per year thereafter, up to the fifteenth year.

As in other countries, the patent, or any part thereof, may be assigned, and the instrument should be in the German language.

The cost to an American inventor of procuring an Austro-Hungarian patent is usually about ninety dollars.

A CANADIAN PATENT DECISION.

We clip the following from the *Montreal Daily Star*, of July 10, 1883:

A RULING THAT IS LIKELY TO PROVE HARD ON CANADIAN PATENTEES.

A judgment was yesterday rendered in the case of Hon. Sir A. Campbell *vs.* J. J. Bates, by Judge Torrance, which may prove of very serious consequence to the holders of patent rights in Canada. The Judge's notes, a synopsis of which follows, will sufficiently explain the case.

On the 11th January, 1877, a patent was issued from the Canadian patent office to John J. Bates, giving him the exclusive right to manufacture a refrigerator for five years from that date, and when the time expired it was again extended for another five years, and on the 13th

of December it was extended for another five years. When granted, no model had been filed with the Commissioner, and he had not dispensed with the filing, but he refused to deliver the patent to the applicant until the model had been filed. The model was filed on the 18th of June, 1878, more than a year and five months after the granting, issue and registration of the patent. The information complained of this omission, and the defendant answered that the default to file a model was not fatal to the validity of the patent, and further, that the subsequent compliance would cure any defect and make the patent valid from its date, or, at any rate, from the date of the compliance. By 35 Vict., Cap. 26, S. 15 (Canada), the applicant shall deliver to the Commissioner, unless specially dispensed from so doing for some good reason, a neat working model of his invention. By section 6 he is entitled to a patent on compliance with the requirements of the Act. The authorities cited at the bar and in the elaborate factum of the petitioner satisfied the Court that the Act has not been complied with, and, therefore, the conclusions of the information should be granted. Judgment went, consequently, in favor of petitioner.

Mr. Archibald, of Messrs. Archibald & McCormick, one of the attorneys engaged in the case, states that a very large proportion of the patents now in force in Canada are subject to the same defect as that which has proved fatal in the present case. He is of opinion that in all such cases patentees' rights are now actually unprotected, but thinks that Parliament would favorably consider a bill to validate all such patent rights where it could be shown that the omission was without blame on the part of the patentee.

We apprehend that in the above case there was collusion between the parties to the suit for the purpose of invalidating the patent *ab initio*. It will be remembered that Judge Nixon, of the United States Court, in a decision which we have before commented on,* held that where a United States patent had been granted subsequent to the grant of a Canadian patent for the same invention having a term of five years, the United States patent would expire at the end of the said term of five years. The Canadian patent which in that decision was held to have limited the term of the United States patent is the same one which this Canadian decision declares to have been void from the beginning. As the Canadian patent was presumably less valu-

Bate Refrigerating Co. vs. *Gillett.* See page 96.

able than the United States patent, it is probable that this decision has been procured in the hope of securing relief from the decision of Judge Nixon.

We doubt the soundness of Judge Torrance's conclusions in the matter, and believe them to be contrary to both the letter and spirit of the law. Sec. 15, Chap. 26, 35 Vict., reads as follows:

15. The applicant shall also deliver to the Commissioner, unless specially dispensed from so doing for some good reason, a neat working model of his invention on a convenient scale, exhibiting its several parts in due proportion, whenever the invention admits of such model; and shall deliver to the Commissioner specimens of the ingredients, and of the composition of matter sufficient in quantity for the purpose of experiment, whenever the invention is a composition of matter; provided such ingredient and composition are not of an explosive character or otherwise dangerous—in which case they are to be furnished only when specially required by the Commissioner, and then with such precautions as shall be prescribed in the said requisition.

It was admitted in the case we have referred to that a model had been furnished, but not until seventeen months after the grant of the patent. But the statute does not say *when* the model shall be furnished. There is nothing in this section, which is the one whereon the decision was based, that calls for the model when the application is filed, nor even during the time it is pending before the grant of a patent. The statute specially provides that the Commissioner shall have the power to dispense entirely with the model if the reasons given are, in his judgment, sufficient. May not the Commissioner then dispense with the model temporarily, if he may dispense with it altogether? When an unlimited discretionary power is conferred by a statute, it is a curious construction of that statute which would debar the exercise of the power within limits.

The acts of the officials in the Canadian Patent Office are, legally, the acts of the Commissioner himself; and it cannot be doubted that the model in the case in question was dispensed with temporarily

by the Commissioner. The gr[illegible] of the patent is itself proof of this; no model was furnished with the application, and yet the case was received, filed, examined and allowed without it. The rules of the office, promulgated by the Commissioner, did not call for it until after the grant. This was a dispensation in effect quite as much as if the applicant had asked for it. It is not necessary that the "good reason" for the exercise of the discretionary power shall be one that affects the applicant, or which grows out of his necessities; the Commissioner may have a "good reason" of his own, and he doubtless had one when he established the system of temporarily dispensing with models.

The statute says the applicant shall furnish a model, unless "specially dispensed" from so doing. The word "specially" here evidently refers to cases where the applicant asks to be dispensed; but where the Commissioner has a good reason for temporarily dispensing with models, it would naturally apply to all cases, and not to any special case. Consequently a rule of the office to dispense with all temporarily, or until some specified time, would be the same, in effect, as the granting of the dispensation "specially" to each applicant.

Statutes, framed by man, are necessarily imperfect; and it would seem to be questionable policy for the courts, to which we must all look for their interpretation, to avoid the plain intent of the law and base decisions upon quibbles and technicalities whereby property rights are placed under [illegible] or entirely destroyed. There has been a growing tendency of late, on the part of our courts, to make law rather than interpret it, and this naturally increases the uncertainty that must always exist as to the true intent of a statute.

While matters stand as they now do in Canada,

by reason of Judge Torrance's decision, it behooves Canadian applicants to send their models with their applications, in order to be on the safe side.

PECULIARITIES OF THE PATENT SYSTEM.

Those wise ancestors of ours whose love of progress led them to conceive of the patent system that now prevails over almost the entire civilized world, were able to see quite deeply into the future workings of their proposed system, but human foresight was too limited to enable them to predict accurately the results that would be reached in a few centuries. They could understand that if a man were given a brief monopoly in his creations, he would create, and that after this monopoly expired the public would be free to make and use these creations, whereby they would derive great benefit. Such a view was natural before the infant patent system was born; but now, when this system has attained its enormous growth, the rules that govern bear about the same relation to the principles that then had sway, as the acts and motives of a full-grown man have to those of a creeping infant. The environment has been entirely changed, and by the system itself. Then, the short monopoly of the inventor in his creation was looked upon as a thing to be endured by the public in order that it might profit when the monopoly expired. Now the public profits by the monopoly itself; and even though inventions were made, the public would derive little or no benefit therefrom except for the monopoly. This may seem somewhat paradoxical, but it is nevertheless true, and it is based on the fundamental

law of business and trade, that capital always seeks investment where the profits are largest; and where can better returns be expected in a manufacture than in the *exclusive* production of a needed article, where there is no competition? The public can derive no benefit from an invention unless it be manufactured and sold; and capital will not, generally, engage in a new manufacture in this age unless it has the protection of a monopoly, and the longer the period of the monopoly, in most cases, the more willingly will capital undertake the manufacture.

If any one doubts this, let him offer to a capitalist a valuable invention which he proposes to dedicate to the public, and ask the man of money to construct a plant for the making of the invention. He will be told that it "does not pay" to invest in a costly plant for the manufacture of an invention, however valuable, when the same privilege is open to others; but if he will patent his invention, the public will not only be supplied, but the inventor himself may derive a handsome royalty by way of reward.

In fact, our gigantic manufacturing interests are based almost entirely upon patents, and few capitalists care to invest in the manufacture of any but patented articles. Consequently, after a patent expires, it will generally be found that those who have carried on the manufacture under the patent are left to continue it without opposition. The term of a United States patent is so long—seventeen years—that in this progressive age the probabilities are that something better will have been devised and patented before the term expires, and the public, instead of benefiting by the expiration of the original patent, will be found to have taken up the new invention.

If patents were granted for but four or five years, many of the more valuable inventions, if perfected

at all, would never reach the public. It often requires a large capital and several years' time to manufacture and introduce an invention to the public, and if the monopoly is to be cut off just as returns begin to come in, leaving the field already opened up to be worked by any and all competitors, few will invest in the undertaking.

In reality, the public derives its benefit directly from the monopoly; and not after the monopoly ceases, but during its continuance. The interests of the inventor, the capitalist and the public are one, and they are interdependent. A moderately long term for the patent is best for the public, for the same reason that it is best for the inventor. An unpatented invention is valueless to the public as well as to the inventor, and because it is valueless to him.

In many foreign countries it is necessary to pay an annual tax to keep the patent alive, the theory being that the public steps into the place of the inventor upon the death of the patent, and receives all the benefits which would otherwise have accrued to him. But this is a fatal error, for, as a general rule, when a patent dies, the benefits die with it, particularly in the case of inventions that have not been introduced into use. It is rarely that inventions are revived and worked after the patents covering them have thus lapsed, for no one is interested in taking them up and introducing them to the public.

It is strange that legislators do not see more clearly the peculiarities we have pointed out; it would seem that their attention has been directed less to the general rule than to the few exceptions which undoubtedly exist, and which often intrude themselves on the public in a way to mislead. There are a few cases where, at the expiration of the pat-

ents, the manufacture of the patented articles is continued and the price reduced. Such cases are exceptions, and we think they are extremely rare.

THE ENGLISH PATENT OFFICE.

Southampton Buildings in London are situated on and near Chancery Lane at its junction with Holburn, and almost in the heart of the law district of the city. They are in fact a series or group of buildings extending over three distinct city blocks, and fronting on four different streets, nearly all very old and unprepossessing in appearance, and, like most of the buildings in London, black with the soot-stains of many years' exposure to the smoke-laden fogs which prevail there. This neighborhood is occupied almost exclusively by the offices of barristers, solicitors and patent agents, the attraction for the former being the adjacent law courts, and the proximity of the patent office accounting for the presence of the latter. In these offices the visitor enters usually a large dingy room on a lower floor, where he finds several clerks, one of whom announces his presence to the proprietor, whose private office is usually a back room on the floor above, to which the visitor passes up a dark and narrow stairway. The environments are certainly not inviting to those who have been accustomed to the light, bright and cheerful offices usually occupied by professional men in our American cities; but the hospitable reception which the stranger is almost certain to receive more than compensates for the apparent gloom of the apartments.

One of the grimiest, though not apparently one of the oldest of this group of buildings, is the English Patent Office. It is perhaps a trifle more conspicuous than its neighbors, and yet it is difficult to imagine a more unimposing public edifice. Built between two adjoining buildings, its front impresses the spectator as narrow and low. Entering, the visitor finds himself in a hallway at the side, from which a door leads to the room in the front of the building where all the business of the office with the public is transacted. It is a small room, with a counter and two or three desks. All applications for patents, and all assignments and other papers to be filed or recorded are brought to this counter. Beyond and to the rear of this room are others in which the clerical work of the bureau is done, and the rooms on the floor above are used for the same purpose and for the preservation of records. All the trade-mark business of the United Kingdom is transacted in a little dingy room on the second floor, the principal furniture of which, apparently, is a counter. The library on the upper floor is a new and comparatively large room, lighted by skylight, provided with tables for readers, and surrounded by alcoves containing the book shelves. Bound volumes of English patents constitute the greater portion of the contents of the shelves, but in addition there are bound volumes of all United States patents since 1871, and the patent reports of all countries. There are also a well selected collection of scientific and technical works, and the principal scientific periodicals. This library is well selected, conveniently arranged, and in a light and cheerful room, being on the whole, doubtless, very well adapted to the wants of those who use it. It impresses one as very small by comparison with the library of the United States Patent Office, which occupies an extended suite of large

rooms and contains nearly every technical, scientific and industrial work ever published.

The British Patent Office, while small and unpretentious, and employing a very limited force of officials, is unquestionably well adapted to the transaction of the business required in carrying out the patent system of the country. It must be remembered that applications for patents there undergo no examination as to novelty, and that the high fees hitherto charged have had the effect of greatly limiting the number of patents applied for. In the year 1882 there were only 6,241 British applications filed, while in the same period the United States Patent Office received 30,270 applications and granted 18,135 patents.

The Patent Office Museum is a branch of the South Kensington Museum, which is at the West End, some three miles from the Patent Office. It contains principally a collection of old machines and models of inventions, gathered from various sources. Among them are Bramah's original hydraulic press (1795); the engine of Bell's "Comet," the first steamboat that ever sailed in European waters; Stevenson's first locomotive, the "Rocket," which, in 1829, gained the prize in the competition of locomotives on the Liverpool and Manchester railway; "Puffing Billy," the first locomotive engine ever constructed, which was used at the Wylam Collieries, from 1813 to 1862; the Cornish pumping engine, to which, in 1777, James Watt applied his separate condenser and air-pump; and Watts' famous "Sun and Planet Engine," built in 1788. The collection contains many interesting old relics and mementos, drawings of machinery and portraits of famous inventors.

Under the new Patent Law, which is to take effect January 1, 1884, the present Patent Office in

Southampton Buildings will be used until a new building is provided. As it is inevitable that the reduced fees under the new law will greatly increase the number of applications, the present quarters will certainly be found inadequate to properly accommodate the increased force and rapidly-increasing records of the office, and it is the intention to erect a new and commodious building, which shall contain all the executive offices, records and copies, the library, and the museum.

THE NEW ENGLISH TRADE-MARK LAW.

The provisions of the "Patents, Designs and Trade-Marks Act, 1883," relating to Trade-Marks, are as follows:

A trade-mark to be registrabie must consist of (*a*) a name of an individual or firm, printed, impressed, or woven in some particular or distinctive manner; (*b*) a written signature of the individual or firm applying for registration; (*c*) a distinctive device, mark, brand, heading, label, ticket or *fancy word or words not in common use.* The italicised clause is new, no provision having formerly been made for the protection of a fanciful name, except when accompanied by some distinctive mark. In future, such names as "Cocoaine," "Ajax," "Sozodont," or "Eureka" may be registered, whether used with a distinctive mark or design or not. Under the new law, as well as under the previous one, any distinctive word, letter, figure, or combination thereof, used as a trade-mark before August 13, 1875, may be registered. A trade-mark must be registered for particular goods, or classes of goods, according to the clas-

sification officially provided. When a person who is the proprietor of several trade-marks which resemble each other in essential particulars, but differ in the statement of the goods for which they are used, or statements of numbers, or of price, or of quality, or of names of places, seeks to register such trade-marks, they may be registered together as a series, but a series of trade-marks shall be assignable only as a whole, and cannot be transferred separately. A trade-mark may be registered in any color, and the owner will have the right to use it in that or any other color. A registered trade-mark shall be assigned or transmitted only in connection with the good-will of the business concerned in the particular goods or classes of goods for which it has been registered, and shall terminate with that good-will.

Applications for registration must be made according to a prescribed form and be filed at the patent office, accompanied by the required number of copies of the mark and by the official fee, which is to be fixed by the Board of Trade. The application must state the particular goods or classes of goods for which the mark is intended. The Comptroller of the patent office may refuse to register the trade-mark, subject to appeal to the Board of Trade, and in case of appeal the Board may refer the matter to the Courts. The Comptroller shall not register any trade-mark with respect to any goods or class of goods which is identical with a mark already registered for the same goods or class, except when the Court has decided that the applicant is entitled to have his trade-mark registered; nor shall the Comptroller register any mark which so nearly resembles a trade-mark already registered for the same goods as to be calculated to deceive.

Every application for registration is to be advertised by the Comptroller as soon as possible after

it is received, and any person may oppose the registration by giving notice in duplicate to the patent office within two months after the advertisement. The Comptroller will send one of the notices to the applicant, who shall be given two months or more to reply thereto by a counter-notice in duplicate, stating the grounds on which he seeks to register the trade-mark, and if he fails to reply within such time his application will be considered abandoned. If he gives such notice, one duplicate thereof will be sent to the opposer, who will be required to file security for costs within two weeks or other given time, and if he fails to do so his opposition will be considered to be abandoned; but if the opposer gives security, the applicant shall be notified, and the matter will be referred to the courts for determination.

The registration of a trade-mark will have the same effect in law as public use of the mark; that is, it gives the proprietor a definite and tangible right in it and enables him to enforce his monopoly in its use. No suit can be brought for the infringement or imitation of an unregistered trade-mark unless it was adopted and used before August 13, 1875, nor then unless registration has been applied for and refused. The registration of a trade-mark shall be *prima facie* evidence of the right of the person registering it to its exclusive use; and after five years it shall be conclusive evidence of his right.

Registration continues for 14 years, and may be renewed at the end of each period of 14 years. But if the registration is allowed to lapse, any other person may, after the expiration of five years, adopt and register the trade-mark as his own.

Any person who describes any trade-mark applied to any article sold by him as registered when it is not registered shall be liable, for every offense, to a fine not exceeding five pounds ($25.)

PATENTS ON INVENTIONS.

NUMBER 8. DECEMBER, 1883. QUARTERLY.

WHAT CONSTITUTES A PATENTABLE INVENTION.

There are many new and useful things originated which are not patentable, because they do not amount to an invention, or, more correctly, a *patentable* invention. The inquiry as to what constitutes the quality of patentability in an invention may prove instructive to our readers.

It should be remembered that a patent is in the nature of a bargain between the people and an in-

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ventor. The inventor has originated something of which the public has never had possession or use, and which the public is desirous to obtain. To create an inducement for the inventor to divulge his secret, the public, through its government, offers to him a guarantee that he shall be protected in the exclusive use of his invention for a stated term, upon condition that he shall then surrender it to the public forever. The inventor is in the position of one who has something to sell, and the public of one who wishes to buy. The public might purchase the invention outright and immediately, but it prefers, for various reasons, to pay for it during a series of years, and only as it uses it, so that only those individuals need pay for the invention who use it and receive its benefits. So an exclusive right is conferred upon the inventor to make, use and sell his invention during a certain number of years, and to confer these rights upon others.

It is obvious that to be entitled to this exclusive right, the thing which the inventor has produced must be *new*, for if it had been previously known to the public, the public would already be in possession of it, and if the inventor were granted an exclusive right, something would be taken away from the public and given to him, without any service having been rendered by him to the public. Hence we may deduce as the first rule of patentability that: *An invention, to be patentable, must be new to the public.* "New to the public" does not necessarily mean absolutely new. The same thing may have been before known to some other person or persons, but only secretly or not in a public manner, without detracting from the right of an original inventor to patent it. The precise measure of this quality varies with different countries. France requires that the invention shall never have been made

public in any part of the civilized world before the inventor asks for his patent. England requires only that the invention be "new in the realm." The United States requires that it be unknown to the public in this country at the time the applicant invents it, and that if known in any foreign country it shall not have been patented there, nor described in any printed publication. It may have been in extended practical use in foreign countries without detriment to the right of an independent inventor here, if it has not been published or patented.

Strictly, newness is the first essential of patentability, but in practice a distinction is drawn between *novelty* and *patentability*. This brings us to the real subject of this article. In this sense "patentability" may be defined as:—That quality or property of a newly devised or newly discovered thing which properly entitles its inventor to monopolize its use under the patent laws. This property or quality is exceedingly difficult to define or explain, and may easier be understood by considering its absence than its presence. That is, patentability is most readily comprehended by first considering *un*patentability.

Everything that is "old and well known," or has long been in use by the public, is *public property*, and any one may freely adopt and use it. This right of the public extends not only to the *exact* things that have been thus long known, but to all things which naturally grow out of them, or are not distinctively different from them. Thus the chemical processes of filtration, coagulation, precipitation and distillation are public property, and the public has the right to their use not only for the exact purposes to which they have been already applied, but for all other similar purposes to which they may in future be applied, and no person can deprive the public of this right merely because he is the

first who has applied one of these processes to some special purpose. This alone would not be patentable. It is the same with mechanical processes, such as boring, facing, planing, milling, casting, coring, bushing, and so on, and with mechanical devices, such as belts and pulleys, gears, screws, cranks, levers, bolts, journal-bearings, ratchets, and many others.

Hence we may formulate a second rule of patentability. *The mere application of an old thing to a new purpose is not patentable.* Such an application is what is called the "double use" of the old thing.

From time immemorial the public has had knowledge of various materials and substances, suited for various uses, and ordinarily applied to certain purposes in the arts. Among these may be mentioned the several metals and their alloys; numerous chemical substances whose properties are ascertained; fibers, such as wool, silk and hemp; woods; glass and earthenware; india-rubber; and manufactured goods which are products of one industry, but used as the raw materials of another, such as cloth and paper. When a certain article or machine has been made of one material, as wood, the person who first makes it of a different and better material, as of iron, is not on that account alone entitled to a patent. The properties of materials being well-known, every constructor is entitled to full liberty to follow the dictates of his own judgment as to which material he will use for a certain purpose. Hence a third rule: *The mere substitution of one old material for another is not patentable.*

Nothing is patentable which does not amount to an *invention.* The real test of invention is to compare the new thing with the nearest to it among old things, and to determine whether the change or difference is of such a character as to have required the

exercise of ingenuity or creative genius in effecting it. A great deal of ingenuity may have been, in fact, expended, and yet the essential point of difference may not have *required* ingenuity, and the result, consequently, may not be an invention. Or, on the contrary, the entire thing may have been discovered by accident, or may have come to the inventor like a flash, without the conscious exercise of any ingenuity whatever, and yet the change may be of such a character as to have ordinarily required ingenuity to produce it, and may amount to an invention. These things must, therefore, be lost sight of. The essential feature of novelty must be separated by analysis from all that is old or non-essential, and must be studied by itself, and by relation to what is old, to correctly determine whether it involves the quality of invention. The purpose aimed at, or the result accomplished, must in general be ignored, for it is a well-established principle that *results are not patentable*. Whenever it is determined that the essential feature of the new thing, thus analyzed and considered, need not have required ingenuity, or the exercise of the inventive faculty, to produce it, but would require only the exercise of ordinary good judgment or technical skill, it may safely be determined that it does not reach the dignity of an invention. Hence the rule that: *Any change or improvement involving merely the exercise of good judgment or skill, is not patentable.* Under this rule come many of those improvements, the only novelty of which consists in a better or more convenient *arrangement* of parts. Such changes in arrangement or relative position rarely involve anything more than skill or good judgment. It is not the policy of governments to give anybody a monopoly of the mere exercise of skill in any special art.

It is often found, when a new machine is analyzed, that it does not contain even one new part—that it is an assemblage of several parts, each one of which is wholly old. In such case it is necessary to observe the different *relations* of the parts in the new structure, and to inquire if their assemblage causes the function of any part to be altered or changed, so that the machine, as a whole, produces any different result from its predecessors. If the elements do not *co-act;* if they do not co-operate in producing one unitary result, so that the function of at least one of them is modified;then the machine constitutes a mere aggregation of parts, which is not patentable. The general rule is: *A mere aggregation of non-co-active elements is not patentable.*

A new machine is sometimes found to be better than its predecessor, because one part in the old machine has been exchanged for a different part which effects much the same purpose in the new. Whether this is patentable or not depends upon whether the new part is merely the equivalent of the old. *The substitution of a mere equivalent is not patentable.* An equivalent is a part which produces the same result in an analogous manner. Belts and pulleys are the equivalent of toothed-gearing for some purposes; a spring is the equivalent of a weight; a wheel is in some cases the equivalent of a lever; a screw is the equivalent of a wedge; and, chemically, one acid or alkali may be the equivalent for another, or one chemical manipulation, as filtering, may be merely the equivalent of another, as precipitation.

We have thus far considered only the attributes of non-patentability. Let us now give our attention to the requisites of patentability. First, an improvement, to be patentable, must be something more than the application of an old thing to a new

purpose; something more than the substitution of one old material for another; something more than an aggregation of non-coactive elements; and something more than could ordinarily have been produced by the exercise of mere skill or good judgment. But it must be still more than this. It must be an invention, in the sense of requiring the exercise of the inventive faculty for its production. It must also be distinctively different from anything previously known; that is, the difference must not be trivial, and it must be of some practical consequence. The invention must be *useful;* by which is meant that it must not be harmful, must not be inoperative, and must be capable of some degree of usefulness. The extent of its utility is not considered; it may be very slight or very great; but if the thing be useful at all, it may be patentable.

We have said that a *mere* application of an old thing to a new use is not patentable. But it must not be inferred that no new application of an old thing can be patented. The general rule is that: *Where the new application or use is not analogous to the old applications or uses of the known thing, and a new and valuable result ensues from the change, patentability is to be presumed.* A new result is not patentable in itself, but it is of the utmost importance in determining the patentability of that which produces it. The character of the result is what is to be considered. A result which is merely better affords no reliable indication of patentability; the improvement should be in kind—not merely in degree. For instance, the mere making of a cheaper product which is no better, or of a stronger or more durable product, or the mere accelerating of an operation, does not usually indicate patentability. And yet in cases where the result of the improvement effected a considerable public economy or advantage in the

trade, it has usually been decided to be patentable; particularly so when the improvement itself was of such a character as to evince the exercise of some degree of ingenuity in its production. Hence we may formulate another rule: *The more valuable the result of an improvement, the greater is the probability of its patentability.*

When a result differs *in kind* from anything that has preceded it, it argues the existence of a radical improvement; and a close analysis of the machine or process will usually discover some respect in which it is distinctively different from its predecessors. Thus, where the assemblage of certain parts in a machine produces a new effect, and enables the machine to do something which machines of that character have formerly been unable to do, it indicates that the parts have either been combined in a different manner, or that they are different in their construction, or that one or more new parts have been added to the machine. In either case the machine would be patentable. *The existence of a radically new function or capability denotes a patentable improvement.*

In case of the application of an old thing to a new use, the *analogy* between the old and new purposes is important, because it indicates whether the change involves invention, or mere good judgment or skill. In the exercise of good judgment, one necessarily reasons by analogy. If the new application of the old thing is of such a character as to be readily suggested by such reasoning, it is not patentable; but if it be so very different that one thing would not have suggested the other to a person skilled in the art or arts to which both pertain, it may be patentable. When to such a want of common analogy is added a result of considerable practical value, the presumption of patentability becomes greater, and

when the result is found to be radically new, differing *in kind* from the result of whatever was before known, the patentability of the new thing is practically established.

In a machine, a new combination of old parts may be patented if the parts mutually contribute to the result, and modify the functions of one another. Such a combination is distinguished from a mere aggregation of parts, which, as we have said, is not patentable. The general rule is: *A new combination, to be patentable, must consist of co-operative elements which mutually contribute to the result.* All elements which do not so contribute must be eliminated, in order to reach only the essential combination. The same rule holds when one or more new elements are introduced into an old machine. If the new elements co-operate with the old ones and contribute to the common result, it is a patentable combination. In some cases the new elements may be patentable of themselves. The question of the patentability of the omission of an element in a combination is frequently difficult. A *mere* omission would not be patentable, but an omission which required a reorganization of the machine might be. Whenever the function of the omitted element was essential, and the machine is so modified that the remaining elements are enabled to perform this function, patentability is presumable. The same may be said of a change in the form or construction of the parts of a combination which confers upon them an additional function.

A shape or conformation of an article is frequently patentable, if it adds to the capability or usefulness of the article, although the latter may consist of but one piece. Such is sometimes the case with tools.

We have said that a *mere* change of material is not patentable, but it must not be inferred that no

change from one material to another can be patented. Whenever such a change embodies something more than an application of the knowledge which all possess of the properties of the material, and especially when it involves some change of the form or structure of the device, to adapt it to the new material, it is usually patentable. But in this case, as in all others, the real test of patentability lies in a consideration of the character and value of the result produced, and of the degree of ingenuity involved in the change.

The patentability of a new process or composition of matter is determined by the same general rules which we have already indicated, but their application usually involves more difficulty and leaves more room for individual differences of opinion than with mechanical subjects. The result of an improvement in a process usually consists either in the operations themselves being easier, simpler, more rapid, more cheap, more thorough, or more safe or healthful, or in the resulting product being better or more valuable. It frequently occurs that the only difference in result is a difference in degree; in which case the successive steps of the process should be analyzed clearly, to determine if they differ from the old process in any other respect than in degree. If they do not, there will be a strong presumption of want of patentability, for a change in degree which produces a better result usually indicates the exercise of nothing more than skill or good judgment in ascertaining merely more perfect proportions. The result of an improved composition of matter consists either in its possession of new properties, or of old properties in a greater or less degree. In the former case, or whenever the new composition possesses new capabilities not possessed by its predecessors, there is a presumption of patentability. In the lat-

ter case it is more probable that the composition is not patentable, although frequently the process of producing it may be novel and patentable.

It is impossible to formulate any exact and invariable rules for determining patentability. In every instance such determination must be left to individual opinion, and it sometimes occurs that two persons equally expert and experienced will take directly opposite views as to the patentability of the same thing. A long experience in studying and deciding such questions is the best assurance of the accuracy of one's judgment. We have in this article given only the general principles governing this subject, without attempting to illustrate them by examples, but in a future article we shall place before our readers a selection of cases decided by the courts, which most clearly illustrate the practical application of the underlying principles which we have endeavored here to explain.

PATENTS IN SPAIN.

The present patent law of Spain, which went into effect in 1878, covers and includes the entire Spanish dominions; that is to say, Spain proper, the Balearic and Canary Islands, the Philippine Islands, the colonies of North Africa and the Spanish West Indies, comprising Cuba and Porto Rico. Under the old laws, patents for Cuba were taken separately.

Within the past eight years Spain, which had fallen back in the race of progress, as compared with other European nations, has advanced mate-

rially, and now stands among the progressive nations of the old world.

The last census of Spain of which we have advices was taken December 31, 1877, and at that time the population of Spain proper was about 16,000,000; that of the Canary and Balearic Islands, together with the North African possessions, was about 600,000; and that of Cuba, 1,400,000. There were ten cities in Spain having a population exceeding 50,000, the population of the capital, Madrid, being nearly 400,000.

The chief exports from Spain are fruit, lead, pyrites of iron and copper, live stock and wines. From Cuba and the other colonies the principal exports are raw sugars, hemp and tobacco.

Spain had, in 1880, over four thousand miles of railways in operation, and about twelve hundred miles in course of construction. These roads are all owned by private corporations, as in the United States. The telegraphic system is under the control of the State, and in 1879 there were about twenty-five thousand miles of wire in operation. Over two million messages were sent in 1878.

The above statistics will give some idea of the importance of Spain to the patentee. While not as yet ranking so high as France as a manufacturing country, its progress within the last few years gives reason to believe that it has awakened to the importance of progress in the arts, and that patents for inventions in almost all classes will prove remunerative. This is especially the case with inventions relating to the production of sugar, as such patents will prove especially valuable in Cuba and the other West Indian possessions. Such machinery as may be designed to facilitate the production of tobacco and hemp, and for preparing and bottling wines, should also be protected by Spanish patents. There

is also an excellent field for mining inventions, including furnaces, drills and smelting apparatus.

The Spanish patent law is not illiberal, although not so advanced as our own. The objectionable features relate to the compulsory working of the invention in Spain, and to the payment of an annual tax which increases each year; compliance with these requirements is necessary to keep the patent in force.

Patents are granted indifferently to natives and foreigners. The invention must be new in the Spanish dominions to support a patent, but no examination into the novelty of the invention is made officially, the patent being always granted if the application is in proper form and laid to a patentable invention. Machines, processes and new products may form the subjects of patents, but medicines, schemes of finance and scientific principles cannot be protected by patent. The patent can include but one invention. A patent for a new invention not previously patented elsewhere runs for twenty years; but when previously patented elsewhere the term is limited to ten years. In this case, however, the application must be made in Spain within two years after the grant of the foreign patent. Patents of importation are granted for five years.

Patents of addition are granted for improvements on an invention already patented, and preference is given to the patentee, in such cases, over others. These patents of addition expire with the original patent upon which they are based.

An annual tax is required to keep the patent in force, and this must be paid in advance. No grace is allowed in the payment of taxes, which amount to $10 for the second year, and increase at the rate of $2 per year thereafter. The tax for the first year is included in the fees charged for granting the

patent. Publication is made of the subject-matter of Spanish patents in the *Madrid Gazette* in the "second moiety" of the months of January, April, July and October of each year, and provision is also made in the laws for publishing the same in the Spanish provincial journals.

Patents or interests therein may be transferred in accordance with the laws governing the transfer or cession of private property. All cessions must be signed by the Director of the Conservatory of Arts, who has charge of patent matters, and must be registered in order to be valid as against innocent purchasers.

In the language of the law "the party in interest must establish the industry"—that is, he must work the invention—within the Spanish dominions, and within two years from the date of the patent; and he must prove the working to the satisfaction of the authorities in order to keep the patent in force. The law provides for an extension of the time allotted for working, to two years and six months, for cause, but no longer. As the working of the invention is inspected by an official, we understand that it must be *bona fide*, and that this feature of the law cannot be evaded by a technical compliance. The working of the invention must not cease for more than a year and a day, except for good cause.

A patent may be annulled if the invention is found to be old, and if it is not worked within the time allowed, or if the annuities are not paid. We would therefore caution patentees to look after these matters closely if they wish to keep their patents alive.

The *willful* infringement of a Spanish patent is treated as a criminal matter. For the first offense the infringer is fined from $40 to $400, and for the second offense as much as $800. If the fine is not paid he must suffer imprisonment. An accessory or

accomplice is also liable to a fine. The infringing articles are turned over to the party injured. An innocent infringer may be enjoined.

It may be stated that the patent will be granted to one or more persons, or to a firm, either domiciled in Spain or in a foreign country.

The cost, to an American inventor, of procuring a Spanish patent is usually about seventy-five dollars.

PATENTS IN PORTUGAL.

Portugal, although one of the lesser European nations, and formerly very conservative, has made great progress within the past fifteen years. The stimulating effect of example has been felt, and the importance of mechanical progress in its bearings on the wealth and prosperity of a nation recognized.

In order that the patentee may arrive at some conclusion respecting the importance of a patent on his invention in Portugal, we will give some statistics upon which his decision may be based.

Portugal is divided into six provinces, having a combined area of 36,510 square miles, with a population in 1878 of 4,348,551. The increase in population for the preceding eight years was about five hundred thousand. Besides Portugal proper, to the kingdom belong the islands of Madeira and Porto Santo, and the Azores, having a population of about half a million. The capital, Lisbon, has a population of about 254,000, and Oporto, the city next in size, a population of 90,000. The government is a constitutional monarchy.

There are about 900 miles of railway in operation in Portugal, and about 5,000 miles of telegraph

wires. The principal export of the country is wine, but there is a growing interest in manufacturing industries.

The patent law of Portugal, measured by foreign standards, is not illiberal. Two classes of patents are granted, namely, patents of Invention and patents of Importation; the former are granted for fifteen years at most, with a possibility of prolongation to five years more; the latter are granted for five years at most. When the invention has been previously patented abroad, the patent in Portugal will expire with the first foreign patent taken, if the latter expires before the limit of the Portuguese patent.

Patents cannot be obtained in Portugal on Foods, Medicines, and Ornaments; in other respects the law on this subject is similar to our own. Patents of addition, or for improvements on an invention already patented, may be obtained; and in this respect the Portuguese law is similar to those of France and Spain. The government reserves the right to purchase any patented invention; but in such cases a reasonable price is paid for the privilege. This is somewhat a matter of form, and we are not aware of any patents having been so purchased.

Patents of Invention become void if it be shown that the invention was not new; or if it is not worked within one-half the term for which the patent was granted. In the case of patents of Importation, if the invention is shown to have been in general practical use at home or abroad, or it is not worked within one year, the patent is void.

When an application has been made for a patent, an examination is made to ascertain if it has been previously patented in Portugal; if it has, a patent will be refused. In this case the government fees will be refunded.

When an invention has been worked abroad, but not in Portugal, a patent of Importation must be taken for it; but if not worked abroad, it may be protected by a patent of Invention.

The law provides that at the end of each year the patents taken during that period shall be published in convenient form. Importation is not objected to, and we are also informed that the requirements of working the invention are not fixed nor rigorously exacted.

The provisions for punishing infringers are similar to those in Spain, willful infringement being punished by fine or imprisonment. A civil suit for damages may also be brought. There are no annual taxes, as in most foreign countries, but the cost of obtaining a patent varies with the length of the term. The usual cost of a five year patent is $160; for a ten year patent $200; and for a fifteen year patent $240. If the specification be very voluminous, and the drawings complex, this cost will be proportionately increased.

CONGRESS AND INVENTORS.

The following statement, from the pen of the Hon. E. M. Marble, shows forth in vivid colors the great wrong done to inventors by the last Congress. We extract it from the report of the Commissioner of Patents, for the fiscal year ending June 30, 1883:

"In part owing to the increase in the business and in part to the insufficient force, the work of the Office is largely in arrears, and is daily accumulating. Estimates were submitted in September last for an increase of force, because of the increasing business of the Office, and appropriation therefor was urgently asked of Congress. Not only was the increase

denied, but a reduction in the force then employed was made. The reason for the reduction would not bear repetition, nor reflect great credit on the mind which inspired it. It is not possible to conceive what good reason could be given for reducing the force of an Office already overburdened with work, when the persons who furnish the work not only pay every expense of the Office, including the salaries of the employees, but annually, in addition thereto, pay into the Treasury of the United States hundreds of thousands of dollars. These persons have the right to expect that their work will be done within a reasonable time, and by intelligent and competent persons. For the work now pending they have already paid, or stand ready to pay, all the Government requires. On account, however, of the insufficient appropriation made, the officers of the Bureau are daily compelled to inform applicants that their cases will be reached in so many weeks, or so many months, as it may be, and when further asked for the reason of the delay can only state that the force of the Office is insufficient to promptly transact the work committed to it. Undoubtedly it was wise to make ample provision for the settlement of the claims of all persons entitled to pensions by reason of the late war. It was also wise to provide additional force for the settlement of claims of pre-emptors and homestead claimants, under the laws providing for the sale and disposal of the public lands of the United States; but what reason exists why those claims should be settled, and ample provision made therefor, and force refused to settle the claims or rights of persons presented before this Office, is not understood.

"I have learned, with great satisfaction, that the inventors and manufacturers throughout the country will soon take steps to impress upon those who have

hitherto treated their rights with some indifference the importance of having a sufficient force in this Bureau, as well as other appliances and accommodations, to fairly and promptly act upon their applications, and determine their rights to the inventions claimed by them. It is believed by most of them that their votes are of quite as much importance, and their support to the Government fully as necessary, as pensioners and settlers upon the public lands, to whom not too great liberality has been shown."

THE NEW ENGLISH PATENT LAW.

The new law goes into effect January 1, 1884. Those who intend patenting their inventions in England after that date should bear in mind that the new law makes no change in the condition precedent to obtaining a valid patent—that the invention shall be "new in the realm." If the invention has been published or publicly used in any part of Great Britain before applying for the patent, a valid patent cannot be obtained. The publication of United States patents in the *Official Gazette* is usually sufficient to invalidate an English patent on the same invention, if the *Gazette* reaches England before the application is filed. An illustration or full description of the invention in any paper which circulates in Great Britain would have the same effect.

We write this in order to particularly warn intending patentees to have their British applications forwarded before their United States patents issue, and to abstain from publishing their inventions in any paper until their British applications are filed.

Those who disregard this warning will be almost certain to lose their English patents.

Under the old English patent law it has been customary to group two or more inventions in one patent, if they related to the same subject. This is not admissible under the new law. It will in future be necessary to take a separate patent in England for each separate invention. Occasionally, what is included in two United States patents may be combined in one English patent, but usually as many patents must be taken in England as are required here, in order to fully cover the same improvements.

This feature of the law, in connection with the greatly reduced application fees, is expected to cause a great increase in the number of patents applied for in Great Britain.

THE DURATION OF UNITED STATES PATENTS.

IV.

A decision has recently been rendered * which makes a further contribution to the law on this subject. It was made by Justice Blatchford, of the Supreme Court, while sitting in the Circuit Court for the Southern District of New York. Judge Blatchford is probably the highest legal authority in this country on patent matters, and being a conspicuous member of the Supreme Court his views will naturally be regarded as foreshadowing the

* *Gramme Electrical Co.* vs. *Arnoux & Hochhausen Electric Co.*, et al., 25 O. G., p. 193; decided Aug. 29, 1883.

action of that court when it is called upon to finally decide similar questions. But this does not necessarily follow, for the decision was rendered while sitting as a Circuit Judge, in which position he was bound by the precedents created by previous decisions of the circuit courts.

The patent under which suit was brought was granted October 17, 1871, for seventeen years. It appeared from the evidence that the inventors first obtained a French patent, and then executed an application for a United States patent on the same invention, stating in their oath that they had obtained the French patent. This application was filed in the United States Patent Office in August, 1870. In October of the same year they filed an application for an Austrian patent for the same invention, and this patent was granted in December, 1870, "for the duration of one year." The United States patent was not granted until several months afterward, so that the case presented is that of an Austrian patent applied for and granted while the application here was pending. The Austrian patent was extended nine times, from year to year, and finally expired in 1880.

Judge Blatchford decides that the Austrian patent having been granted before the *grant* of the United States patent, the latter was necessarily limited to expire with it; and that the fact of the United States patent having been first *applied for* had nothing to do with the question. This is in substance the same as Judge Nixon's decision in the Bate Refrigerator case,* the only difference being that a Canadian patent was in question there, while in the present case the previous foreign patent is Austrian.

* See our synopsis of that case on pages 96–99.

The only new question which is determined by this decision is in regard to whether an Austrian patent, as commonly granted, is a one-year patent or a fifteen-year patent. It is now definitely decided that it is not a fifteen-year patent. The plaintiff argued that the Austrian patent, though apparently granted for only one year, was really a patent for fifteen years, because it was granted subject to the right of extension from time to time, until the limit of fifteen years was reached. The Court said: "A capacity of being prolonged so as to have a duration of fifteen years is not equivalent to having a term of fifteen years, when the patent is granted for one year and then is prolonged so as to expire at the end of ten years. At latest, the Austrian patent expired December 30, 1880, and it is not necessary to decide whether the term for which it was granted was not a term of only one year." It is to be regretted that the Court could not have decided this point, but if it had, precedent would doubtless have forced it to decide that the Austrian patent was for a term of only one year.

We learn that this case is to be carried to the Supreme Court, on the broad question as to whether the "previous" foreign patent referred to by the law is one previous to the *application* for the United States patent, or previous to its *grant*. If the Supreme Court upholds the decision of Judge Nixon, thousands of the most valuable patents will be declared void; if, on the other hand, it reverses that decision, it will carry out what was for years believed throughout the patent professions to be the intention of Congress and the plain meaning of the law. Its decision will be looked for with anxious interest.

PROTECTION OF NEW DESIGNS IN GREAT BRITAIN.

The provisions of the new "Patents, Designs and Trade-Marks Act, 1883," recently passed in Great Britain, which relate to the registration of new designs, are not likely to be of much value to American manufacturers, for two reasons, namely, that so few lines of our goods find a market in England, and because designs must be registered before they are made public in Great Britain, and the registration becomes void if the design is not used in Great Britain within six months. These conditions cannot be very tempting to our manufacturers or designers, but there are some cases where the registration in England will be likely to prove of sufficient value to justify the proprietor in conforming to almost any conditions, in order to secure it and retain its protection. On this account we summarize the other features of the law as follows:

Designs may be registered (instead of being patented, as in this country), and the protection of registration continues for five years, during which the design is kept secret at the Patent Office, except that information as to whether it is or is not on the register may be given to any person making a formal inquiry. At the expiration of five years the design becomes public property, and is open to public inspection. The proprietor of a design is entitled to register it, whether he be the designer or the employer or assignee of the designer. The design must be registered as applied to certain particular goods or class or classes of goods. Any one who, without the permission of the proprietor, applies the design, or any fraudulent or obvious imitation there-

of, for purposes of sale, to any goods or articles belonging to the class or classes of goods for which the design is registered, or who offers for sale any such goods to which such design or imitation thereof has been applied, is an infringer of the design, and is liable to forfeit to the proprietor a penalty not exceeding £50 ($250), for each offense. Or the proprietor may recover damages from the infringer instead. Every proprietor must mark his goods in some manner to be officially prescribed, denoting that the design is registered, and if he fails to do so he shall forfeit his registration.

A "design" is defined to mean any design applicable to any article of manufacture, or to any substance, either natural or artificial, whether the design is applicable for the pattern or for the shape or configuration, or for the ornament thereof, and by whatever means it is applied, whether by marking, stamping, printing, dyeing, weaving, casting, engraving, or otherwise. Sculptures are not included under this act. The application for registration is to be accompanied by a prescribed number of specimens, drawings or photographs of the design.

The fees for registration have not yet been determined, but it is probable that they will be moderate.

FOREIGN TRADE-MARK LAWS.

III.—RUSSIA.

In accordance with the treaty of commerce and navigation between Russia and the United States signed by the plenipotentiaries of these countries, January 27, 1868, and also by the terms of a declara-

tion signed February 29, 1868, any citizen, firm or corporation in the United States who intends to adopt or use any trade or factory mark affixed originally in good faith to their goods as a proof of their origin or quality, for exclusive use in Russia, may obtain in that country, by proper registration, protection in the use of said mark.

Any trade-mark which is identical with a mark already registered and belonging to a different owner, or which so nearly resembles such other mark as to be likely to deceive the public, will not be registered.

The mark may be drawn, printed, or otherwise placed upon thin or common paper; or it may be stamped out of thin metal.

The law seems, by implication, to require that the mark for which registration is sought shall first have been registered in the United States, as a legalized copy of the certificate of such registration is called for.

The duration of the registration has no fixed limit, and the protection will endure as long as the treaty stipulations upon which the registry is based remain in force.

The possession of a registered trade-mark in Russia may form the basis for a suit for damages in the Russian courts; and the exposing for sale of products or goods bearing counterfeited marks of United States goods is considered a fraudulent transaction and is punished as any other penal offense.

A label for merchandise is considered a trade-mark, and may be registered as such.

The cost of registering a trade-mark in Russia, by a firm, company or citizen of the United States, is about $50.

THE PATENT OFFICE.

We have a new Commissioner of Patents—Hon. Benjamin Butterworth, of Ohio, who was appointed to this important office in October. Mr. Butterworth has been prominently in political life for several years. His first public office was held in 1869, since which time he has been a State Senator in Ohio, and has served two terms in Congress with great credit. As a lawyer he possesses unusual ability, and has met with most flattering success. Although without special experience in patent law, his decisions, since he has assumed the Commissioner's chair, evince an excellent familiarity with the principles and details of patent practice, and display the possession of sound, clear common sense. We have no hesitation in predicting that Mr. Butterworth will prove one of the ablest and most popular of the many able and popular heads which the Patent Office has had.

We hope he will retain his position longer than most of our recent Commissioners have done, but to do so, as the office is now organized, he must make a considerable personal sacrifice. The Commissioner of Patents receives a salary of only $4,500 a year. With the special ability and experience which are indispensable in that position, one can readily make an income of from $10,000 to $30,000 per annum, in the practice of patent law. There is, consequently, no inducement for an able man to retain so onerous and responsible an office after he has held it long enough to acquire a sufficiently extended reputation to insure him a large law practice. The salary of the Commissioner should be increased to at least $10,000 per annum.

At present the Commissioner's duties are of two kinds, which are widely diverse. On the one hand he carries the responsibility of the administrative direction of the entire Patent Office, with its hundreds of employees, and on the other hand he is the appellate Judge, who is practically the final arbiter of most of the disputed questions of patent law or practice which arise in the office. Both functions are of great importance, involve grave responsibility, and require unusual ability, and the exercise of each involves all the labor that one man ought to perform. These executive and judicial duties should be separated, the duties of the Commissioner being confined to the executive direction of the office, and a new office being created, to which should be assigned the judicial labors now performed by the Commissioner. This new office should be filled by the appointment of a man of judicial mind who is thoroughly experienced in patent law.

The Patent Office is greatly behind hand with its work. In some classes, an inventor has to wait six months to get an action upon his application. The average delay is from six to eight weeks. As the Patent Office is supported wholly by the fees paid by inventors, the latter have the right to demand that their interests receive prompt attention. The fault lies not with the Patent Office, but with Congress. The present examiners are doing their utmost, but the volume of work is too great. Instead of 24 Principal Examiners there should be at least 40, and the number of Assistant Examiners should also be increased. Then too, more room is needed. The Patent Office should be given the entire building, of which it now occupies only about two-thirds. The remaining bureaus of the Interior Department should be removed to a new building which should be erected for them. Already some of them are oc-

cupying rented offices in various parts of the city. They have nothing to do with the Patent Office, and there is no adequate reason for keeping them under the same roof.

The salaries paid to the Examiners in the Patent Office are ridiculously low. Principal Examiners receive only $2,400 per year. They should have $4,000. First Assistant Examiners receive $1,800 and Second Assistants $1,600. They should receive $3,000 and $2,500 respectively. The members of the Appeal Board receive only $3,000 per annum. $5,000 would be none too much. The salaries we suggest are by comparison with what the same men could earn in private practice as patent solicitors or patent lawyers. As it is, the resignation of skilled Examiners, whose services are of the utmost value to the Office, to inventors and the public, is becoming alarmingly frequent. The standard of the examining force should be raised by retaining experienced men, and making it an inducement for men of ability to seek employment as examiners.

The clerical force of the office is utterly inadequate to the demands upon it. As an instance of the inconvenience that is thus occasioned, we may mention that it takes now about two months to get an assignment recorded, and usually from one to two months to get a written certified copy made. The force was reduced by the last Congress for no reason whatever except a desire to reduce the sum total of their appropriations. It is unfortunate that this great public department should be unable to use the money contributed to it by inventors without the annual consent of Congress. The Commissioner should be given power by law to use each year out of the income of the Patent Office whatever amount of money is necessary to meet the fixed and usual expenses of the office, such as salaries, and only the

contingent and variable expenses should be subject to annual appropriation by Congress. This would remedy much of the disadvantage arising from arbitrary and hasty interference on the part of Congress with the organization of the office.

AN IMPORTANT PATENT SUIT.

A decision has recently been rendered in a suit involving heavy interests, which determines several interesting questions.

In 1867, J. J. Gilbert, a manufacturer of laundry starch, at Little Falls, N. Y., patented a process for making starch, by which the separation of the starch from the gluten of the grain was effected in twenty-four hours. The best previous processes consumed from eight to ten days. An improvement effecting so great a saving of time and expense in the manufacture of a product so extensively used, proved, of course, to be of immense value.

In the manufacture of glucose, or grape-sugar, it is also necessary to separate the starch from the gluten of grain. A firm at Buffalo, N. Y., who were engaged in glucose manufacture, adopted a part of the Gilbert process, and used it, without authority from the patentee. They were sued by Mr. Gilbert for infringement, but the suit was discontinued by the plaintiff. This firm afterward organized the Buffalo Grape-Sugar Company, which took their factory and continued their business, and which in 1878 or 1879 adopted the Gilbert process entire, both for the glucose manufacture and for making laundry starch. This company, from time to time, enlarged and improved its works, and spent large

sums of money in extending its business, without any protest or interference on the part of Gilbert because of its use of his patented process. In 1877 another company was formed, under the name of the American Grape Sugar Company, Thomas N. Jebb and William T. Jebb being large stockholders therein, and its managers. This company also used the Gilbert process largely, without any protest from the patentee. Large owners in the Buffalo Grape Sugar Company afterward acquired a controlling interest in the American company, and subsequently, in 1879, they purchased from the Jebbs the stock in the latter owned by them.

J. J. Gilbert died in 1881. In 1880-81 his original patent and other patents which he owned, together with "all rights of recovery for past infringement thereof," were purchased by other parties for the Jebbs, some eighteen months after they had parted with their interest in the American Grape Sugar Co. They then formed a new company, the New York Grape Sugar Co., to which the patents were assigned. This suit was brought in 1881 by this new company against the Buffalo and American companies.*

The defendants contended that Gilbert had abandoned his patents to the public from the fact that he had knowingly permitted them to be used by the defendants. Judge Shipman decides that there is no evidence that Gilbert knew of the use of his entire process by the defendants, and that "in the absence of knowledge by the patentee of the infringement there was no abandonment of his patents."

The American Grape Sugar Co. claimed that the recent connection of the Jebbs with that company at the time the patents were purchased by the Jebbs, prevented the latter—and consequently their assignee,

*The case is reported in 25 O. G., page 1076.

the plaintiff company—from making any equitable claim against the American company. But the men who purchased the stock from the Jebbs were already owners of all the stock in the other infringing company, and were not misled into buying the stock by any suppression by the Jebbs of the truth concerning the existence of the Gilbert patents. "Under these circumstances the purchase of the Jebbs eighteen months after the sale of their stock does not make them trustees for the American company or prevent a new purchaser from having the ordinary rights of an owner of patents which are being infringed."

Another question raised was whether an injunction should issue in view of the fact that the Jebbs, after their purchase of the patents, permitted the defendants to continue their infringement without warning. The Court decided that as the infringers were not innocent infringers, and had previously erected their large works, this delay in commencing suit would not deprive the plaintiff of an injunction against the defendants.

The Court granted an injunction, and ordered an accounting in respect of the infringement committed since the date of the assignment to the plaintiff company. It refused to order an accounting for any infringement committed prior to that time, although the assignments to the plaintiff included not only the patents, but the right to recover for their previous infringement, because the plaintiff had neglected to allege in its pleadings that it owned any such right of recovery. The rule is that a simple assignment of a patent does not carry with it any right to collect damages for infringements previously committed, although such right may be conveyed by inserting a clause to that effect in the assignment, as was done in this case. The mistake of the plaintiff was (stated in simple manner) that

it sued only for the infringement committed against it, and not for that previously committed against prior owners.

GERMAN PATENTS.

The following statistics indicate what has been done under the German patent law of 1877, by which the entire German Empire was united under one patent system. From July 1, 1877 (when the law went into effect), to the end of 1882, there were 37,449 applications filed, of which 24,773 were provisionally allowed; 1,461 of these allowed applications were afterward refused, leaving 21,236 applications on which patents were granted. That is, allowing for about three thousand applications pending at the end of 1882, 62 per centum of all the patents applied for were granted, and 38 per centum were finally rejected.

Of the 21,236 patents granted, 90 (or 4¼ per centum) have been annulled, and 11,694 (or 51¼ per centum) have expired, because of failure to pay the annual taxes. This leaves 9,452 patents in force, which is 44½ per centum of those granted.

During 1882 there were 7,569 applications filed, 4,549 applications provisionally allowed, and 4,131 patents granted. 3,298 patents lapsed during the year, so that the total number of patents in force increased by only 833.

END OF VOL. I.

SUPPLEMENT TO

PATENTS ON INVENTIONS.

CONTAINING MATTERS RELATING TO THE BUSINESS

OF

BURKE, FRASER & CONNETT

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SUPPLEMENT TO

PATENTS ON INVENTIONS.

THE BURNING OF OUR OFFICES.

On the 31st of January, shortly after we had commenced the business of the day in our office at No. 37 Park Row, and while all were closely occupied with their work, an alarm of fire was heard, and we found smoke entering our rooms. The building was on fire, and the flames spread with astonishing rapidity; so fast indeed that but two of our force were able to escape through the halls, the others being forced to climb out through the windows and descend to the street by the aid of the crowd below. We then realized most fully the advantage of having offices on the next to the ground floor.

On reaching the street a terrible scene presented itself. Flames were issuing from the upper windows of the immense building, and people whose escape through the halls had been intercepted by the fire,

were clinging to the windows and crying for help. In a short time the firemen were on hand with their ladders, and the work of rescue commenced. Most of the imperiled lives were saved, but at least seven persons perished, some by being unable to escape from the burning rooms, and others from injuries sustained in jumping to the street. In a few minutes the entire building was ablaze, and by noon little was left of it but a few tottering walls and a heap of burning ruins.

The building was a large one, five stories high, and fronting on three streets. It was built of brown stone and brick, with wooden stairs, floors and floor beams, and was divided, by painted pine partitions, into more than a hundred rooms, nearly all of which were occupied for business purposes. The heating arrangements were defective, and there were no external fire escapes, a fact to which the loss of life is mainly due.

We had occupied this building for fourteen years, having remained in it because of the desirability of the location, and in it were all our records, the accumulations of these years of business. For some time while the fire was raging, the members of our force were separated in the crowd and unable to find one another, but early in the afternoon we got together, secured temporary quarters, and proceeded to reorganize our establishment. Telegrams and letters were sent out, printing was ordered, notices of removal were put up at the ruins, drawing instruments were purchased, and business was resumed as far as possible.

We soon established ourselves permanently in new offices at No. 10 Spruce Street, adjacent to our former location. We are in a good building, centrally located, where we have the front half of the first floor upstairs. Our rooms are light, commodi-

ous, and admirably suited to our purpose. We have replaced our library and all the various accessories with which our former office was provided, and are in every way better prepared to conduct our business than before the fire.

As soon as the fire in the ruins had been extinguished a search for our safe was instituted, and continued unsuccessfully for several days, but when at last it was discovered and opened, its contents, consisting chiefly of valuable papers belonging to our clients, were found perfectly uninjured, with the exception of some parchments which the heat had seared and strangely distorted.

A singular feature of the fire is the almost miraculous preservation of our current files. These were enclosed in tin boxes ranged in a walnut case against the outer wall. The walls must have fallen before this case was entirely consumed, for its contents were found on one of the stones of the sidewalk—the only stone on the Beekman Street side of the building which had not been crushed in by the falling walls—covered by several tons of rubbish, but scarcely injured beyond the singeing of one end of each file, and a thorough soaking in dirty water.

Our clients are to be congratulated on having sustained no further loss by this fire than a brief delay to their current business.

BURKE, FRASER & CONNETT.

TO OUR CLIENTS.

For the convenience of our clients, we have been in the habit of notifying them when the time for

paying the final fees on their American, and the taxes on their Foreign Patents, was close at hand; but as our record books were destroyed in the burning of our former offices, we can no longer continue these notifications, except in relation to business in hand since January 31, 1882. Clients whose patents were allowed prior to that date are advised to send us all the dates, numbers, and other data in relation to them now in their possession.

NO CHANGE IN OUR FIRM.

The death of Mr. Burke, noticed on page 2 of "PATENTS ON INVENTIONS," causes no change in our firm name, or in our business. For several years before his death Mr. Burke was not an active partner in our firm, and at no time did he have any connection with our patent-soliciting business, which, for over seven years past, has been conducted exclusively by the undersigned.

HENRY CONNETT,
ARTHUR C. FRASER,

Sole Partners in the Firm of BURKE, FRASER & CONNETT.

CIRCULAR OF

BURKE, FRASER & CONNETT,

Solicitors of Patents,

10 SPRUCE STREET, NEW YORK.

UNITED STATES PATENTS.

Any Person who has made a new invention will be granted a patent therefor if he applies for one before the invention has been for two years in public use or on sale. The duration of patents is 17 years, and this term can be extended only by special act of Congress. The patent, if it be for an article, machine or compound, gives the patentee the exclusive right to make, use and vend the same, or so much of it as is covered by the claims of his patent, throughout the United States and its territories; or, if it be for a process, it gives him the exclusive right to work the process, or so much of it as is covered by his claims.

If two persons have made an invention *together*, they must apply for the patent jointly; but if only one is the inventor and the other merely furnishes the capital, the patent must be applied for by the inventor alone, and the desired interest can be transferred to his partner by an *Assignment*; the patent will then be granted to both as joint owners.

The Application.—When an inventor wishes to apply for a patent, he should furnish us with a model, drawing, or clear sketch or description of his invention—something sufficient for our draftsmen to work from in making the patent drawings. After agreeing on terms for conducting the application, we will proceed in due course to prepare the papers.

We first have a careful *Drawing* made in our office, and from this we write the *Specification*, which is a thorough technical description of the invention, its construction, operation and modifications. At the end of the specification are the *Claims*, or definitions of the essential features of novelty in the invention. These constitute the most important part

of the specification, inasmuch as the breadth of the patent is determined chiefly by their wording. A seemingly unimportant change in the language of a claim may determine the validity or invalidity of a patent, or its sufficiency as a protection of the inventor's right. To draw a specification and claims properly requires a high degree of skill, attainable only by long practical experience.

When the specification is finished, we have it neatly engrossed, and the formal papers prepared for the inventor's signature. Upon his execution of the application and the payment of the fee agreed upon, we forward the papers and drawings to our Washington Agent, to be filed in the Patent Office.

Models are not now required to be filed with the applications, but are occasionally called for afterward by the Patent Office.

Rejections.—As a patent is granted only for what is *new* in the invention, the Patent Office will reject the application, subject to amendment, if other than the novel features have been claimed. In the amendment and prosecution of cases after rejection the attorney should possess the ability to discriminate nicely between different points of invention, and if he is faithful in endeavoring to secure all his client is entitled to he will usually find that the prosecution involves more labor than did the preparation of the application. We amend or argue our cases after rejection promptly and with great care, and make no extra charge for such service.

Allowance.—When the application is unobjectionable in form, and the invention claimed is found to be new and patentable, the Patent Office issues a notice of allowance. The final government fee of $20 must be paid within six months thereafter, or the application will be technically forfeited. The patent issues about three weeks after this fee is paid.

Our Terms and Charges.—For conducting an application for patent involving a minimum amount of labor, our charge is $70, payable usually as follows:

Deposit with the order.....	$20
Due when the papers are ready.....	30
Total cost of application.....	$50
Due after patent is allowed.....	20
Total cost of patent.....	$70

Our charge will exceed this sum when more than one sheet of drawings is necessary, when an unusual amount of labor is required on the specification, or when exceptional labor is apprehended in the prosecution of the application. Our terms are always agreed upon beforehand, and we make no extra charges except for Appeals, Interferences, and special journeys to Washington, which are rare, and cannot be anticipated. An excessive amount of time spent in consultations will also be charged for additionally.

APPEALS.

If an application is finally rejected by the primary Examiner, an appeal may be taken to the Board of Examiners-in-Chief, upon payment of a government fee of $10. From an adverse decision of the Board, appeal may be taken to the Commissioner of Patents, the fee being $20, and from him a further appeal may be taken to the Supreme Court of the District of Columbia.

Our charge for conducting and arguing appeals varies with the amount of labor involved, and is agreed upon in each case. We never advise an appeal unless we believe there is a good chance of success.

INTERFERENCES.

When two or more applicants claim a patent on the same invention, or when an applicant claims to have made an invention before a patentee whose patent covers it, an Interference is declared to determine which party is entitled to the patent, it being as a rule finally granted to the prior inventor, subject to certain technical exceptions. A sworn statement of facts is required from each contestant, and each is given time to take the testimony on which he relies, after which a hearing is had before the Examiner of Interferences, who decides which party is entitled to the patent.

In Interference litigations much depends upon the attorney's skill in taking the testimony and presenting the arguments. Our charges are as follows: For preparing the sworn statement and conducting the case until taking of testimony, from $15 to $40. Time in taking testimony or making oral arguments, $15 or $20 per day. Other time, $10 or $15 per day. Motions, copies, printing and traveling expenses extra.

INFRINGEMENTS.

When a patentee finds that his patent is being infringed by others, he should immediately seek competent legal advice. An experience of many years in determining questions of patentability, validity and infringement, qualifies us for giving reliable advice on such matters; and our connection with an able and experienced lawyer enables us to take charge of the prosecution and defense of suits for infringement. In such suits we act as patent experts, giving testimony on questions of analogy, equivalents, the interpretation of patents, etc., and consulting with the attorney as to the conduct of the suit

REISSUES.

When a patent is inoperative or invalid by reason of an insufficient or defective specification, or because too much or too little is claimed, it should be *reissued;* that, is, surrendered to the government in exchange for a corrected patent on the same invention. A reissue does not extend the duration of a patent. Reissues cost, through our firm, from $75 upward, including the government fee and all expenses.

The reissue law is so narrowly guarded that the utmost care and skill are required to effect the necessary corrections without invalidating the patent. (See article on "Reissued Patents" in PATENTS ON INVENTIONS, VOL. I, p. 5.)

DESIGN PATENTS.

Ornamental designs, to be placed on or worked into any article of manufacture, and ornamental or useful configurations for any manufactured articles, can, if new, be protected by Design Patents. The patent should be applied for before the design is made public; and it is granted for a term of either 3½, 7 or 14 years, as the applicant chooses. Our prices for the respective terms are, in simple cases, about $30, $35 and $50.

CAVEATS.

When an inventor wishes to gain time for experiment, the filing of a Caveat will secure him for one year against the patenting of his invention to another without his knowledge, but it will not protect him against its manufacture, sale or use. A Caveat consists of a drawing, description and oath, which are filed in the Patent Office and there kept secret. Our usual charge is $25, including all expenses.

SEARCHES.

It is often best before applying for a patent to have a *Novelty Search* made to ascertain if the invention be new. This search costs $5, and is made by our Washington agent through the records of U. S. patents. These are gone over but once, and owing to their incomplete arrangement there is a slight liability to overlook some patent that should be found, but such omissions are rare. It does not include foreign patents.

We also make *Validity Searches* to ascertain if patents are valid; *Reissue Searches* to ascertain if patents can be reissued to cover certain features; and *Infringement Searches*, to ascertain if the manufacture of certain articles will infringe any existing patents. These searches are all thorough and exhaustive; their cost varies with each case.

TRADE-MARKS.

The federal government now protects only those Trade-marks that have been used in trade with foreign countries or with the Indian tribes. Practically the registration at Washington affords substantial protection only to foreign registrants, in pursuance to our treaty obligations. Our charge for conducting the application is $40.

Citizens of this country will usually find their common-law right to their trade-marks the best protection they can secure. Let them print the words "Trade-Mark" in connection with their distinctive mark or symbol, and rely on the State courts to protect them against imitation. We take charge of these actions for infringement, an able lawyer being associated with us.

CONSULTATIONS.

For advice as to the patentability of an invention we make no charge for the first half-hour; if continued longer, we charge $3 per hour. For reasonably brief consultations on pending cases we make no charge; but when such consultations are unusually prolonged we charge for the additional time at the rate of $3 per hour.

For all consultations on questions of Validity, Infringement or Title, we charge $3 per hour.

Inventors may consult our library free of charge, and we are always glad to give them freely any advice or assistance within reason, and which will not unduly detain us from the conduct of our cases.

MISCELLANEOUS.

Labels can be registered in the Patent Office for 28 years, but they must not have been made public, and must contain no unregistered trade-mark. The cost is $12.

Assignments are of two kinds, conveying undivided interests, as a half or quarter, and territorial interests. as State or county rights. Either kind may be made before or after the patent is granted, and for its entire term or a less number of years.

For drawing and recording a plain assignment of 300 words or less, we charge $4. For longer ones the charge is higher. We also draw *Licenses, Shoprights* and *Royalty Agreements.*

Copies of Patents since 1865, 25 cents each. A copy of the drawing only of any patent prior to 1866, 25 cents. For specifications prior to 1866 the price varies.

FOREIGN PATENTS.

The most important foreign governments grant patents to American inventors on the same terms as to their own citizens, and, with few exceptions, their laws are liberal and just, and the patentee's rights are strictly enforced. As a rule American inventions are very favorably received abroad, the many great successes of our inventors in the past having given them, as a class, a prestige which induces foreign manufacturers to carefully investigate the American inventions offered them.

Most inventions that promise to be of value in the United States are likely to be equally valuable in Canada and some transatlantic States, and an enterprising patentee will ascertain in what countries it will pay to protect and introduce his invention, and will take steps to secure patents there.

It is best to secure the allowance of the United States patent first, and then, in the interval preceding the payment of the final fee, to have the applications for foreign patents prepared and forwarded. The United States patent should then be promptly issued. This is the only course by which the conflicting laws of several important countries can be reconciled, and the inventor's rights protected in all.

The following list gives the most important points of difference between the laws of the principal foreign countries and our own, with the usual cost of obtaining the patents. When two or more foreign patents are applied for together on the same invention the cost is somewhat reduced. We will give an estimate of the exact cost in any group of countries on application.

Canada.—Patent is granted for fifteen years, subject to the payment of a $20 tax at the end of 5 and 10 years. The application must be made before the invention has been patented elsewhere more than one year, or longer introduced into use into Canada. The invention cannot be commercially imported into Canada after one year from the date of the patent, and facilities must be provided within two years for supplying the public demand. Our charge for obtaining a 5 year patent is usually $65. Assignments, $5.

Great Britain.—The invention must be unknown in the realm when the application is filed. Any previous publication of it there defeats the right to a patent. The patent covers Great Britain and Ireland, and the Isle of Man, but not the colonies. Under the patent law of 1883, which took effect Jan. 1, 1884, the patent is granted for 14 years, subject to the payment of periodical taxes after the fourth year. The usual course is to apply immediately for the complete patent, for which our charge is $110, payable at once. If the invention is unfinished, or it is desired to keep it secret for awhile, a *Provisional Specification* may be first filed, for which our charge is $50, and the *Complete Specification* with drawings may be filed any time within nine months, our charge being $70. This makes the 4-year patent cost $120. Our charges include all expenses, except in case the patent is *opposed*. The cost of defending an Opposition cannot be foretold.

The taxes on patents granted under either the old or new law may be paid in either of two ways: Either £50 (amounting altogether to $265) before the end of *four* years, and £100 (amounting to $510) before the end of *eight* years (or, in case of patents dated prior to Jan. 1, 1884, before the end of *seven* years); or by annual payments, thus; before the end of the 4th, 5th, 6th, and 7th years, £10 each (amounting to $60); before the end of the 8th and 9th years, £15 each (amounting to $85); and before the end of the 10th, 11th, 12th and 13th years, £20 each (amounting to $110.)

For drawing and recording an ordinary assignment of an English patent we charge $15.

France.—The application must be made before the invention has been published in *any* country. The patent covers the colonies and is granted to the inventor or the owner of the invention for 15 years, subject to the payment of an annual tax of 100 fr., which, with the cost of the formalities, amounts to $27. The invention must be worked in France within two years after the issue of the patent, and the patented article must never be imported without a special government permit. We usually charge $90 for securing a French patent.

Belgium.—The invention may have been patented abroad, but must not have been published or practically used in Belgium before the

application. The inventor or owner may obtain a valid patent, which will expire usually in 15 years. An annual tax must be paid, amounting the second year to $10, and increasing $2 per year. The invention must be worked in Belgium within one year after first working it commercially abroad. We usually charge $80 for obtaining the patent.

Germany.—The invention must not have been published in any country prior to filing the German application. The patent covers the entire Empire and is granted for 15 years, subject to an annual tax which amounts to $20 the second year, and increases $12.50 each year. The invention must be worked within three years. The application is subjected to a rigid examination, and patents are often refused on very unreasonable grounds. In such cases we appeal without extra charge. We usually charge $90 for conducting a German application.

Austria-Hungary.—The Dual Empire grants a patent for 15 years, which must be worked within one year, and is subject to an annual tax amounting to $25 for the first four years, $30 for the fifth year, and thereafter increasing from $2 to $5 per year. Our charge for securing the patent is $90.

Italy.—It is preferable to obtain a 6-year patent, for which we charge $100, and afterward prolong it to 15 years, the full term. For a 3-year patent we charge $80. An annual tax has to be paid, which for the second and third years amounts to $18; thereafter it increases irregularly. Prolongations usually cost from $30 to $40, in addition to the annuity. A six year patent must be worked within two years; a patent for a less term within one year.

Russia.—The patent is granted for 3, 5 or 10 years, without extension, and must be worked within the first quarter of the term. We charge $200 for a 3-year, $270 for a 5-year, or $480 for a 10-year patent. No after taxes. The invention may have been published, but must not have been introduced into use in Russia before the application.

Spain.—If the invention is not patented elsewhere previous to the application, the patent is for 20 years; otherwise (in which case the application must be made within two years after the foreign patent) the term is 10 years. Our charge is $75. The patent includes Cuba and the other colonies. It must be worked within two years. The annual taxes are the same as in Belgium.

Portugal.—The patent is granted for 5, 10 or 15 years, and must be worked within the first half of the term. Our charges are respectively $160, $200 and $240.

Norway.—The patent is usually granted for 10 years, and must be worked within one year. We charge $100.

Sweden.—The patent is usually granted for 10 years, though sometimes for 15 years, and it must be worked within two years. We charge $125.

We will furnish more detailed information relating to these or other countries to any who desire it.

OUR PROFESSIONAL METHODS.

For the benefit of those who have never entrusted their business to us, we will state the methods by which we have established our business and gained our reputation.

Our business is conducted exclusively by Messrs. CONNETT and FRASER, so that our clients may always rely on having their interests personally attended to by the firm, and not turned over to inexperienced or uninterested subordinates. To draw patent papers properly requires not only natural and educational adaptation to the work, and several years of active practical experience, but it necessitates a close application and a degree of care and study which few inventors realize until they have become the victims of careless or ignorant practitioners. None but routine work is entrusted to our employees, and that receives our constant supervision.

We attend to all business with the utmost possible promptness consistent with the varying demands upon us at different seasons. No case is ever unneccssarily delayed in our hands, and all are treated alike and taken up in their turn. In preparing papers we exercise scrupulous care to avoid all errors, omissions and unnecessary limitations, and it is our constant endeavor to secure in each case the broadest valid claims possible, in order to completely protect the invention and secure for our client all that he is entitled to.

We devote special attention to all the more difficult branches of the business, wherein are necessary the exercise of the greatest skill and knowledge, such as the prosecution of applications rejected in other hands, the conduct of Interferences, the procuring of Reissues and Foreign Patents, and service as Experts in Patent Suits.

Strangers who wish to investigate our standing and ability before entrusting their business to us, will be given the addresses of a number of our clients as references.

Address all letters, express packages, etc., to

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