invention. There is no guarantee, therefore, that the public will ever come into possession of the invention.

The failure to indicate the ingredients by their proper names may be a fatal defect and not subject to correction by amendment. The Court of Appeals of the District held in *Re* Mraz, C. D., 1911, 316, that a claim for a composition "comprising gelatin, glycerine and bone meal" was properly refused on the ground it was not disclosed in the application as filed which described the composition as consisting of "gelatin, glycerine and an oxygenated solution." Appellant alleged that the term "oxygenated solution" was an error and that "bone meal" was meant, but it was held that bone meal "was foreign to the application as filed, and that it is incumbent under Rule 70 for an applicant to correctly describe his invention in the original application. A failure to comply with its requirements can not be cured by amendment but requires a new application." The Board of Examiners-in-Chief in this same case held that "even if the term used originally were held to generically include the latter, there is no authority for allowing an applicant to include and claim a specific thing not originally described merely because it comes within the scope of the genus before disclosed." There are cases, though, when the mistake in the use of terms arises in such a way that the correction should be permitted. I recall a case which arose in Division 3 in which the description and claims called for "sandstone" as an ingredient of a battery depolarizer. The claims were rejected as being inoperative since sandstone has no depolarizing properties. An amendment was then presented substituting "manganese dioxide" for sandstone and was finally admitted by the Commissioner upon the filing of a statement under oath as to how the error arose. The error was caused by an altogether too free translation, by one who was not a chemist, of the German word "Braunstein," meaning manganese dioxide. This word which should not have been translated at all was tranlated "brownstone" and as the attorney was aware that there is a sandstone called "brownstone" he assumed that the applicant was using this species of

sandstone as a depolarizer and claimed it broadly. A very logical conclusion, but it led him far afield.

In specifying the ingredients none should be specified which is not essential to the composition. If any ingredients can be dispensed with it should be so stated in the description or no claim can properly be made for the composition with that ingredient omitted. Also the nature and number of the ingredients should be so stated that experiment is not necessary to determine what may be used.

In describing the manner of producing the composition, the proportions of the ingredients and the process of compounding them should be correctly and precisely stated so that one skilled in the art can produce it without the necessity of experiment. In Tyler *vs.* Boston, 7 Wallace, 327, Judge Grier states:

> "A discovery of a new substance by means of chemical combinations of known substances is empirical and discovered by experiment. Where a patent is claimed for such a discovery, it should state the component parts with clearness and precision and not leave the person attempting to use the discovery to find it out by experiment. . . . The art is new and therefore persons can not be presumed to be skilled in it or to anticipate the result of chemical combinations not in daily use."
>
> "In a process patent the teachings of the specification and the disclosure by the patentee must be such that after the patent has expired, a user thereof shall not be left to the blind groping of experimental work, but by plain teaching of the specification be enabled to use the process with certainty." Krupp *vs.* Midvale Steel Co., 191 F. R., 588.

The same principle, of course, applies to the description of the method of making a composition of matter, since the intermixture of ingredients is an art or process.

It is not necessary that the theory of action of the

ingredients be known or stated in the description, though if it is known it is preferable to state it.

> "Where the specification of a patent covering a process involving the use of chemical elements or compounds defines the ingredients so that there can be no mistake as to what the patentee means, and has indicated a process which will transform those ingredients into that which is declared to be invention, it makes not a particle of difference that he was wholly ignorant of all the chemical changes that took place in the course of the process." National Enameling Co. *vs.* New England Enameling Co., 139 F. R., 643.
>
> "When a patent contains sufficient disclosure of the claimed invention it will not be invalidated either by the failure of the patentee to state the causes which produce the result or by mistaken statement as to the reasons therefor." Hemalin Co. *vs.* Harvey Dyewood and Extract Manufacturing Co., 138 F. R., 54.

The nature of the resulting composition should be defined by a statement of its peculiar physical or chemical characteristics if possible.

Usually compositions are devised for some particular use, such as a paint, fertilizer, explosive, etc., and the use or uses to which they are intended to be put should be set forth in the description. In order to be patentable the composition must have utility. This may be assumed for some products such as new chemical compounds, but as to others the utility of the product should be specified.

The claims in composition cases often introduce questions which seldom or never arise in connection with the claims in machine and process cases, particularly the former. As a rule inventors devise or invent a specific composition to meet some definite want. The ingredients involved have to be mixed within certain limits or proportions or in a certain manner to get a composition which will have the desired properties. The description sets forth such a composition and too often says nothing about equivalents, whether or not proportions may be varied or whether or not some ingredient or ingredients

may be omitted without any material change in the resulting product. Claims are presented which merely enumerate the ingredients without any reference to proportions, or which omit some of the ingredients, or two or more claims are presented each of which contains an ingredient not included in the other. Thus if the composition contains ingredients a, b, c, d, e, one claim will be drawn to a, b, c, another to b, d, e, another to a, c, d, etc. Are such claims proper?

As to the omission of proportions, Walker states in Article 119 that the claim "should either expressly or by reference to the description specify the respective proportions which the different ingredients bear to each other." Judge Townsend in Panzl *vs.* Battle Island Paper Co., 138 F. R., 43, ruled as follows:

> "The first and second claims were drawn to cover a combination of substances old in the art, the patentability of which is asserted upon the theory that thereby a new result is produced. No proportions are given, however, and it would require experiment to determine what proportions are necessary to secure the result. These claims must be held invalid therefore, either because it does not appear that they disclose any invention in view of the prior art, or because they fail to acquaint those skilled in the art with the necessary information to enable them to practice the invention without experiment."

Walker and Judge Townsend both relied upon Tyler *vs.* Boston as authority for their statements. This decision, however, does not relate to *claims*, but has reference to the *description*. The real reason why such a claim is bad is because it is too broad and is beyond the scope of the invention, proportions being essential. The person who has discovered that certain ingredients mixed in certain proportions will produce a certain composition of matter has not discovered every composition of matter which may be made from those ingredients nor is he entitled to the broadest possible claim for a composition containing those ingredients though the contention is constantly being made in the prosecution of

cases that he is. As well say that an inventor of a machine containing certain mechanical elemental parts arranged in a certain relation is entitled to a claim which will cover every possible arrangement of those mechanical elements. An inventer is entitled to the broadest possible claim within the scope of *his invention* and no broader.

While the rule stated by Walker is not supported by the authority he cites it is nevertheless a good rule that in claims for compositions of matter in which proportions are essential the proportions should be specified either directly or by reference to the specification, or the identifying and distinguishing characteristics of the composition should be stated in lieu of proportions. The latter is the better practice, though requiring more skill and care in drafting the claim, because it more fully protects the real invention. It is possible that other combinations of the ingredients or their equivalents may produce a composition having substantially the same properties.

Claims omitting ingredients which the specification does not state may be omitted are without basis in the case since they are not for the applicant's invention. Identity is lost by omission of an essential ingredient. Robinson, 302; Walker, 369. This is a very common fault with composition claims. The omission of an essential ingredient makes a new composition. In a machine case whether an element is essential or not can be told by inspection. This, as a rule, is not so in composition cases, but only by experiment can the essentiality of ingredients be determined. Therefore in the absence of a statement that it is not essential an element is considered essential unless it is obvious that it may be omitted, for example, one which is added for merely fanciful effect, such as a coloring or a flavoring ingredient. If an ingredient merely improves the composition and is not absolutely essential, claims may be drawn both including and omitting it. *Ex parte* Hentz, 26 O. G., 437. But even in such a case a proper basis for the omission of such an ingredient should be laid in the description.

If the specification lays a basis for the omission of certain ingredients the claims which do not include all

the ingredients should be so worded as not to limit them to the ingredients enumerated therein. The phrases "consisting of" and "composed of" are limiting in effect while "containing" or "comprising" are broader terms. Hoskins Manufacturing Co. *vs.* General Electric Co. A claim for a composition "consisting of" a, b, c, and d, is a different invention from one for a composition "consisting of" a, b, and c. *Ex parte* Gleason, 108 Commissioner's MSS., Dec., 311. There is no analogy between compositions and machines in this respect. In a machine case claims may be drawn to the complete machine and to subcombinations of it. But the subcombinations do not lose their identity whether associated with other elements to form the machine or considered by themselves. A single reference can anticipate all of them since it is not necessary to show the subcombination by itself to anticipate it. In the case of the composition the ingredients may entirely lose their identity and their mode of operation is seldom discernible and a single reference will not meet a composition "composed of" a, b, c, and d and one "composed of" a, b, and c. Such claims are limited to the precise ingredients mentioned in each, no more and no less. They do not stand in the relation of genus and species to each other nor as combination and subcombination. If the word "comprise" be substituted for "composed of" in the claim containing a, b, and c, it may be considered as generic to the other since it is not now limited to a, b, and c, but may contain other ingredients; but even then essential ingredients should not be omitted. Objection has been made to this type of claim on the ground of indefiniteness (*Ex parte* Gleason, cited above), but it is no more indefinite than machine claims in which analogous expressions are used, and if the nature of the composition is also indicated in the claim by properties there can surely be no serious objection to this type of claim.

As to claims each of which contains ingredients not named in the others the Board of Examiners-in-Chief has held such claims to cover different species in *Ex parte* Inskeep, vol. 77, page 169 (Patent 806,976). The claims were as follows:

> (1) "Fumigating composition containing sulphur and hickory bark."

(2) "Fumigating composition containing sulphur and licorice."
(3) "Fumigating composition containing sulphur and lemon peel."

The complete compound contained all the above ingredients. The board said:

> "We are aware of no decision which authorizes the retention in the same application of claims which respectively include one element of a composition of matter associated with other and independent elements of that composition and we apprehend that no decision will ever be rendered authorizing such a practice; in fact, the decision in the case of *Ex parte* Eagle, which has never been overruled, distinctly forbids it. The fact that each claim can be read upon the complete mixture is not conclusive."

Almost invariably in cases of this kind which have come to my attention there has been no basis in the description for this type of claim and the inventor never had in mind the idea of juggling the ingredients of his composition in the manner covered by the claims. It would be a very unusual combination in which the various elements may be indiscriminately omitted without changing the invention. In such a composition many of the ingredients must be non-essential and instead of the complete mixture being a combination it is very likely an aggregation of substances.

The real test, however, in all the above types of claims is, Do the various claims cover a single invention? This must be determined for each case. If they do they should be permitted together. If they do not they should not be permitted together. The form of the claim is a secondary matter.

In selecting terms to define ingredients of a composition generically there is danger of choosing terms which are too comprehensive. In Bracewell *vs.* Passaic Print Works, 107 F. R., 467, the use of zinc oxide, hydrate, or carbonate seemed to be imperative to the success of the process. The applicant, however, stated that any zinc

compound may be employed with good results, which statement was incorrect since it was proved that a large number of them would not do so. Judge Coxe said:

> "It can not be contended that the patentee knew that his statement that any zinc compound would operate successfully was false, but it is manifest that he did not know that it was true and he should have known it was true before he inserted it in his description and made his corresponding claim. He stretched his net to catch as infringers all users of zinc compounds and if he stretched it to the breaking point he has only himself to blame. The courts should be liberal in construing patents, but they can not rewrite the description and claims, they can not construct an entirely new patent even to save a meritorious invention. If the complainant's contention be correct a patentee can claim blindly an entire group of compounds, relying on the court, after subsequent investigation and experiment, to limit the claim to the one which gives the best results. This will not do."

In Matheson *vs.* Campbell, 79 O. G., 686, it was alleged by the patentees that any sulpho-acid treated by their process would give a "color-producing black" and that therefore all sulpho-acids were equivalents. Judge Lacombe ruled that:

> "The inventors did not make any such 'broad discovery.' They made the specific discovery that some disulfo-acids treated according to their process would produce their product. The broad discovery that all sulfo-acids may be thus transformed they certainly did not discover . . . since most of them can not be thus transformed by the process of the patent. . . . We are referred to no authority and know of no principle which will sustain applicant's contention that he can thus . . . speculate on the equivalents of his claimed invention, and thereby oblige the public to resort to experiments in order to determine the scope of the claims of the patent."

But in *In re* Ellis, 167 O. G., 203, the court held that:

> "A term broad enough to cover substances not contemplated by the inventor is not objectionable where fifteen or twenty substances were named in the specification as suitable and it does not appear that there is any other term which is accurately generic to those named."

In defining ingredients generically, by statement of characteristics common to the several specific substances intended to be included, the characteristics or properties relied upon should be essential ones and not mere incidental ones which may be had in common by the substances but which are immaterial in so far as the particular composition is concerned. For example, in a non-corrodible alloy in which gold, platinum and iridium may be used interchangeably on account of their resistance to oxidation, and their specific gravity is unimportant, to define them in the claim as "heavy metals" is improper, since, while they *are* heavy metals, it is not this property which makes them equivalent in the alloy. Such a claim does not properly protect the invention since some heavy metals readily oxidize, and the claim would not cover alloys in which difficulty oxidizable metals not of high specific gravity are used. This is a fault which is quite common in drawing generic claims in composition and process cases. It is very seldom met with in mechanical cases because the function of the elements there is more evident and the common property which is utilized more readily appreciated. Essential, not non-essential, properties should be specified in identifying the ingredients.

There is very often difficulty in defining generically a number of substances which it is found produce substantially the same result in the composition, due to the lack of a generic term, none ever have been coined to fit the case; or it may be that investigation has not been carried to the extent of finding the common essential property of the interchangeable substances. In the latter case there may be a question as to whether the inventor has yet made the generic invention or discovery, or has merely made a number of specific inventions. In some

such cases applicants have been permitted to define the invention by the use of alternative expressions by specifying the various interchangeable substances in the claims. No objection is seen to this in cases where the substances are equivalents since the claim is construed to cover equivalents anyhow. But in cases where the substances are not equivalent, but relate to different species, the use of alternatives is at best a makeshift, since such a claim is not a true generic claim, covering an unlimited number of substances having a common essential property, but is what might be termed an "omnibus" claim, covering a definite number of designated species.

It is often hard to define a composition except by reference to the process of making it. Apparently, if a substance is different from another substance the particulars in which it is different can be pointed out. Otherwise, how is it known that it is different? However, claims have been sanctioned in cases where the differences though recognized are difficult to define. "A composition of matter may be described as a result of a described process where there is no clear way of delineating it." Analin *vs.* Higgins, 15 Blachford. Also Goodyear *vs.* Railroad, 1 Fisher, 626, and *Ex parte* Painter, C. D., 1891. In such cases though nothing can be held to infringe the substance, however closely it resembles it, unless it can be shown that it is made by the same process. Cochran *vs.* Badische Analin Soda Fabrik, 111 U. S., 310, and Plummer *vs.* Sargent, 120 U. S., 448.

Another quite common form of claim presented in composition cases is that in which attempt is made to define the product by stating that it is composed of the materials which are mixed together in making it. This is somewhat analogous to defining by reference to the process but is not the same and is objectionable in all compositions wherein the starting substances lose their identity or react with each other upon being brought together to form new substances. Such a composition should be defined by stating its own inherent properties not those of the materials out of which it was manufactured, because they do not exist as such in the final product and in most cases it is impossible to tell by an examination

of the product what substances were combined to produce it. If it is impossible to thus define it it should be claimed by reference to the process of making it.

If novelty were the only question to be considered in the examination of compositions they would be comparatively easy cases to handle. But the questions of utility, whether they are aggregations or true combinations, whether their compounding involves more than expected skill of the artisan are continually coming up and they are perplexing questions. In mechanical cases the function of each part is apparent or can be easily determined since there are but few laws of action to consider. This is not so in composition cases. Sometimes most surprising results are obtained in combining two well-known substances and it is often impossible to foresee the result. For example, an alloy of 24 per cent nickel and 76 per cent iron has a higher co-efficient of expansion than either metal alone, but if the nickel be increased to about 36 per cent the resulting alloy, "Invar," has an almost negligible co-efficient of expansion, being less than one-twelfth that of either iron or nickel. Whether an ingredient is essential or merely added for the purpose of avoiding an old substance is not easy to determine. Some ingredients may be like the celebrated "soup stone" which it was said would produce an excellent soup if placed in water and meat vegetables and seasoning ingredients added and the mixture allowed to simmer several hours.

The question whether or not the new use of an old substance or composition entitles the inventor to a patent to the composition comes up very often. The composition *per se* is not repatentable because it has been put to a new use, but it is usually very hard to convince the applicant of this. A new name does not make the composition new. "The new use of a composition of matter is not a new composition of matter but a new process for effecting in the new object some desired result." Robinson, Article 270. "The plaintiffs can not because of the use to which they apply the composition claim that they are first and original inventors of the composition." U. S. and Foreign Salamander Felting Co. *vs.* Howe, 9 O. G., 1875.

Also attempt is often made to claim an old substance because it is made in a new way or from new starting materials. Here, again, the composition is not repatentable. In Cochran *vs.* Badische, cited above, it was held:

> "That while a new process of producing it (alizarine) was patentable the product itself could not be patented even if it was a product made artificially for the first time in contradistinction to being eliminated from the madder root. Calling it alizarine did not make it a new composition and patentable as such."

In England a composition first made commercially is patentable, although before known as a chemical curiosity. Cyk., 30-826. A purified substance which has existed in an impure state may be patentable. In Parke Davis *vs.* Mulford, 189 F. R., 95 (the adrenalin case), it was held that:

> "A substance extracted from animal tissue for medical use which is new practically and therapeutically may be patentable although it differs from previous preparations only in the degree of purity."

And in Kuehmsted *vs.* Farbenfabriken of Elberfeld Co., 179 F. R., 701 (the aspirin case), it was held that a product made for the first time in a sufficiently pure state to render it therapeutically available is patentable.

Compositions differ from mechanical inventions in that generaly they can be very readily briefed for search purposes by the card index system or on large sheets where there are a limited number of ingredients, as in alloys, which class has been well briefed. The other composition classes are either not briefed at all or only partially. To brief them properly requires care and takes time. A carelessly prepared brief is valueless since it can not be relied upon. The search of compositions extends much beyond the patented art and in some

classes is more in the technical periodicals and books than in the patents. The time it would take to brief the various composition arts would, in my opinion, be well expended and more than compensated by the time afterward saved in making searches. As to the determination of equivalency, operativeness and utility this would require, in order to be properly done, a well-equipped laboratory with facilities for making the proper tests. I know of no good reason why the Patent Office should not have such a laboratory.

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# Certain Phases of Reissues Particularly Delay in Filing the Application, and Inadvertence, Accident or Mistake

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## BRIEF OF POINTS.

The first reissue statute was passed in 1832.

Prior to that time, reissues were granted, and they were upheld by the Supreme Court in Grant *vs.* Raymond.

Up to about 1882, the practice was extremely liberal, allowing a reissue of a patent practically at any time during its life, for anything which might have been claimed in the original, and sometimes even for more than was disclosed.

This resulted in great hardships to manufacturers.

To correct these evils the Supreme Court, in the case of Miller *vs.* Brass Co. (decided in 1882), laid down the doctrine of laches.

This doctrine was founded upon the theory that the statute did not in terms, provide for enlarged reissues. A change in the rules immediately followed requiring the applicant to file an oath setting forth what the errors were which constituted the inadvertence, accident, or mistake, and how they arose or occurred.

Where the claims are restricted delay may be disregarded, unless the delay occurred after the defect was discovered.

"Inadvertence, accident, or mistake," is used in antithesis to fraudulent intent, and comprehends every error by which the patent fails to give the protection which it should have given.

Claims may be broadened by reissue filed within two years, where there has been a clear error, which may consist merely of want of knowledge or attention, experience, or capacity on the part of the solicitor or the applicant.

After two years each case must be governed by its special facts and circumstances.

# Certain Phases of Reissues, Particularly Delay in Filing the Application, and Inadvertence, Accident, or Mistake.

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## REISSUES BEFORE THE FIRST REISSUE STATUTE.

In the foundation of our Government it was deemed conducive to the progress of its people that a monopoly for a limited time be granted to the inventors or discoverers of new and useful inventions. In conformity with the Constitutional provision the first patent statute was enacted in 1790 authorizing the Secretary of State, or the Secretary of War, or the Attorney-General, to cause letters patent to be made out in the name of the United States, it being required that such letters patent be attested by the President of the United States, and certified by the Attorney-General upon his finding that the grant had been made in conformity with the act.

It was obviously the purpose of the law to protect inventors for the actual invention disclosed, for clearly it would be a miscarriage of justice should the public be given the benefit of the inventor's disclosure without at the same time securing to him a monopoly of the invention for the period set out in the statute, which originally was fourteen years. But it sometimes happened that a patent, while disclosing the invention fully to the public, failed for some reason to protect the inventor in his exclusive rights. It was then a serious question how the rights of the inventor could be secured as there was at first no authority given in the statute to amend or correct an imperfect patent. Notwithstanding the failure of the statute to give any express authority in this regard patents were frequently reissued

with a view to giving to the inventor the protection which it was intended that the original patent should give. Reissues were at first granted by the Secretary of State. The right to reissue came before the Supreme Court for the first time in January, 1832, and the power to grant reissues was considered. The objection was raised that the Secretary of State was merely a ministerial officer and could exercise no power not expressly given. On this point, the court, speaking through Chief Justice Marshall, said:

> It is undoubtedly true, that the Secretary of State may be considered, in issuing patents, as a ministerial officer. If the prerequisites of the law be complied with, he can exercise no judgment on the question whether the patent shall be issued. It is equally true that the act of Congress contains no words which expressly authorize the secretary to issue a corrected patent, if the original, from some mistake or inadvertence in the patentee, should be found incompetent to secure the reward which the law intended to confer on him for his invention. The force of this objection, and of the argument founded on it is felt. If the new patent can be sustained, it must be on the general spirit and object of the law, not on its letter.

The opinion then points out that a law for the protection of inventors was one of the first passed by Congress, and that it was the purpose of that law to confer on them an exclusive right to their inventions for a definite period as a compensation for their exertions and the disclosure of the invention to the public. The law should be construed, the court said, so as—

> to execute the contract fairly on the part of the United States, where the full benefit has been actually received, if this can be done without transcending the intention of the statute, or countenancing acts which are fraudulent or may prove mischievous. The public yields nothing which it has not agreed to yield; it receives all which it has contracted to receive. The full

benefit of the discovery, after its enjoyment by the discoverer for fourteen years, is preserved; and for his exclusive enjoyment of it during that time, the public faith is pledged. That sense of justice and of right which all feel, pleads strongly against depriving the inventor of the compensation thus solemnly promised, because he has committed an inadvertent or innocent mistake.

If the mistake should be committed in the department of State, no one would say that it ought not to be corrected. All would admit that a new patent, correcting the eror, and which would secure to the patentee the benefits which the law intended to secure, ought to be issued. And yet the act does not in terms authorize a new patent, even in this case. Its emanation is not founded on the words of the law, but it is indispensably necessary to the faithful execution of the solemn promise made by the United States. Why should not the same step be taken for the same purpose, if the mistake has been innocently committed by the inventor himself? Grant *vs.* Raymond, 6 Peters, 218-240.

The decision held the reissue valid notwithstanding the absence of statutory authority to grant it.

## STATUTORY PROVISIONS.

This decision was rendered in January, 1832. On July 3, 1832, the first resissue statute was enacted which provided "that whenever any patent which has been heretofore, or shall be hereafter, granted . . . shall be invalid or inoperative, by reason that any of the terms or conditions prescribed in the third section" of the act of 1793 "have not, by inadvertence, accident, or mistake, and without any fraudulent or deceptive intentions been complied with on the part of the said inventor, it shall be lawful for the Secretary of State, upon the surrender to him of such patent, to cause a new patent to be granted to the said inventor for the same invention for the residue of the period then unexpired." This act also gave the right of reissue to his assignees. In the law of 1836,

the provision for reissues is found in section 13, which provided that reissues should be granted whenever a patent was inoperative or invalid "by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification as his own invention, more than he had a right to claim as new, if the error has, or shall have arisen by inadvertency, accident or mistake, and without any fraudulent or deceptive intention." The portion of the act of 1836 quoted is in substantially the same words as section 4916, Rev. St.—the present reissue statute.

Although the statute as it stands today is essentially the same as the statute of 1836, the practice was considerably modified from time to time, changes being brought about by judicial interpretation. Let us look at the development of the practice and the reasons therefor.

## PRACTICE UNDER THE STATUTE CHARACTERIZED BY GREAT LIBERALITY—CAUSES AND RESULTS.

Reissues were always granted for the purpose of securing to the inventor the real invention which he sought originally to protect, when the original patent failed to give adequate protection through some inadvertence, accident, or mistake, and without any fraudulent or deceptive intention. In the early practice all that was necessary to establish inoperativeness or invalidity, and inadvertence, accident, or mistake, and absence of fraudulent intent was the affidavit of the inventor or assignee to that general effect. It was not necessary to make any statement, under oath or otherwise, showing in what respect the original patent was defective, what the errors were, or how they arose or occurred. The first provision in the rules requiring the applicant for reissue to specify the defects in the original patent and the errors which occasioned them occurs in Rule 46 of the Rules of September 1, 1863, which provided that "all applications for reissue must be accompanied by a statement clearly setting forth in what respect the original specification is inoperative or invalid,

and what inadvertency, accident, or mistake occurred, that the office may have the means of determining whether it was without any fraudulent intent." This was omitted in the next edition of the Rules of January 1, 1865, and a similar provision was not made until 1882.

The demand for the restriction of reissue was widespread but the remedy was not obvious. In 1876, a prominent attorney of Philadelphia—Mr. Howson—suggested that every applicant for reissue be required to "file a paper setting forth in full and explicit terms wherein consists the error, inadvertence, or mistake contained in the oiginal patent which he desires to correct by reissue. If language is introduced which does not appear in the original patent, he must state why he introduced it, and whether it is based on the model, drawing, or specification. If new functions, which do not appear to have been contemplated in the original patent, are given in the new specification, a full explanation will be demanded from the applicant, tending to show the accuracies of the new assertions, and when expanded claims are asked, he must state the ground on which they are based." This suggestion however was not adopted.

Rule 86 of the Rules published September 1, 1880, provided that "the affidavit of the applicant will be prima facie evidence as to inadvertency, accident, mistake, fraud, and deceptive intent, subject to contradiction or confirmation by the records of the office, by the affidavit of employees of the office having personal knowledge of the facts, or by such other affidavits as the Commissioner shall, without disclosing the pendency of the application, admit as evidence in the case."

In the next edition of the Rules published April 15, 1882, a decided step was taken toward restricting reissues by requiring that the applicant set forth particularly the defects or insufficiencies in the specification which rendered the patent inoperative or invalid, that he explain how the errors arose in order that the question of inadvertence, accident, or mistake might be determined, and make oath that such errors arose without fraudulent intent. It was afterward required (Rules of

Practice, November 16, 1885),,that all these allegations be made under oath. The practice in this respect is now covered by Rule 87 which was recently held valid by the Court of Appeals of the District of Columbia, in Fullagar, 192 O. G., 1263; 40 App. D. C., 510. The purpose of requiring a statement of the particular errors and how they arose or occurred was evidently to bring out on the record all the facts in order that the office could judge whether the alleged mistake was a *bona fide* mistake, or a deliberate act inconsistent with applicant's allegation. This requirement has an analogy in the requirement of Rule 75, that an affidavit filed thereunder shall state "facts" as distinguished from the conclusion of the affiant. In both cases, the purpose is to substitute the judgment of the officers who are charged with the duty to administer the law for the conclusion of another. Since 1885, the practice on this point has not materially changed.

From the facts stated it is apparent that the early requirements as to the showing of defects in the original claims and the mistakes which caused them were so easily complied with that, until 1882, they offered practically no obstacle to the reissue of any patent with either restricted or broadened claims.

Another matter which caused some difficulty in the development of the law involved the relation between the inventions covered by the original and reissued patents. It was always the purpose to restrict the invention covered by the reissue to the invention which the original patent was intended to protect. But views varied as to the right of the inventor to amend his specification, drawings, and model, or to add to the disclosure in the reissue application matter which the inventor intended to include in the original description, drawings, or model, but which he failed to include through some inadvertence. It was the established practice for many years to permit the inventor to include in the reissue anything which he might have included in the original. Hence he could amend the description by the drawings or the model, or the model and drawings each by the other, but he could not amend the model and drawings by the description except in a clear case, the description being considered as uncertain.

Rule 54, of the Rules of February 20, 1854, stated that "the general rule is, that whatever is really embraced in the original invention, and so described or shown that it might have been included in the original may be claimed in a reissue, but in case of machine, model and drawings must be amended each by the other; but when there is neither model nor drawings amendments may be made upon proof satisfactory to the Commissioner that such new matter was a part of the original invention and was omitted through inadvertence. The Rules of Practice of July 15, 1870, provided that "anything which might have been included in the original may be claimed in a reissue."

For a time prior to this it was the practice to permit the inclusion in a reissue of inventions not disclosed in the specification, drawings, or model on sufficient proof that such invention was a part of the original invention. This practice resulted from an extremely liberal interpretation of the statute to the effect that the inadvertence, accident, or mistake referred to inadvertence in a failure to disclose the invention rather than a failure to point out the invention so as to distinguish the old from what was claimed as new. It was soon decided however that this was illegal (Carhart *vs.* Austin, 2 Fisher, 543; Goodyear *vs.* Providence Rubber Co., 2 Fisher, 499; Sickles *vs.* Falls Co., 2 Fisher, 202), and that the reissue must be restricted to matter disclosed in the original patent. This dangerous tendency to claim even more than was disclosed in the original was definitely checked by the provision of Section 53 of the act of 1870, which provided that "no new matter shall be introduced into the specification, nor in case of a machine patent shall the model or drawings be amended, except each by the other." It is to be noted however, that the present reissue statute still permits the insertion of matter not originally included in cases where there is no drawings or model, upon proof satisfactory to the Commissioner that such new matter or amendment was a part of the original invention and was omitted from the specification by inadvertence, accident, or mistake."

Another reason for the early liberal practice on the granting of reissues was the fact that the doctrine of laches in the filing of the application had not yet been

evolved. No statute that has ever been passed relating to reissues has made diligence a condition precedent to the grant. The statute gave the right of reissue to one who had inadvertently failed to secure the protection to which he was entitled. It was assumed that it was the intention to secure to the inventor what he should have secured in taking out the original patent even though a correction of the error long after the publication of the patent, and the public use of the invention, might work some hardship on the public. Therefore it appears that the length of time intervening between the grant of the original patent and the filing of the reissue application was not considered. Reissues broadening a patent were granted but a short time before its expiration. An instance of the length to which the practice went is found in the decision of the Supreme Court in the case of Gage *vs.* Herring, 22 O. G., 2119; 107 U. S., 640, involving reissue patent, 4712. The original patent, if its term had not been extended, would have expired on April 20, 1872. In December, 1871, four months before the time of expiration, a reissue was applied for (this being the second reissue), adding a claim to the single prior claim, which broadened the scope of the patent by omitting from the new claim two of the seven elements before claimed. The oath simply averred that the petitioner "verily believes that, by reason of an insufficient and defective specification, his aforesaid letters patent (the first reissue) are inoperative or invalid; that the said error (no error was stated) had arisen from inadvertence, accident, or mistake, and without any fraudulent intention, to the best of his knowledge or belief." The reissue was granted in less than a month without objection or comment.

On account of the extreme liberality of the practice upon the identity of the invention, showing of inadvertence, accident, or mistake, and the time within which reissues might be granted, a reissue was resorted to very frequently. In 1863, the number of reissues granted was 6 per cent of the total; in 1870, it was $3\frac{1}{2}$ per cent. Comparing these figures with a percentage of .24 for 1895, it is found that the percentage of reissues of 1863 bear to the reissues of 1895, the proportion of 25 to 1. Furthermore, the patents reissued

were those of most importance in the arts and industries. The evils resulting from this liberal policy were observed and commented upon, although it is due to the Patent Office to say that its policy was directed by the law and the decisions of the courts, and it could not materially restrict the right of reissue as it had always been recognized without assuming an arbitrary power.

On this point a prominent patent attorney in 1882 said:

> Although the Patent Office may, in some instances, be directly responsible for the grant of outrageous reissued patents, it would be unjust to charge that bureau with the evils resulting from the prevailing latitude in acting on this class of cases, and the permission given patentees to absorb by reissue, the inventions of others.
>
> Many expanded reissued patents of doubtful character have been sustained by the courts, while many others have been slaughtered.
>
> The treatment of reissued and expanded patents by the courts has not been uniform, and in the light of apparently conflicting judicial opinions, the office has been unable to draw a well-defined line for the guidance of Examiners in their consideration of reissue applications.
>
> The understanding and opinions of Examiners naturally enough differed on the subject, and the consequence of all this has been the long continuance of a system of so-called liberality in the grant of reissued patents with enlarged claims.

The Supreme Court graudually developed a strong antagonism to enlarged reissued patents.

In 1879, in the case of Leggett *vs.* Avery, 17 O. G., 445; 101 U. S., 256, commenting on a patent granted on October 9, 1860, surrendered and reissued on June 22, 1869, extended for seven years from October 9, 1874, and again reissued on November 10, 1874, it said:

> The pretense that the error had arisen by inadvertence, accident, or mistake, within the meaning of the patent law, was too bald for human credence. . . .
>
> The allowance of claims once formally abandoned by the applicant in order to get his patent

through is the occasion of immense frauds against the public. It not unfrequently happens that after an application has been carefully examined and compared with previous inventions, and after the claims which such an examination renders admissible have been settled with the acquiesence of the applicant, he, or his assignee, when the investigation is forgotten and perhaps new officers have been appointed, comes back to the Patent Office, and under the pretense of inadvertence and mistake in the first specification gets inserted into a reissued patent all that had been previously rejected. In this manner, without an appeal, he gets the first decision of the office reversed, steals a march on the public, and on those who before opposed his pretensions (if, indeed, the latter have not been silenced by purchase), and procures a valuable monopoly to which he has not the slightest title.

General Leggett made the following comment:

> "In these reissues more deviltry—if I may be permitted to use the phrase—creeps into the practice of patent law, than everything else put together."

## EVILS AND REMEDIES THEREFOR.

What were these evils which gave so much concern to the Patent Office and the courts?

Generally stated it was the withdrawal of rights which mechanics and manufacturers had exercised for years, not in favor of the real inventor or the one who had done most to advance the sciences and useful arts, but in favor of a mere speculator who had never done anything but conceive of a way in which an apparently worthless patent might be expanded into one of far-reaching importance. The practice which prevailed is quite fully set forth in a pamphlet written by Mr. H. Howson, of Philadelphia, published in 1877, when discussions relat-

ing to proposed patent legislation took place before the Senate Committee on Patents. He said:

> "A patent, or series of patents, relating to some special branch of industry, has been obtained, and capital has been invested in the manufacture of the patented articles. Now in these days, the simplest objects of every-day use can not be economically manufactured without an outlay for machinery and appliances, and for carrying into effect a proper system of division of labor; the public demands not only new things but better things and cheaper things, and this demand can only be supplied by patents, and by the capital which patents invite. The remarkably cheap products of our workshops at the Centennial Exhibition were matters of surprise and astonishment to our visitors from abroad, where labor is much less expensive than in our own country.
>
> "The factory, based on patents, is in full and successful operation, the proprietor is receiving a fair interest for the capital invested, and the public has the benefit of cheaper and better articles in return for the protection afforded by the Government in the shape of patents.
>
> "The success of the establishment can not remain a secret, and it attracts the attention of a patent speculator, whose first move is to try to get hold of some patent preceding those which are owned by the proprietors of the establishment. Failing in discovering a patent to exactly meet the case, he takes an excursion to Washington, probably takes the advice of a solicitor there, to whom he explains what he wants, and together they go on a hunting expedition through the records and model halls, until they find some model of a patent which they think can be doctored by reissue to resemble a subsequent prominent patent of the manufacturer. The model has, perhaps, long since been almost forgotten by the inventor himself, and has remained on the shelves of the model room without attracting any notice. By cunning manœuvres,

the patent to which the model appertains is purchased from the owner, perhaps for a mere song, and then commences the operation of re-issuing; the attorney has the copy of the recently discovered patent before him, and also a copy of that for the coveted machine of the successful manufacturer, and he is told that he must reissue the first patent so as to cover, or, to use a common phrase, wipe out the second.

"The most ingenious devices are adopted to bring this about,—the attorney receives high fees, and the Examiner is cajoled by all sorts of assertions into allowing claims which may appear to be innocent enough.

"The reissued patent is shown to the manufacturer, and he may be induced to purchase it for a large sume in order to avoid expensive litigation. Now this money is taken from the public to enrich the speculator, the non-producer, for, to make up for the withdrawal of capital, the price of the product is increased. Perhaps the manufacturer resists the demand made on him, costly litigation ensues, and the public and manufacturer suffer for the benefit of the owner of the reissued patent.

"The evil wrought by this system is incalculable; it not only disturbs the economy of manufacture, but brings disgrace on the whole patent system. A reissue of this character can not promote the progress of the useful arts, it must necessarily obstruct that progress."

There are scores of instances in which patents were issued, reissued, and re-reissued to keep pace with "the progress of the arts as developed by time and experience." In one instance, a patent was granted with a single, modest, and harmless claim; in the branch of industry to which it related, several valuable improvements were made, the patent was reissued to absorb these improvements, again reissued to cover other improvements, and again reissued, until at last, the little patent with a specification of 450 words and a single claim was

converted into two patents with 8,000 words and seventeen claims.

Remedies to correct these evils were suggested and attempted from time to time. Fomerly the owner of the entire interest in a patent could reissue it without the knowledge or assent of the inventor; but since the act of 1870, the inventor if alive, must make the application. This remedy however, had little effect as it was generally an easy matter, by misrepresentation or through the intervention of emissaries, to obtain the signature of the inventor, who was kept in the dark as to the scope and object of the reissue.

In his report of 1871, Commissioner Legget suggested that the law should be so amended as to require that a notice of all applications seeking enlarged claims be published in the Official Gazette, for at least four weeks previous to the day set for examining the same, and that opposition be allowed as in extension cases. It was also suggested that there should be no reissue of a patent after it had been in existence for more than two years.

## THE DOCTRINE OF DELAY OR LACHES.

Without any change in the law, however, the Supreme Court found a remedy in the doctrine of laches in filing the application. This doctrine was laid down in the case of Miller *vs.* The Bridgeport Brass Co., reported in 104 U. S., 350; 21 O. G., 201. The decision is dated January 9, 1882. The facts in that case are briefly set forth in the decision as follows:

> "The original patent described a combination of devices, amongst other things, *two* domes or reflectors, one above the other, elevated above a perforated cap through which a wick tube and vapor tube ascended.
>
> "It was claimed that this combination of devices, especially including the two domes, which admitted the external air between them for producing a more perfect combustion, would make a lamp, which, *without a chimney*, and without danger of explosion, would burn those hydrocarbons which are volatile and contain an excess

of carbon. The invention proved a failure, but it was found that *the use of one of the domes* (and the other parts) *with the restoration of the chimney*, would be a real improvement, and both plaintiff *and defendant* made such lamps in large quantities. *Fifteen years after the original patent was granted*, the patentee (or rather his assignee) discovers that the improved lamp was really a part of his original invention, and that by inadvertence and mistake he had omitted to claim it.

"Upon this state of facts, the court said: 'We think, that the court below was clearly right in holding that the invention specified in the second claim of the reissued patent (the one in question) is *not* the same invention described and *claimed* in the original patent.' "

The court might have rested its decision on their conclusion that the reissued patent was not for the same invention as the original. Or they might have rested the decision on the finding of no inadvertency, accident, or mistake, for the opinion says:

> "But there is another grave objection to the validity of the reissued patent in this case. It is manifest on the face of the patent when compared with the original, that the suggestion of inadvertence and mistake was a mere pretense."

But the court proceeds to say:

> "Or if not a pretense, *the mistake was so obvious as to be instantly discoverable* on opening the letters patent, *and the right to have it corrected was abandoned and lost by unreasonable delay. The only mistake suggested is, that the claim was not as broad as it might have been.* THIS MISTAKE, IF IT WAS A MISTAKE, WAS APPARENT UPON THE FIRST INSPECTION OF THE PATENT, AND IF ANY CORRECTION WAS DESIRED, IT SHOULD HAVE BEEN APPLIED FOR IMMEDIATELY.
>
> "These *afterthoughts, developed by the subsequent course of improvement*, and intended, by an ex-

pansion of claims, to sweep into one net all the appliances necessary to monopolize a profitable manufacture, are obnoxious to grave animadversion.

"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.

"*It is a declaration that that which is not claimed is either not the patentee's invention, or, if his, he dedicates it to the public.* This legal effect of the patent can not be revoked unless the patentee surrenders it and *proves* that the specification was framed by real inadvertence, accident, or mistake, without any fraudulent or deceptive intention on his part; *and this should be done with all due diligence and speed.* Any unnecessary laches or delay in a matter thus apparent on the record, affects the right to alter or reissue the patent for such causes. If two years' public enjoyment of an invention with the consent and allowance of the inventor, is evidence of abandonment, and a bar to an application for a patent, *a public disclaimer in the patent itself should be construed equally favorable to the public.* Nothing but a clear mistake, or inadvertence, and a speedy application for its correction, *is admissible where it is sought merely to enlarge the claim.*

"Now whilst, as before stated, we do not deny that a claim may be enlarged in a reissued patent, we are of opinion that this can only be done when an actual mistake occurred, not from a mere error of judgment (for that may be rectified

by appeal); but a real, *bona fide* mistake inadvertently committed, *such as a Court of Chancery, in cases within its ordinary jurisdiction, would correct.* Reissues for the enlargement of claims should be the exception, and not the rule."

Here the Supreme Court, fifty years after its first consideration of a reissued patent and forty-six years after the enactment of the statute, gave a new force to its terms, and laid down a doctrine never before known to the patent law—that of delay and intervening rights.

## FOUNDATION OF DOCTRINE OF LACHES.

The decision of the court in Miller *vs.* Brass Co., was intended to, and did, put a stop to the hardships placed upon manufacturers by the undue enlargement of patents many years after the invention covered thereby had gone into public use. Let us now look at the foundation of the doctrine as enunciated by the court. As shown by the decision itself the court found its authority for the doctrine in the general principles of the law, and in the equitable doctrine that laches may forfeit an existing right. The court reasoned in substance as follows:

That the law of 1832 provided for a reissue where there was a failure to comply with any of the terms and conditions prescribed by the law for giving a clear and exact description of the invention. That the law of 1836 enlarged the power to grant reissues by adding an additional ground for reissue, namely, that the patentee had inadvertently claimed more than he had a right to claim; that prior to this time no claim had been required to be made, and therefore that the enlargement of the claim was not in the mind of Congress when the statute was enacted; that the law in terms contemplated only a correction of the description and a restriction of the claim and not an enlargement of a restricted claim. They concluded that if the patentee was entitled to amend his patent when he had claimed too little it was only under the general terms of the law, and on principles of equity, and that in such case, equity would restrict the privilege so as to protect the public from

the evils to which it had been subjected by unwarranted reissues.

Robinson, in his work published eight years after the decision of the court, maintains that the reasoning of the court is founded upon a fundamental error in assuming that the word "specification" in the phrase "defective or insufficient description or specification" did not refer to the claims; that while prior to the law of 1836, no formal claim was required, nevertheless it had been customary to make a "claim" and this part was often referred to as the "specification" of the invention; that the statute therefore did in terms provide for the correction by reissue of an error by which the patentee failed to secure sufficient protection. The learned author contends that the statute might have been interpreted as providing for an enlargement of the claims and that the doctrine of laches might have been founded as well upon the theory that delay is inconsistent with the existence of inadvertence, accident, or mistake.

If we should regard delay merely as evidence bearing on the question of inadvertence, accident, or mistake, it would result probably in a more uniform application of the doctrine of laches; but that the courts have not adopted this viewpoint is believed to be evident from their decisions made since the publication of Robinson's work. If the doctrine of laches were brought within the statutory provisions it is not seen how any distinction could be made between enlarged reissues and those which were restricted or otherwise amended. But the decision of the courts since the decision of Miller *vs.* Brass Co., make a clear distinction between broadened and narrowed reissues as will be shown later. Furthermore, the trend of the decisions bears out the conclusion that the doctrine of laches must be regarded as an equitable doctrine, and that the authority of the courts to hold a reissue invalid on account of delay in filing the application, is founded upon equitable principles and not upon the terms of the reissue statute.

As above pointed out in Miller *vs.* Brass Co., the courts looked upon the failure to claim devices or combinations apparent on the face of the patent as a dedication to the public of that which is not claimed. "It is a declaration that that which is not claimed is either not the patentee's

invention, or, if his, he dedicated it to the public. The legal effect of the patent can not be revoked unless the patentee surrenders it and proves that the specification was framed by real inadvertence, accident, or mistake. . . . Nothing but a clear mistake, or inadvertence, and a speedy application for its correction, is admissible where it is sought merely to enlarge the claim." The nature of the mistake contemplated is referred to as a "*bona fide* mistake, such as a Court of Chancery, in cases within its ordinary jurisdiction, would correct."

In Topliff *vs.* Topliff, 145 U. S., 156, 59 O. G., 1257, decided ten years later, the Supreme Court, after a review of the decisions of the courts since Miller *vs.* Brass Co., stated the rule governing reissues as folllows:

> From this summary of the authorities it may be regarded as the settled rule of this court that the power to reissue may be exercised when the patent is inoperative by reason of the fact that the specification as originally drawn was defective or insufficient, or the claims were narrower than the actual invention of the patentee, provided the error has arisen from inadvertence or mistake, and the patentee is guilty of no fraud or deception; but that such reissues are subject to the following qualifications:
>
> First. That it shall be for the same invention as the original patent, as such invention appears from the specification and claims of such original.
>
> Second. That due diligence must be exercised in discovering the mistake in the original patent, and that, if it be sought for the purpose of enlarging the claim, the lapse of two years will ordinarily, though not always, be treated as evidence of an abandonment of the new matter to the public to the same extent that a failure by the inventor to apply for a patent within two years from the public use or sale of his invention is regarded by the statute as conclusive evidence of an abandonment of the patent to the public.
>
> Third. That this court will not review the decision of the Commissioner upon the question of inadvertence, accident or mistake, unless the

error is manifest from the record; but that the question whether the application was made within a reasonable time is, in most, if not in all such cases, a question of law for the court.

Here the court reaffirmed the doctrine of Miller *vs.* Brass Co., and treated the failure to claim in the original patent as a constructive abandonment. Furthermore, in the statement that the court would not review the decision of the Commissioner upon the question of inadvertence, accident, or mistake, but that the question of delay, was one of law for the court, is implied the thought that delay can not be considered merely as evidence bearing upon inadvertence, accident, or mistake.

## CONFLICT OF DECISIONS.

The questions of identity of invention, inadvertence, accident, or mistake, delay and intervening rights, have been so confused by the courts that the correct principles which shall govern the practice of the Patent Office in the granting of reissues are very difficult to determine. On these points, one may find a decision of some court to sustain almost any position which one might wish to assume. Some of the courts drew from Miller *vs.* Brass Co., the conclusion that a reissue could not enlarge the original claim; that this was wrong is indicated by the later decision in Topliff *vs.* Topliff. There is much conflict and uncertainty in the decisions upon each of these several matters.

If some of the controverted points can be settled to our satisfaction, it will aid materially in a ready disposition of the rights of reissue applicants.

## RESTRICTED REISSUE—DELAY OF LITTLE CONSEQUENCE.

It seems to be fairly well settled by the best considered decisions of the courts that where it is sought merely to restrict the original patent, which is found to be too broad, delay is not of importance. The distinction between enlarged and narrowed reissues was made in the

case of Miller *vs.* Brass Co., and reiterated in Topliff *vs.* Topliff. In the enunciation of the doctrine of laches, the court indicated that where it was sought to enlarge the claims greater diligence would be required than where it was sought merely to correct the description or restrict the claims. There seems to be no conflict of authority upon this point but no court has laid down any general rule. In Sirocco Engineering Co. *vs.* B. F. Sturtevant Co., 173 Fed. Rep., 378, a reissue restricting the claims was held valid although the application was filed seven years after the granting of the original patent. In Steiner & Voegtly Hardware Co. *vs.* Tabor Sash Co., 178, Fed. Rep., 831, a delay of twelve years was held not a bar where the patent was narrowed. The latest decision on this point is in the case of Motion Picture Patents Co. *vs.* Laemmle, 214 Fed. Rep., 787, in which the Edison re-issue patent for motion picture machines, granted over fourteen years after the date of the original patent, was held valid. In this case, the court set forth the distinction between broadened and narrowed reissues in the following words:

> "The books are full of cases where the courts have appreciated the importance of intervening rights, and have realized the injury which may or will be done to the public where, after either an unreasonable delay or a process of experimentation with court decisions, an attempt is made to broaden claims. In such instances, industry and commercial progress may be arrested if the courts were to hold to any doctrine which made it dangerous for energetic men to enter upon some well-defined field of activity only to discover subsequently that a grant theretofore given had been enlarged beyond the limits so defined. Thus it is that there is a line of cases of which Miller *vs.* Brass Co., 104 U. S., 350, 26 L. Ed., 783, and Thomson-Houston Electric Co. *vs.* Western Electric Co., 158 Fed., 813, 86 C. C. A., 73, are examples. Nowhere, however, has it been held that a reissue wherein the claims are narrowed is void for laches. It is true that in Pelzer *vs.* Meyberg, 97 Fed., 969, it was held that there were

> degrees of diligence in applying for a reissue, and that a higher degree was required in the case of a broadened claim than in the case of a narrowed claim. The case came up on demurrer, and apparently there was no excuse for the delay set forth."

It is to be noted that in this case the reissue gave the patentee a distinct advantage over and above that which flows from the conversion of a claim invalid because too broad, into a restricted valid claim. It secured to him a valid patent on which he might maintain suit for infringement, whereas it was a matter of much doubt whether suit could be maintained at all on the prior patent by reason of the patentee's failure seasonably to file, under Section 4922 R. S., a disclaimer of a claim which had been held invalid by the Circuit Court of Appeals. It is to be noted also that the patentee had delayed the filing of the reissue for over three years after the Court of Appeals had held the claim invalid, thus being clearly put upon notice of the defect by the ruling of a court whose decision is final on patent questions.

From a review of the authorities on this point it seems fair to conclude that when it is sought to restrict a patent, delay is of no consequence. This should be true even where it is proposed to secure more restricted claims in addition to the broader claims of the original patent; in other words, the rule should be regarded as permitting the addition of claims at any time during the life of the patent which come within the scope of the original claims, providing, of course, a proper showing is made of inadvertence, accident or mistake, and providing due diligence was exercised after the discovery of the error.

## INTERVENING RIGHTS.

Intervening rights, which has been fatal to so many reissues, is a question which does not often, if ever, come before the Patent Office. The prosecution of reissue applications is entirely *ex parte*, as in other cases, and the office has no way of investigating this matter. There is a question whether the granting of patents between

the date of the original and the reissue is an intervening right. The Circuit Court in Minnesota in the case of American Bank Protection Co. *vs.* Electrical Protection Co., 181 Fed. Rep., 350, decided that it was not. To the same effect is Gaskill *vs.* Myers, 81 O. G., 1111; 1897, C. D., 699. The contrary holding was made by the District Court of New York in the case of Specialty Machine Co. *vs.* Asheroft Mfg. Co., 205 Fed. Rep., 760, where there had been a delay of three years. This point has but seldom been directly involved and it can not be said that the law in respect thereto is settled. See also White *vs.* Dunbar, 119 U. S., 51; 1886, C. D., 494; American Soda Fountain Co. *vs.* Sweitusch, 85 Fed. Rep., 968; Clements *vs.* Odorless Apparatus Co., 109 U. S., 641; Flower *vs.* City of Detroit, 22 Fed. Rep., 292; Horn & Brannen Mfg. Co. *vs.* Pelzer, 91 Fed. Rep., 665.

## INADVERTENCE, ACCIDENT OR MISTAKE—BROADENED AND RESTRICTED REISSUES.

Some of the decisions appear to make a distinction between the character of mistake which would warrant a broadening of claims by reissue and those where other defects are sought to be corrected. This is intimated in Miller *vs.* Brass Co., where the court says that a claim may be enlarged by reissue only when there has been a "real *bona fide* mistake, inadvertently committed, such as a Court of Chancery, in cases within its ordinary jurisdiction, would correct." Since the decision of the court was founded upon the proposition that the statute did not specifically provide for the enlargement of claims by reissue, it might well have imposed the condition that in such cases only such errors as a Court of Chancery might correct would be considered as sufficient ground for reissue, while errors of lesser moment might be corrected where it was sought merely to limit the claims or correct the description. But a review of later authorities indicates that an inadvertence, accident or mistake, which will support a narrowed reissue will also support a broadened reissue. Let us now examine the question, what may be considered an inadvertence, accident, or mistake.

It is believed that the weight of authority will sustain the proposition that any failure to secure in the original patent the invention to which the applicant was entitled which was not the result of a deliberate act, or was not the result of an intention to deceive, may be attributed to inadvertence, accident, or mistake. One of the most thoroughly considered cases on reissue is that of Crown, Cork & Seal Co. *vs.* Aluminum Stopper Co., 1901, C. D., 450, 108 Fed. Rep., 845, decided by the Circuit Court of Appeals for the Fourth Circuit. In that case, the court said:

> "A review of the earlier decision of the Supreme Court would seem to show that by 'defective or insufficient specifications" was meant any failure to describe or claim the complete invention upon which the application for the patent was founded, and that 'inadvertence, accident, or mistake' was used in antithesis to fraudulent intent, and that the right to reissue depends upon any failure to make the specification and claims legally adequate for their purpose, if due to any cause except an intention to deceive."

In the case of In re Briede, 1906, C. D., 677, the Court of Appeals found the existence of inadvertence, accident or mistake, where the error alleged was a failure to secure a certain claim arising from unfamiliarity of applicant and his solicitor with the English language.

In In re Heroult, 1907, C. D., 521, the same court found the existence of inadvertence, accident or mistake, where there was failure to secure a claim of sufficient scope which arose (according to the allegations of applicant, who was a citizen of France) because of ignorance of the difference between the laws of France and the United States.

In the case of Crown Cork & Seal Co. *vs.* Aluminum Stopper Co., cited above, there was a broadened claim and no showing of any particular inadvertence, accident, or mistake except an allegation that the application papers were hurriedly prepared, and that neither applicant nor his attorneys noticed the defects throughout the years of the prosecution of the application.

In the case of Houghton *vs.* Whitin Machine Works, 153 Fed. Rep., 740, it was held by the Circuit Court of Appeals for the First Circuit, that the failure to make claims of sufficient scope may be regarded as inadvertence, accident, or mistake. In Moneyweight Scale Co. *vs.* Toledo Computing Scale Co., 187 Fed. Rep., 826, 170, O. G., 728, the Circuit Court for the Seventh Circuit said:

> "The original specification alone on its face was sufficient proof that, if a claim adequate to cover the improved scale was never drawn, the failure came from the lack of an attentive comparison of the submitted claims with the invention particularly pointed out in the specification. This was inadvertence, 'lack of heedfulness or attentiveness,' irrespective of the real competence or incompetence of the solicitors."

In Topliff *vs.* Topliff, where the Supreme Court sustained a broadened reissue, there was no showing of inadvertence, accident, or mistake, the oath alleging merely that the patent was defective and insufficient, and that the defects and insufficiencies arose from inadvertence, accident, or mistake. It is to be noted however, that the application in this case was applied for before an applicant was required to set forth the particular defects of his patent, what the errors were, and how they arose or occurred.

From a review of the authorities it is believed to be a fair conclusion that a mere failure to claim what was indicated in the drawings and specifications as a part of the invention is an inadvertence, accident or mistake within the meaning of the statute, unless the failure was due to an intent to deceive, or to some deliberate act inconsistent with the theory of inadvertence. And it is believed that this rule is as applicable to broadened reissues where the application is filed within two years of the date of the original patent as it is to restricted reissues. As a general rule, the defects and insufficiencies of a patent are not the result of a failure fully to describe the invention, or a failure to claim it with sufficient particularity; but they result from a failure to make

claims of sufficient breadth to protect the real invention. For example, a claim is made to a combination of four elements whereas it is clear to one skilled in the art that one of those elements may be omitted without destroying the capacity of the device to perform the substantial function set out in the specification. An ordinary inventor, or even one who has had considerable experience in patent matters, could not be expected to know that his invention was not fully covered by the claim to four elements. It must be the common observation of any one who has had any intimate knowledge of these matters that it is difficult even for those who are most highly skilled in the interpretation of claims sometimes to determine the true scope of a claim once drawn, or to draw claims adequate to protect the real invention. These difficulties were forcefully pointed out in the case of Crown Cork & Seal Co. *vs.* Aluminum Stopper Co., *supra*, where the Circuit Court of Appeals said:

> The learned counsel for defendant assumes that the subject is so simple that Painter should have discovered instantly upon reading the original patent the occasion for the reissue, if it existed. He forgets that what seems so simple and easy to him, a past-master of the subject, was not so to a mere inventor, unskilled in the art of interpretation, who could not upon a mere reading of his patent determine what his claims covered. Painter had no hesitation and no doubt what his invention covered, and almost immediately upon the hearing of the issue of Hall's patent he said that it was covered by his invention; but it was not until he was advised by his lawyer that he learned that his claims were not commensurate with his invention, and there was no delay then in filing his application for reissue. Some allowance may well be made for an unlearned man, when we remember that in the recent case of *Westinghouse vs. Power-Brake Co.* (C. D., 1898, 443; 83 O. G., 1067; 170 U. S., 537; 18 Sup. Ct., 707; 42 L. Ed., 1136) the Supreme Court itself required three hearings before it could determine the meaning and scope of the patent claims, and the record

in this case shows that such learned experts as General Spear and Mr. Walker differ radically as to what the claims of the original patent cover.

In view of the difficulties of drawing up this very technical document and determining its metes and bounds, it is thought that it should be the general rule to regard any failure to secure to the owner of the patent adequate protection for the invention described and claimed as inadvertence, accident or mistake, if application is made for reissue promptly upon the discovery of the error, and within two years from the date of the original patent, unless the record itself is inconsistent with the allegation of inadvertence, accident, or mistake. In reviewing the showing of inadvertence, accident, or mistake, of course it is always necessary to examine the record of the original patent to see whether there is anything there inconsistent with the allegations of applicant's oath. If one in the prosecution of an application should make a certain claim, and, upon its rejection on references, cancel it in order to receive his patent, it is obvious that his act is deliberate and he will not be heard to say that he was mistaken in his judgment as to the pertinency of the references and desires a reissue to correct the error; the error in such case, if there was error, was not an error within the meaning of the statute, but an error of judgment merely. The same would be true if a disclaimer were entered in the specification during the prosecution of the case. If the record of the original patent is not consistent with the claim of inadvertence the intention of the applicant must be determined from the original record.

## DELAY LESS THAN TWO YEARS.

The most difficult of all points to decide in passing upon reissue applications is whether the application has been seasonably filed. This does not present much difficulty when the aplication is filed within two years. By this I do not mean that any application filed within two years is seasonably presented. Reissues have been held void because of laches in filing the application in cases where

the delay was only a few months. An examination of those cases where a delay of less than two years was held fatal will show that in a majority of the cases there were actual intervening rights, or that the owner of the patent did not proceed with diligence after the discovery of the defects in his patent or after he was put upon notice of such defects.

## DELAY MORE THAN TWO YEARS.

What are the principles to govern the grant of a reissue application for broadened claims which has been filed more than two years after the date of the patent? No general rules can be laid down. The decision in each case must depend upon the particular circumstances.

In the case of Mahn *vs.* Harwood, 112 U. S., 354, the Supreme Court said:

> "In Miller *vs.* Brass Co., by analogy to the law of public use, before an application for a patent, we suggested that a delay of two years in applying for such correction should be construed equally favorable to the public. But this was a mere suggestion by the way, and was not intended to lay down any general rule. Nevertheless the analogy is an apposite one, and we think that excuse for any longer delay than that should be made manifest by the special circumstances of the case."

It should appear from applicant's showing when the mistake was discovered, and if the reissue application was not promptly filed, the reason why. If circumstances were of a compelling nature delay should be excused, but delay on account of attention to other business matters should not suffice as an excuse.

It is not seen that the character of the mistake which it is sought to correct has any relation to the doctrine of delay except as it has a bearing upon its probable discovery. A mistake might be so plain that any interested party, upon reading the patent, would discover it. On the other hand it might be so obscure that one could

not be reasonably expected to discover it. In the latter case, a much longer delay would be excusable. In fact, if the mistake were such that by ordinary vigilance, it would not be apparent, and the owner of the patent is not put upon notice of its defect, it would seem that the Patent Office could not refuse a reissue even after a delay of several years.

But when the mistake is discovered, the practice requires that its correction be diligently sought, or that failure to act promptly be satisfactorily explained.

# A "Career" In the Patent Office

A paper read November 12, 1914, before the Examining Corps of the United States Patent Office

BY

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U. S. Patent Office.

WASHINGTON, D. C.
1914.

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# A "Career" in the Patent Office.

By
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Principal Examiner, Division 8.

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I have entitled this paper "A Career in the Patent Office" when perhaps it should have had the interrogative heading—What possibilities for a career are there in the Patent Office for an ambitious young man?

It is the purpose of this paper to look into this question somewhat and point out features in office work, which doubtless have appealed to some men, and which may appeal to others. Many instances have been known of men who have rounded out years of service in the Patent Office and retired satisfied with what they have done. Most of us entered the Examining Corps from choice and some have remained from choice.

It is quite true that many from the moment of their entry plan to use their office training as a stepping stone to Patent Law Practice; also that the number of Examiners leaving the office for outside work has been large for many years, so large, in fact, as seriously to engage the attention of the Commissioner, the efficiency of the corps as a whole being imperilled by these losses. In the report recently prepared by Mr. Boyle and Mr. Ulke, concerning the German Patent Office, it was said, "Examiners never resign from that office for the purpose of practising before the same, as such a practice is held to be ethically bad."

It is not intended to disparage the opportunities for a career there are in practising before the office, much less those in practising before the courts. We all know that very many men have attained professional and financial success in both of these channels.

We may, however, pause for a moment to compare the work of Examining applications for patents with the work of preparing and prosecuting these applications.

With possibly the exception that the latter is more

varied in subject-matter and therefore more interesting, the advantage, in my opinion, lies with the work of examining. What the latter lacks in variety, it makes up in concentration and thoroughness of attention on one or more arts. And a thorough knowledge of any art is not so very narrow as to field, as I shall endeavor to point out a little later.

The Examiner's duties are judicial in nature; an attorney or solicitor is an advocate. If a man's mind tends to the judicial, he will enjoy deciding questions rather than pleading them.

I am told the solicitor's complete enjoyment of his work is sometimes marred by the peculiar mental processes of the inventor, or the failure of the latter to understand the utility of the Rules of Practice. The Examiner in dealing with the attorney can usually confine his attention to the merits of the case.

Deciding a question must always be considered as important work as the advocacy of either side thereof, and an able judge is not reckoned inferior to an able advocate.

Patent Office work has always appealed to me because it presents ever changing views of the advance in the industrial arts, the constructive thoughts of inventors from all over the world. The Patent Office is a sort of clearing house for ideas. If an inventor comes in with more credits in his application than there are debits charged against him in the patents, publications, etc., of others, he goes out with his credit balance in the form of a patent. His patent exhibits his contribution to the art and to watch these contributions grow, to observe the ever shifting lines of growth, to mark the different ways inventors take to reach the same goal, and to note how eagerly the advance made by one is seized upon by others, is like watching a battle from a point of vantage, seeing all operations pass in review. The Examiner occupies this point of vantage relative to the march of progress of the industrial arts. He is, as it were, at the center of things and assuming he is interested, he must appreciate and enjoy the advantages of his position.

But I wish particularly to point out how his enjoyment of his position may be made greater, his efficiency therein increased and the position itself made more important.

These results may all be accomplished by the Examiner thoroughly knowing his art.

The Examiner who "knows his art" as this expression is used in the office, is not without honor among his associates. He is, for instance, a bad man to run up against in trying to transfer a case unwarrantably into his class.

But to know an art thoroughly in the ideal sense means more than a knowledge of the subject-matter of each sub-class with perhaps a full acquaintance with a comparatively few prominent patents.

It means a knowledge of how the art has grown; of the inventors who have worked most assiduously therein and their lines of endeavor; of the publications, commercial and otherwise, relating thereto; of related arts in so far as they affect his art. It involves, of course, constant examination of patents and publications; it requires the attention to be always alert to see matters bearing on the subject. It should include a practical acquaintance with the more active and prominent manufacturing establishments connected with the art, and if the Examiner could personally meet and know the inventors most active in the art, the acquaintance would be of great assistance to him.

To digress for a moment, I believe more opportunities should be given the Examiners to visit industrial establishments than are now possible, for only in this way can a practical view be gained of many arts.

A man comes into the office fresh from college with a knowledge of the industries of the country limited to his study of books to pass the entrance examination in technics. He is placed, for instance, in Division 34, when he doesn't know enough about practical railroad structures to tell the difference, to use an old expression, between a split switch and pot of red paint. Yet that man will soon have to pass judgment on the usefulness or operativeness of some device gotten up possibly by the master mechanic of some railroad.

And in other lines of work it is the same way.

If an Examiner is ambitious to know his art, the Government should assist to the extent of giving him an occasional inspection trip to factories, etc., directly related thereto, especially as the principle is officially recognized in other Governmental Departments.

The appropriation for books and periodicals should be larger than it now is that the complete record of progress made along industrial lines may be consulted and further information gained.

But to come back to "knowledge of an art:" I said above that this is not a narrow field. Perhaps, this can best be illustrated by inspecting a particular art. Take, for example, the art of paper making, excluding things made of paper and including wood pulp making.

The industry is a large one, the United States Census of 1910 gives for the year 1909, 538 establishments making paper only; 81 establishments making pulp only; 158 making paper and pulp; altogether 777 establishments in the United States with a capitalization, in round numbers, of 409 million dollars. Thirty-one States were represented in the industry. But the art is not bounded by the United States, and a knowledge thereof must include the varied use of many different materials to produce wood pulp and paper in a great variety of forms throughout all countries practising the industry.

Wood pulp is made mechanically as ground wood; chemically as soda pulp, sulphite pulp, sulphate pulp, etc. according to the chemicals used. Many different processes are employed and considerable machinery involved in making wood pulp, including machines for reducing the wood, digesters with accompanying apparatus for producing sulphite, washing and screening apparatus and presses for forming the pulp into dry or semi-dry sheets. The recovery of spent liquor and by-products from the digesting operation is a large and increasing industry as it is possible and profitable to manufacture many chemical substances from the resinous and non-fibrous constituents of the wood, all of which when carried on in connection with the digesting operation is really a part of the pulp making art.

Paper pulp is, of course, made from various materials besides wood. Almost any plant containing cellulose in large amount is availed of, such as cotton, flax, hemp, ramie, manilla, jute, bagasse, bamboo, esparto, and straw. The employment of each of these involves separate processes and machinery. The bleaching of the pulp is an important accessory.

When it comes to making paper from pulp, more and

different processes and machines are employed. The pulp has to be beaten up in beating engines, filler or size added, and the material screened before it is ready for the foudrinier machine or its equivalent. Then comes the finishing or calendering operation and if the paper is a special kind, then follows the coating for art papers, or impregnating for blue print, medicated and cheque papers. A special branch is the preparing of clean paper pulp from waste paper, and a related art is the making of constructive materials having a base of fibre pulp such as papier-mache, vulcanized board, and roofing sheets.

From this sketch of the art of paper making, it will be seen a wide field of study may be involved before complete knowledge thereof is gained. Other arts are doubtless more extended.

Is not the field large enough to inspire one's ambition to be an expert therein? This is an age of specialists, and, to my mind, a specialist in the field of any industrial art is as honorable as a specialist in medicine or even in the law. So therefore I commend this object to you.

When it is taken into consideration that in addition to proficiency in the mechanic arts, there is imposed on members of the Examining Corps, a necessity for knowing thoroughly the patent law, as the same may apply to the granting of patents, there is left no room to doubt that the well trained patent Examiner is deserving of being called a Government expert. I shall not enlarge upon the legal knowledge the Examiner should have; the impressiveness of this feature being doubtless brought home to your attention by other papers read before you.

I will not dwell on the character of the examination to be passed before entrance to the corps is gained. Suffice it to say, this examination secures for the service as good raw material as enters any Government or other service of equal size.

I shall, however, venture to call to your attention the fact that the great majority of applications are finally adjudicated in the Examining Division and that many applicants prefer to rest their case with the Primary Examiners, rather than by appealing receive a patent with an adverse decision on record against it. In each Examining Division, are settled each day questions of

momentous importance to the industries of the country. A heavy responsibility rests on each man determining these questions and a constant realization of this fact must tend to make the Examiner take his work seriously and result in giving him an appreciation of the dignity of his position.

I will close with the suggestion that to be a member of the Examining Corps of the United States Patent Office is no small honor and that every man therein, and woman too, for that matter, should guard that honor and work to increase it.

READ NOVEMBER 12, 1914.

# INVENTION vs. MECHANICAL SKILL

A paper read November 12, 1914, before the Examining Corps of the United States Patent Office

BY

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# Invention vs. Mechanical Skill.

By
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In most Divisions of the Office there are classes of inventions long established; inventions in devices that generically have been in use almost from the time when the memory of man runneth not to the contrary. In no division probably is this more true, than in Division 8. Furniture is as old as habitations and habitations nearly as old as man.

It follows that the classes of beds, chairs, and furniture proper must be well developed and that inventions therein must be directed to improvements; that the advance in the art made by each invention will probably be small and that in each case, a search will disclose a fairly close approximation of the device as a whole and suggestions of the details of the improvement.

Under these circumstances, the question whether the applicant has produced something requiring the exercise of the inventive faculty or not, is continually before the Examiner for settlement and by virtue of its ubiquity overshadows all other questions in importance.

With a view of deducing, if possible, from the mass of decisions on the subject, some principles which may serve as buoys and beacons to mark the navigable channel of invention from the flats and shallows of mechanical skill, some study of the subject has been made and the results thereof are here set down.

It is an accepted rule that invention must be involved in the production of an Art, Machine, Manufacture, or Composition of Matter before the same can be held patentable. The statute, Section 4886, says—

> "any person who has invented or discovered any new and useful art, etc., may obtain a patent therefor."

All the recent writers of textbooks on the subject from Robinson to Rogers, agree on this rule. Robinson, for instance, says in Book I, paragraphs 77 and 78:

"The inventive act in reality consists of two acts; one mental, the conception of an idea; the other manual, the reduction of that idea to practice. . . . The mental faculties employed in the inventive act are the *creative*, not the *imitative* faculties. An invention is the product of original thought. It involves the spontaneous conception of some idea not previously present to the mind of the inventor. Industry in exploring the discoveries and acquiring the ideas of others, wise judgment in selecting and combining them, mechanical skill in applying them to practical results; none of these are creation; none of these enter into the inventive act."

The rule is so well set forth in the decision of Mr. Commissioner Hall, in Ex parte Devin, C. D., 1888, page 166, that I can not refrain from quoting. He said:

> "It is not sufficient that an applicant shall have made a new and useful article or machine; but he must have made an *invention* or *discovery*. These terms have received a clear and well-defined construction at law, and in the decisions of the courts, the word *discovered* having practically the same meaning as the word *invented*."

In deciding adversely the case before him, he went on to say:

> "It is well known that the mechanics, artisans, and laborers of the world are continually making an infinite multitude of new and useful contrivances, changes, and modifications in the affairs of life, and yet they do not dream of patenting them, for the reason that they are not the result of the exercise of the inventive faculty, but simply of the mechanical faculty."

A leading decision by the United States Supreme Court, setting forth the Rule requiring invention, is The

Atlantic Works *vs.* Brady, printed in C. D., 1883, page 214, which says:

> "The process of development in manufactures creates a constant demand for new appliances, which the skill of ordinary head workmen and engineers is generally adequate to devise, and which, indeed, are the natural and proper outgrowth of such development. . . . To grant to a single party a monopoly of every slight advance made, except where the exercise of invention somewhat above ordinary mechanical or engineering skill is distinctly shown, is unjust in principle and injurious in its consequences. The design of the patent laws is to reward those who make some substantial discovery or invention which adds to our knowledge and marks a step in advance in the useful arts. It was never the object of these laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures."

The above citations are thought sufficient to make the Rule stated authoritative.

The problem for the Examiner, is, of course, to determine in a given case whether invention is present.

Each case has to be decided on its own merits. No writer or court has ventured to state the elements of the mental creative act referred to by Robinson, in the quotation given above; some have expressed the seeming impossibility of defining invention. In McClain *vs.* Ortmayer et al., C. D., 1891, page 532, the Supreme Court said:

> "The word 'invention' can not be defined in such a manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not."

Judge Dennison in his recent talk before the Examining Corps admitted the courts are still struggling with the

question of what constitutes invention. He gave a statement of one way of approaching the question which is: First determine exactly what the inventor aimed to do to advance the art, and, secondly, determine whether the alleged anticipating invention evidences an invention to advance along the same line. This will place the investigator in a position to separate out and weigh the character of the difference between the results obtained by each.

Neither have we, relative to "mechanical skill," a dogmatic statement as to what the "artisan," "headworkman," or "engineer," mentioned in the Supreme Court decision above, may be expected to produce. Definitions of "persons skilled in the art" are found in the decisions in Ex parte Kerr, C. D., 1884, page 27, and in The Tannage Patent Co. *vs.* Zahn, a circuit court decision printed in C. D., 1895, page 367; according to these decisions "persons skilled in the art," are those of ordinary and fair information relating to the subject matter of the invention. Of course, the section of the Statute, No. 4888, using this term, refers to the fullness and clearness of the description requisite to support a patent, such description being directed to "persons skilled in the art." But it is persons of this character who may be expected to, and do produce changes and improvements evidencing mechanical skill. A reasonable deduction must be that the skill and training of an engineer must be counted "ordinary" to his profession. A civil engineer, for instance, has large knowledge along certain lines, but so presumably have all civil engineers. A physician is wise in the matter of compounding prescriptions, but so, presumably, are all physicians. They are persons skilled in their particular arts. And if these persons make inventions which do not distinctly show originality, but merely a full professional knowledge availed of to produce results that might have been foreseen by persons equally learned and skilled, their work may properly be held to have evinced only mechanical skill.

But if a definition of exactly what constitutes invention be lacking, a number of decisions have been rendered in specific cases marking out, first, certain changes and even improvements that do not amount to invention;

and, secondly, indicating changes and improvements that have been decided to involve invention.

By a consideration of the first class of decisions certain "flats and shallows of mechanical skill," to continue the nautical metaphor mentioned above, are located and the possible bounds of the "channel of invention" somewhat defined.

Of the first class, the following decisions may be noted:

"Mere skill of construction is not invention but only mechanical skill." Ex parte Snider, C. D., 1894, page 23.

"To make an apparatus portable is not a patentable improvement." Black Diamond Coal Mining Co. *vs.* Excelsior Coal Co., C. D., 1895, page 267 (U. S. Supreme Court).

"The right to improve upon prior devices by making solid castings in lieu of constructions of attached parts is so universal in the arts as to have become a common one." Consolidated Electric Manufacturing Co. *vs.* Holtzer, C. D., 1895, page 476 (Circuit Court of Appeals).

"Mere change of proportion is not sufficient to avoid a charge of infringement and is not therefore sufficient to establish difference of invention." Thomson-Houston Electric Co. *vs.* Western Electric Co., C. D., 1896, page 315 (Circuit Court of Appeals).

"There was no invention in providing a bearing surface upon the frame of a dash . . . either by an increase in the quantity of metal or otherwise, so as to strengthen the proper part in a proper way for its proper duty." Peters *vs.* Hanson, C. D., 1889, page 444 (U. S. Supreme Court).

"There is no patentable invention involved in swaging or striking up by means of a die, from a blank of iron or steel, a rail-brace of a form which had previously been made of cast metal." Strom Mfg. Co. *vs.* Weir Frog Co., C. D., 1896, page 618 (Circuit Court), and Kilbourn *vs.* W. Bingham Co., C. D., 1892, page 477 (Circuit Court of Appeals).

"The matter of elastic suspension by springs,

and of otherwise giving entire or partial independent support is so common in the arts that the presumption is against the patentability of any such mere form of suspension. The selection of a form of support is in the common field of mechanical construction." Thomson-Houston Electric Co. *vs.* Athol and Orange St. Railway Co., C. D., 1897, page 694 (Circuit Court).

"To increase or decrease the number of intermediate gear-wheels in the train of gearing of a timepiece from the number shown in the reference to accommodate the mechanism to the size of the case and still maintain the proper value between the rate of revolution of the minute and hour hands is within the skill of the mechanic familiar with the art and does not involve invention." Ex parte Volkmann and Truax, C. D., 1906, page 372. See, also, New Departure Bell Co. *vs.* Bevin Brothers Mfg. Co., C. D., 1896, page 428 (Circuit Court of Appeals).

"Where two mechanisms for performing successive operations upon a piece of work are both old in the art, the assemblying of these mechanisms upon a unitary support in such manner that the operator may transmit the work from one to the other without changing his position at the machine, *held* not to involve invention." Ex parte Smith, C. D., 1909, page 214.

"*Held* that ordinarily there is no invention involved in making in two pieces and separable things which have before been made in one piece of parts inseparably connected." Ex parte Thurston, C. D., 1905, page 294.

"Butt-welding of metal being old, claims for a metal pan formed of two parts, with the joining edges butt-welded, *held* not patentable over the prior art, as the substitution of a butt-weld for a crimped seam does not constitute invention." In re Hogan, 203 O. G., page 1558 (Court of Appeals, D. C.).

A statement made by Judge Putnam, of the Circuit Court, District of Massachusetts, in the case Dalby *vs.*

Lynes, C. D., 1895, page 381, deserves consideration, since it was afterwards quoted with approval by the Court of Appeals of the District of Columbia, in Fay *vs.* Duell, Commissioner of Patents, C. D., 1900, page 232. The statement is:

> "A novelty involving a state of art so universal and common as the making and adjustment of clothing must be of a radical character to overcome the presumption against its patentability."

As to rearrangement and reversal of parts without the accomplishment of a new result, the following decisions are pertinent:

"The reversal of a tongue and its recess in the same kind of a structure, even if productive of an improved, but not a new, result does not require patentable invention." Sax *vs.* Taylor Iron Works, C. D., 1887, page 444 (Circuit Court).

"Where certain parts of a water-tight shoe were old, a simple change in the form and arrangement of such parts subserving the same purpose as like parts of shoes constructed under earlier patents, and without causing any new function to be performed, does not constitute invention." Burt *vs.* Evory, C. D., 1890, page 245 (U. S. Supreme Court).

"In a water heating apparatus the arrangement of vertical pipes over instead of at the side of the fire does not constitute patentable novelty, and varying the length of these pipes so as to avoid interfering with the fuel space is an obvious change for an obvious purpose and does not amount to invention." Ex parte Garland, C. D., 1892, page 3.

"Wooden bearings in excelsior-machines being old, there is no patentability in a wooden bearing in such machine placed therein so that the grain of the wood will run vertically with the line of motion of the journal instead of at right angles thereto.

"The use of lugs to prevent lateral movement

being well known, their employment in an excelsior-machine to prevent lateral movement of the sliding plate involves no invention." Johnson *vs.* Olsen, C. D., 1894, page 453 (Circuit Court).

"To make the handle of a knife for cutting hay reversible on the head of the shank to which the blade is attached, does not require anything more than ordinary mechanical ingenuity and does not involve invention." In re Iwan, C. D., 1901, page 344 (Court of Appeals, D. C.).

If, however, the rearrangement of parts involves a reorganization of the machine tending to simplification or an improved manner of operation, this may require and involve invention.

See, for instance, the following decisions: Wilcox and Gibbs Sewing Machine Co. *vs.* The Merrow Machine Co., C. D., 1898, page 584 (Circuit Court of Appeals), in which Judge Lacombe said in substance:

"Although the patentees have borrowed in part from the earlier art, they have so arranged the various parts as to tend towards simplicity, and have doubled speed of the overseam machine, and therefore the court is disposed to consider the changes in parts and arrangement of parts as showing meritorious invention."

Similar decisions are made in Morgan Engineering Co. *vs.* Alliance Machine Co., C. D., 1910, page 438 (Circuit Court of Appeals); Exparte Johnson, C. D., 1909, page 188.

It may be considered settled that a mere carrying forward or change in degree of an original idea is not invention; such cases frequently present a mere duplication of existing parts.

In Williams et al. *vs.* The Goodyear Metallic Rubber Shoe Co., C. D., 1892, page 288.

Judge Shipman said, speaking of the then recent Supreme Court decisions in Smith *vs.* Nichols and Burt *vs.* Evory:

"The tendency of these decisions is to confine patentability within narrower limits than for-

merly. They especially demand that a device which is an improvement upon a pre-existing one must, in order to be patentable, contain a new idea, and perform some new function and not present changes of degree only, or simply 'new and more extended applications of the original thought.' "

Other decisions of the same character are: Busell Trimmer Co. *vs.* Stevens, C. D., 1890, p. 586 (U. S. Supreme Court); Consolidated Roller-Mill Co. *vs.* Walker C. D., 1891, page 310 (U. S. Supreme Court); Wright *vs.* Yuengling, C. D., 1894, page 560 (U. S. Supreme Court); In re Seabury, C. D., 1904, page 655 (Circuit Court of Appeals, D. C.).

The question sometimes arises in the Examiner's mind whether the practically simultaneous invention of the same thing by a number of inventors working independently does not of itself indicate the work to be that of a skilled mechanic. In Bromley Bros. Carpet Factory *vs.* Stewart, C. D., 1892, page 669, Judge Acheson said:

> "That upon the idea of making an improvement, an adaptation of an old machine to the new purpose was proposed almost simultaneously by three independent parties by an alteration of mechanism slightly different structurally, but the same in principle in each case, is evidence that such change was obvious and did not involve invention."

See, also, North British Rubber Co. *vs.* Jandorf, C. D., 1898, page 313 (Circuit Court); and Computing Scale Co. *vs.* Automatic Scale Co., C. D., 1905, page 704 (Circuit Court of Appeals, D. C.).

As to the omission of mechanical parts, the rule seems well settled and appears to be—

> "A reconstruction of a machine so that a less number of parts will perform all the functions of the greater may be invention of a high order; but the omission of a part with a corresponding omission in function, so that the retained parts

do just what they did before in the combination, can not be other than a mere matter of judgment, depending upon whether it is desirable to have the machine do all or less than it did before." McClain *vs.* Ortmayer, C. D., 1888, p. 231 (Circuit Court); See also National Hat Pouncing Machine Co. *vs.* Hedden, C. D., 1893, p. 294 (U. S. Supreme Court).

On the question of substitution of materials or parts, the rule clearly is that if the substituted material or part was well known and its advantages and virtues understood, and the new result attained by the substitution was due solely to the characteristics of the material or part substituted, the substitution displays no invention. Ex parte Krell, C. D., 1888, page 139; Ex parte Odenheimer, C. D., 1889, page 240; Ex parte Foss, C. D., 1891, pages 153 and 208; Ex parte Grayson and Crecelius, C. D., 1894, page 100.

However, if the substitution of a part results in overcoming particular difficulties and results in a particularly meritorious article or machine, the substitution may involve invention, according to the decision in Mast, Foos and Co. *vs.* Dempster Mill Mfg. Co., C. D., 1898, page 297 (Circuit Court of Appeals).

In the above series of decisions, I have tried to select those where the language used in each may be applicable to more than one particular set of circumstances; in other words, to select cases typical each of a class.

In taking up the second class of decisions, viz. those deciding invention to have been present and its requirements satisfied, it is noteworthy that the great majority of them decide only its particular case; in other words, that as to that particular craft, it is in the "navigable channel of invention."

Some cases have been said to be just within the bounds of the channel and a few have used language broad enough to help in defining the channel.

For instance—

"Simplicity does not negative invention when a new and useful result is accomplished." Western

Mineral Wool Co. *vs.* Globe Mineral Wool Co., C. D., 1896, p. 622 (Circuit Court).

"Whenever in an art, machine, manufacture, or composition of matter a change, however apparently minute, is made which is not obvious and results in marked advantages, a patentable invention has been produced." Ex parte Champney, C. D., 1892, page 176.

"In determining the question of patentable novelty, there can be no hard and fast rule. Each case must be decided upon its own facts. Mere change of form in and of itself does not disclose novelty. A new article of commerce is not necessarily a new article patentable as such. But patentable novelty in a case like the present may be founded upon superior efficiency; upon superior durability including the ability to retain a permanent form when exposed to the atmosphere; upon a lesser tendency to breakage and loss; upon purity and, in connection with other things, upon comparative cheapness." Union Carbide Co. *vs.* American Carbide Co., C. D., 1910, p. 471 (Cir. Court of Appeals).

In this case, a chemical compound, calcium carbid, was under consideration.

It is not considered necessary in this paper to touch upon the feature of invention as embodied in a patentable combination or a patentable process, as these subjects have been treated *in extenso* in excellent papers already read before the Examining Corps.

One subject of importance, however, deserves our attention; it is that of double or analogous use.

It is fundamental that a patent covers a device in all the uses to which it may be applied; if a device be transferred from one art to another and the arts be analogous, no invention is involved in the transfer. That the new use was not contemplated by the patentee is immaterial. Aron *vs.* Manhattan Ry. Co., C. D., 1889, page 650 (U. S. Supreme Court); Howe Machine Co. *vs.* National Needle Co., C. D., 1890, page 281 (U. S. Supreme Court); Ansonia Brass and Copper Co. *vs.* Electric

Supply Co., C. D., 1892, page 313 (U. S. Supreme Court). But, as the court said in the last mentioned decision:

> "If an old device or process be put to a new use which is not analogous to the old one, and the adaptation of such process to the new use is of such a character as to require the exercise of inventive skill to produce it, such new use will not be denied the merit of patentability."

In this case and especially in the celebrated case, which was decided nearly three years later, viz.: Potts and Co. *vs.* Creager et al., C. D., 1895, page 143, the Supreme Court discusses at length the question of double use.

In the latter case, the validity of two patents each to C. and A. Potts for a clay disintegrator, was being investigated. The disintegrator was made up of a revolving cylinder with longitudinal cutting bars at spaced intervals on and projecting from its surface. Opposed to this cylinder was, in one patent, a swinging board moved in and out by an eccentric and in the other patent, a smooth revolving cylinder. The action of the machines was to cut or shred the clay.

Numerous alleged anticipating patents were cited from many arts showing grinding, crushing, cutting and rolling operations applied to many substances: an exhibit of the Creager wood-polishing machine was considered by the court, the nearest approach to anticipation; it had a cylinder with projecting strips or bars of glass, and of this the court said:

> "Had this machine been used for an analogous purpose, it would evidently have been an anticipation of the Potts' cylinder, since the substitution of steel for glass strips would not of itself have involved invention."

Concerning the patents cited as anticipations, the court repeatedly asked the questions: Will the machine disintegrate clay? Will it cut or shred like the Potts' machines?

The whole decision shows the great importance the court placed on the result obtained by revolving the knives in the new use.

The following much quoted conclusion was a part of this decision:

> "As a result of the authorities upon this subject, it may be said that, if the new use be so nearly analogous to the former one, that the applicability of the device to its new use would occur to a person of ordinary mechanical skill, it is only a case of double use, but if the relations between them be remote, and especially if the use of the old device produce a new result, it may at least involve an exercise of the inventive faculty. Much, however, must still depend upon the nature of the changes required to adapt the device to its new use."

Another Supreme Court decision emphasizing the importance of the object and function of a machine relative to the question of anticipation and therefore having a bearing on the question of originality or invention is Topliff *vs.* Topliff, C. D., 1892, page 402, wherein the court said:

> "It is not sufficient to constitute an anticipation that the device relied on might by modification, be made to accomplish the function performed by the patent in question, if it were not designed by its maker, nor adapted, nor actually used for the performance of such function."

Another prominent Supreme Court decision, pointing out the importance of a new and improved result is Webster Loom Co. *vs.* Higgins, C. D., 1882, page 285, wherein it was said:

> "A new combination of known devices producing a new and useful result (as that of greatly increasing the effectiveness of a machine), is evidence of invention."

See, also, Miller *vs.* Lodge and Davis Machine Tool Co., 77 Federal Reporter, page 621 (Circuit Court of Appeals).

Two more points of importance remain to be considered.

When is weight to be given and how much importance is to be attributed to affidavits filed showing that a device has gone into extensive use by the public and superseded others of its kind?

The Circuit Court of Appeals for the Eighth Circuit, in its decision in Boss Manufacturing Co. *vs.* Thomas (C. D., 1911, page 456), said:

> "In doubtful cases, the fact that a patented article has gone into extensive or general use is evidence of its utility; but that is by no means conclusive of its patentability. When there is no invention, the extent of its use is a matter of no importance."

It is significant to note that the United States Supreme Court in most of its utterances on the subject says this sort of evidence can be availed of where the question of patentable *novelty* is in doubt.

For instance, in Potts *vs.* Creager, *supra*, the court said:

> "Where the question of novelty is in doubt, the fact that the device has gone into general use, and displaced other devices employed for a similar purpose, is sufficient to turn the scale in favor of the invention."
>
> See, also, McClain *vs.* Ortmayer, and Topliff *vs.* Topliff, *supra*.

Another decision which uses the term "invention" in place of "novelty," is Star Brass Works *vs.* Gen'l. Electric Co., 111 Federal Reporter, page 398 (Circuit Court of Appeals).

From the decisions, it seems fair to deduce that the Examiner should be careful not to give too much weight to this kind of evidence. In Ex parte Flomerfelt, C. D., 1896, page 59, Mr. Commissioner Seymour said:

> "Where the patentability of a device is not clear, extensive sales may resolve the doubt of patentability in favor of an applicant. This, however, is an unsafe criterion and must be cautiously applied."

That the fact of large sales is an unsafe criterion in determining the question of patentability was specifically stated by the Supreme Court in Duer *vs.* Corbin Cabinet Lock Co., C. D., 1893, page 334.

The last point I wish to touch upon is this: The Examiner is frequently urged to resolve all doubts in favor of the applicant. The case is usually very nearly "in extremis," when this argument is resorted to.

There appear to be certain circumstances where this argument is proper and should be given weight.

The Circuit Court of Appeals of the First Circuit, in Simonds Rolling-Machine Co. *vs.* Hathorn Manufacturing Co. (C. D., 1899, page 421), said:

> "On a question of anticipation if the identity of methods and results is doubtful, the doubt must be resolved in favor of the successful patentee who has in a practical way materially advanced the art."

From this it appears the Examiner may properly resolve all doubts in favor of the applicant, where, for instance, the disclosure of the invention in an alleged anticipating reference is incomplete or obscure, necessarily leaving the Examiner in doubt as to the identity of the reference with the invention claimed.

It does not follow that all doubtful cases involving the separation of invention from mechanical skill should be decided in favor of the applicant. It should be remembered that the burden of proof is upon the applicant to establish the patentability of the invention as claimed. Durham *vs.* Seymour, Commissioner of Patents, C. D., 1895, page 307.

In conclusion it may be said that the discussion above is thought sufficient to make clear that the presence of invention as an element of patentability is imperative; that the difficulty of distinguishing invention from mechanical skill is frequently great and demands careful thought; that the marked out "flats and shallows of mechanical skill" should be reviewed for purposes of comparison; that the object an inventor has in view is important; that the actual result he attains is even more so; that simplicity does not negative invention, and

that reorganization of parts with a view to simplification is likely to evidence invention of a high order.

If the above consideration of these or other features shall be useful to the Examiners in deciding the case entitled "INVENTION *vs.* MECHANICAL SKILL," the purpose of this paper will be fulfilled.

READ NOVEMBER 12, 1914.

# EX PARTE EAGLE, C. D. 1870, PAGE 137

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A paper read November 19, 1914, before the Examining Corps of the United States Patent Office

BY

P. D. HASKELL,
First Assistant Examiner, Division Nine,
U. S. Patent Office.

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WASHINGTON, D. C.
1914.

THE LAW REPORTER PRINTING COMPANY, WASHINGTON, D. C.

# Ex Parte Eagle, C. D. 1870, Page 137.

By

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This familiar and useful decision is based upon a case presenting as its subject-matter a mere blacking-box. Under it an applicant may disclose two or more modifications or species of his invention, may have a generic claim as broad as the state of the art will permit, and specific claims limited to one of the species presented. He may not, however, cover in terms more than one species. While the humble invention of the case to which the decision relates sufficiently illustrates the rule thus laid down, it is to be regretted that a more complicated structure such as a machine was not involved, for in that case the decision might have gone a step further and prescribed the number of modifications an applicant might disclose as well as the number he might specifically claim. It is the purpose of this paper to call attention to the abuse of this privilege of disclosing a number of modifications and of retaining them in the case provided they can all be covered by a patentable generic claim.

The decision calls only for the elimination of inconsistent claims, and not for the cancellation of the corresponding subject-matter. There is nothing in the rules or decisions to prevent an applicant from showing, describing, and claiming, say, five complete and complicated machines, printing presses, for example, providing they constitute modifications or species of some generic invention. The claims may or may not conform to the Eagle decision; if they do, there is no requirement to be made as to the number of modifications; if they do not, a requirement for election as to the groups of specific claims is in order, but none of the modifications will be eliminated provided there be the patentable generic claim. In such a case as this, the assistant examiner

must read the specifications of five heavy machines, whereas he ought not to be compelled to read the specifications of more than two, since the genus would be sufficiently illustrated and the preferred species also disclosed.

It is believed that a considerable part of the time of the office is consumed in reading the specifications of modifications presented in excess of this number, which would be saved by an extension of the Eagle decision or by a new rule of practice which forbade this excess. It must be remembered that the descriptions of these modifications must be read (and often studied) initially whether they ultimately remain in the case or not.

A cursory examination of a single class, namely 138, Hydraulic Motors, showed twenty cases disclosing more than two modifications, each modification constituting a more or less complicated structure or machine. These cases, however, represent only the residuum of about eight years; so that the total number of such cases in that time was probably three or four times as many, or from five to ten a year. Moreover, troublesome controversies with the applicant not infrequently arise as to whether a given modification is or is not covered by the generic claim. For various reasons applicants are reluctant to cancel figures or drawings together with the corresponding descriptive matter when required to do so by the office upon the ground that they are not covered by the generic claim, and seek to retain the matter in the case by contending that the requirement is not well taken, or by contending for far-fetched, loose, or otherwise objectionable interpretations of the terms of the claim relied upon as generic. It may be remarked *obiter* that the burden, which is laid upon the Examiner, of criticising specifications and claims of applications as to their technical, literary, and legal sufficiency is one of the reasons why more progress is not made with the work.

It is said that modifications are useful as enabling the judge in an infringement suit better to appreciate that a given invention may be embodied in a variety of forms, but one additional example should be as enlightening in this respect to an intelligent judge as a dozen. Therefore it is thought that it would involve no

hardship upon applicants if they were required to limit their disclosure to two modifications at the most.

As to the authority of the Commissioner with the approval of the Secretary of the Interior to make such a rule there would appear to be little doubt. The rule would be one of expediency, and would be analogous to Rule 42, which provides for the division of an application when two or more independent inventions are presented, or to Rule 36, which requires specifications and drawings to be restricted to the invention, which means the elimination of modifications not covered by any claim. If the office under *Ex parte* Eagle may limit the number of modifications which may be specifically claimed, if under Rule 42, it may limit the number of inventions, which may be claimed in a single application, and if under Rule 36, it may require the cancellation of figures or sheets of drawings not covered by the claim, it would also appear to have authority to restrict to a reasonable number the modifications or species by which an applicant seeks to illustrate his invention.

November 19, 1914.

# The Marginal Claim, With Respect to the Requirement of Invention

A paper read November 19, 1914, before the Examining Corps of the United States Patent Office

BY

F. M. TRYON,
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WASHINGTON, D. C.
1914.

THE LAW REPORTER PRINTING COMPANY, WASHINGTON, D. C.

# The Marginal Claim, With Respect to the Requirement of Invention.

By

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Decisions of the courts undoubtedly establish the generic rule that subject-matter, to be patentable, must require invention as distinguished from mechanical skill. That is the answer of the courts to a question of law. They also establish certain rules, viz: the rule concerning double use, that concerning choice of material, that concerning aggroupments of elements, that concerning the substitution of one element for another in an old combination, and others less widely applicable—which are subsidiary to the rule requiring invention, stating classes of cases instead of merely individual cases in which invention is or is not found. I cite these subsidiary rules, which are all familiar. Decisions relating directly and in terms to the distinction between invention and mechanical skill are also familiar. The marginal claim presents a question to the decision of which no one of the subsidiary rules is by itself unmistakably applicable or adequate. We are therefore driven back to the fundamental rule requiring invention, to be employed as a guide in the application of, or instead of, the subsidiary rule. Further, since neither the presence nor the absence of invention unmistakably appears without further inquiry, we are driven back to consideration of the grounds for the distinction between invention and mechanical skill.

What *is* invention in the sense of the patent law? That is a question of fact arising in consequence of the interpretation of the law. Nearly related to it is the extra-legal question, what is invention irrespective of the patent law, and not confined to the useful arts? If a satisfactory

answer to the latter question can be found it may throw light upon the former. But in considering it we have to remember that any conclusion reached can not alter the meaning of the law as interpreted by competent legal authorities, however it may aid us in comprehending that meaning.

The definition of invention which can be derived from the decisions is the definition of its antithesis, mechanical skill, as the devising of what can be devised by a person ordinarily skilled in the art from his knowledge of the art, anything otherwise patentable which can not be so devised being patentable invention. This leaves what can be accomplished by mechanical skill undefined, to be determined by experience. Supplementary to this definition we find in the decisions examples of invention and of mechanical skill, and we find definitions or partial definitions of certain classes of subject-matter which are one or the other, and we find some statements concerning the character of invention. It has been said that invention is the exercise, or the result of the exercise, of the inventive faculty, which would be a direct definition of invention if we had an authoritative definition of the inventive faculty. The ordinary double use, the ordinary substitution of material, the aggregation, the substitution for an element in a combination of its equivalent element, are not inventions; the exceptional double use, the exceptional substitution of material, the true combination, the substitution for an element in a combination of another element not its equivalent, are inventions.

Upon reviewing the examples of invention passed upon, it can be readily seen that each is the material embodiment or physical expression of an idea of an adaptation or adjustment of means to ends. The patentable machine, article, substance, or process is patentable because of its suitability to perform a certain useful function, additional conditions being satisfied. The inventive idea embodied or expressed in each involves the idea of means, which I take to be the idea of the thing, or of the act or series of acts in a process, plus the idea of its employment for a useful purpose. Upon reviewing examples of mechanical skill we find that they also are essentially adaptations or adjustments of means to ends, each involving an idea of means. Both invention and

mechanical skill consist essentially of the adaptation or adjustment of means to ends. If we look beyond the range of the patent law, seeking the character of what may be called either invention or skill in human affairs generally, examining them simply as practical experience, we soon perceive that the adaptation or adjustment of means to ends is the vital feature of all rational human activity. How then is patentable invention to be distinguished from mechanical skill, or from anything which any person can rationally do? Perhaps by the term "original," defining invention as original adaptation or adjustment of means to ends. But if we apply thorough analysis to the various instances of adaptation or adjustment of means to ends, mechanical or other, we shall find that an element of originality is embraced in every one of them. All human activity is, to some greater or less extent, original. Of course, in many instances the element of originality would be regarded by any instructed person as negligible in the application of the patent law. But at what point in the series of instances does that element become significant?

Invention, defined merely by examination of practical experience and without reference to the interpretation of the patent statute, appears to be any rational adaptation or adjustment of means to ends. Such examination shows that the inventive faculty is simply the faculty of thinking, which may have a so-called "creative" or a merely adaptive character, applied to the adaptation or adjustment of means to ends. To interpret the term "invented" in the statute as including all which lies within this fundamental concept of invention and also within the field of patentability would make the statute absurd, because it would apply to the most commonplace act of any mechanic which happened to be new according to the most minute analysis. Obviously the legislators had in mind inventions which differed from what was before known to some substantial degree. But what constitutes a substantial degree of difference?

The essential character of a patent is that of a contract under which the inventor is given the exclusive right to make, use, and sell certain carefully defined things or processes in which his inventive idea is embodied or expressed for a given period and the inventive idea will be

free to the public after the expiration of that period. Grant *vs.* Raymond, 6 Peters, 218. Thus the public buys the invention. But there is no reason for the public to buy the invention if already in possession of it. Therefore the law says that the invention must be new to be patentable. There is no reason for the public to buy the invention if it be potentially in possession of it. The public is potentially in possession of the invention if it be within the reach of its ordinary resources, irrespective of the effort of any given inventor. That occurs when the invention lies within the reasonably expectable improvement of the art which is incidental to its ordinary intelligent practice. Here we find the reason for making a distinction between invention and mechanical skill. In view of the mode of payment, the public can afford to buy, and ought to pay for if it uses, any invention offered which is not already in its possession, actually or potentially. The nimble anticipator of the incidental improvement has nothing to offer the public which the public needs, or in justice ought, to buy. Atlantic Works *vs.* Brady, 23 O. G., 1330; General Electric Co. *vs.* Winona Interurban Railway Co., 170 O. G., 706.

From the reasoning herein adopted it appears that every rational adaptation or adjustment of means to ends is an invention according to the untechnical definition of the term, that if any such invention be new and useful and lie within the field of patentability it is patentable unless it comes within the restriction upon patentability imposed by the authoritative interpretation of the law, and that that restriction consists in the requirement that the invention must transcend the reasonably expectable improvement in the arts which is incidental to their ordinary practice.

The difficulty presented by the marginal claim resides especially in estimating the reasonably expectable incidental improvement, which is the indefinite factor of the problem. Involved in this is the difficulty of estimating the value of differences which are neither palpably substantial nor palpably negligible. The difficulty can not be entirely eliminated; perhaps it can be cornered into some narrowly restricted field of thought.

Two comparisons are involved in the decision. The first is between what is stated in the claim and what is

found to actually exist in the prior art. In this comparison we have two definite terms, and the difference between them can be definitely found. The second comparison is between that difference and the expectable incidental improvement, and in that comparison the second term is not definitely given.

Every adaptation or adjustment of means to ends, from a great product of inventive genius such as the wireless telegraph to, say, the process of building a box, has three factors, viz: the means employed, the end accomplished or function, and the relation of utility which subsists between the means and the function. By function, I mean the immediate function, not some ulterior utility. This analysis is gross, but I think it covers the ground in a generic sense. Neither means nor function is always quite simple, and the relation of utility may admit of analysis into elemental relations. Sometimes the immediate function is so associated with the ulterior purpose that it can not be perfectly appraised until that purpose has been taken into account. Either factor may be found in the first comparison to be actually new, to some greater or less degree. We have to find by the second comparison whether the novelty is substantial, i. e., required invention, i. e., transcends the expectable incidental improvement. If the means, which may be an individual thing or act or a combination of things or acts, be substantially new, we have the most common case of patentability. If the means be not substantially new, but the function be substantially new as compared with any function known in the prior art, we have the case of an invention which is undoubtedly patentable under the rule concerning double use. If the means be old, and the function also be old but only as the function of some other means, we have to consider whether the relation of utility thus presented is substantially different from the relation of utility disclosed in either the nearest reference showing the means or the nearest reference showing the function. This case necessarily involves some difference between the relation of utility in the invention claimed and the relation of utility in any prior invention. If that difference be found substantial, we have the case of patentability under the rule concerning double use, or, what comes to the same thing in particular classes of cases,

under the rule concerning substitution of material or that concerning the substitution of one element for another in a combination. The substitution of an old material or element is the double use of that material or element for a function new in its use, but in itself old, viz: the function of the material or element which it replaces. If either means or function be new, there is necessarily actual novelty in the relation of utility. Thus in every instance of actual novelty there is some novelty in the relation of utility. That relation is the characteristic feature of an adaptation or adjustment of means to ends. In one of the three classes of cases some novelty in that relation necessarily exists. Can we make substantial novelty in that relation the test of patentability in all three classes of cases? We can if substantial novelty in either means or function necessarily implies novelty which is substantial in the relation of utility. When there is decided novelty in the means there can scarcely be doubt of substantial novelty in the relation of utility. In the doubtful case a trifling novelty in the means is found. We have to decide upon cases in which the novelty in the means, considered merely as a novelty in structure, or in an act or series of acts, is of little or no consequence and clearly unsubstantial, but in which if we consider the thing or act not merely as a thing or act but with reference to its function, the novelty found is appreciable and may support the conclusion of patentable invention. If we find that it does support that conclusion we find substantial novelty in the means dependent upon substantial novelty in the relation of utility and make the latter the decisive test. I believe that to be the principle which will explain, and render consistent with the general tenor of decisions, the entire series of decisions in which means have been found patentable when the novelty residing therein appears to be insignificant. But is not substantial novelty in the relation of utility always the decisive test of the patentability of novel means, although we do not always find it necessary to give special attention to the point? A novel means is patentable *because* of its suitability to perform a certain function; in other words, because of the relation of utility. Substantial novelty in the relation of utility is precisely what makes the novelty of the means substantial. If there be any claims to which that test

is not applicable the so-called purely structural claim is one; i. e., the claim which states a device of old kind performing the function performed by all devices of that kind but having an improved construction, the novelty being of no consequence to that function, but having a collateral utility, say cheapness. In that case we must consider the feature or features of novelty in relation to the collateral advantage, which is its or their function. I do not think that we can find the construction patentable without finding substantial novelty in the relation of utility between the novel feature or features and the collateral advantage. The dependence of the patentability of an adaptation or adjustment of means to ends in which only the function is new upon the substantial novelty of the relation of utility is, in my view, not more real, but more readily obvious.

I believe that the solution of the problem presented by the marginal claim can be reduced to a comparison of relations of utility. In support of that conclusion, and of the view herein taken of the bearing of the fact that a patent is essentially a contract, I cite the lectures delivered last winter before the law class of Georgetown University by Commissioner Ewing.

But what novelty in the relation of utility is necessary to transcend the expectable incidental improvement? Perhaps we shall find that the mere location of the essential novelty in that relation goes far to answer that question.

It is, very fortunately, true that the generality of men, working more or less together, can apply what they know to useful purposes in very multifarious ways. Thus is the business of human life carried on in all fields of activity, including the practice of the useful arts. Mechanical skill can apply its knowledge with indefinitely extended variation in the mere association of items of that knowledge. The mechanic, or the educated engineer or designer, may usefully apply in practice known facts in indefinitely extended multiplication and permutation without transcending the expectable incidental improvement. In that a certain measure of ingenuity and originality is involved.

The independently definable items of knowledge within the field of patentability concern things or acts which

may become means, and desired ends which may become functions of means. That knowledge also includes associations of means with functions in known ways. Mechanical skill can, and constantly does, variously associate known means with known means, and known functions with known functions, in unitary operations or in the service of single ulterior purposes, according to circumstances. If it also associates a known means with a known function in a new association but in a known way of associating it is still only intelligently selecting and applying, according to circumstances, the known resources of the art. Obviously the elements involved in all the possible permutations include means, functions and relations of utility, and if all the elements involved in a given association are known we have in it only what mechanical skill can accomplish, according to experience in all human activity. It is also clear, both according to that experience and according to the decisions in patent cases, that an actual novelty which lies within mechanical skill may exist in an element of either kind.

But if the inventor has produced a new means, or has discovered a new function, or has employed an old means for an old function according to a new mode of association, the novelty in each instance being more than negligible, he has, according to experience in human activity in general, transcended mechanical skill however well instructed it may be. The pertinent lessons of experience, contemporaneous and historical, in all fields of human activity, are, the facility with which permutations of items of established knowledge can be effected, and the difficulty, sometimes astonishing after the fact, which attends the discovery and establishment of any, even a small, really new item. In the latter experience the so-called "creative" character of thinking appears.

Aside from combinations, either a means or a function which is substantially new upon its own account is rare. If either be presented a substantially new relation of utility is sure to exist somewhere. The collateral question as to where the invention resides, in a choice of new material or in the material itself, in an aggroupment of elements one of which is new or in that element itself,

and so on, may be answered by finding the new relation of utility. In the general run of cases, including combinations and aggregations, the things or acts which may become means or elements in means and the desired ends which may become functions are items, often familiar, in preestablished knowledge. The substantial novelty, if any, resides in the association of those things or acts in a combination, or in the association of the means with the function. According to general experience in human affairs, including experience in the useful arts, if either association be mere association, involving only the application of two or more items of knowledge, or a mere copying of some analogous association, it lies within the range of mechanical skill, otherwise not. Let us see if this agrees with the rules established by decisions.

Under the rule concerning aggrouipments of elements, when the unifying relation between the elements grouped is nothing more than that of mere association, so that the aggroupment produces no other result than the use together of those elements, each performing its usual function and no more, the aggroupment is not patentable. The fact of association as well as the elements associated may be embodied in a unitary structure or expressed in a unitary series of steps without avoiding the rule, as in Reckendorfer *vs.* Faber, 10 O. G., 71. But when the aggroupment establishes a unifying relation between the elements which embraces something more than mere association, so that the function of the aggroupment is something other than the mere sum of the functions of the elements as they might separately act, whereby what is sometimes called a new mode of operation is introduced, the differences from the prior art not being negligible, the aggroupment is patentable. I take it that such is the rule whatever analysis of any given instance may show to be the character of that in the unifying relation in that instance which distinguishes it from mere association. Thus in the patentable combination a new relation of utility is introduced, which makes it a substantially new means. As being in harmony with this view, I cite *Ex parte* McCullom, 204 O. G., 1346.

Under the rule concerning the substitution of one element for another in an old combination, when the element substituted is an equivalent for the element re-

placed, an equivalent being a device known to have, or obviously having, the function which the element replaced has in the combination, the resulting new combination is not patentable, but when the element substituted is not an equivalent, the new combination is patentable. In the former case no new item is added to knowledge. In the latter case a new item is added, it being the knowledge of the relation of utility between the substituted element and its function in the combination.

The rule concerning the substitution of materials is parallel to that concerning the substitution of elements, its peculiarities being only such as result from the character of the combination and its ingredients.

The rule concerning double use has reference to cases involving only the novel association of means and ends. The association is unpatentable when it does not, but is patentable when it does, add a substantially new item to knowledge. The latter may occur when the function is substantially new, or when the function is old but the relation of utility is nevertheless substantially new.

I have not described or defined the relation of utility beyond the implied statement that it is the relation subsisting between two terms, means and function, when they are associated and utility results from the association. I think that we should rest upon that definition, without undertaking any more particular description as necessarily applicable in all cases. The relation of utility appears in some discussions of combinations and aggregations as "mode of operation," and that description seems apt in the cases in which it is employed. Perhaps thorough analysis would show that it might be applied in all cases. Every thing or act employed as a means or as an element in a means is so employed because of some natural property which it possesses which renders it capable of use for performing some action, or for some purpose which is useful with reference to an action. That property may be called its mode of operation, or its contribution to the mode of operation of a combination in which it is an element. But it may be doubted whether that description is fairly applicable in every instance of patentable double use or substitution. Does every *new* relation of utility involve a *new* mode of operation of something? If we should find a substantially new

relation of utility according to the broader definition which did not involve a new mode of operation we would nevertheless find patentable invention.

The degree of novelty in the relation of utility which is necessary to confer patentability is the element in the problem which is not reducible to general rule. It must be substantial, not negligible. It must be distinguishable from mere association of its terms by constituting an item of knowledge not attainable in the course of the incidental improvement of the art. If the solution of the problem presented by the case in hand can be run to cover by an application of generic rules based upon sound analysis of the general topic, it can only be finally caught by the exercise of specific judgment addressed to the individual case.

This paper is submitted in the conviction that it contains a sound, and I hope a useful, generalized interpretation of all the decisions which pertain to patentable novelty, reading each in comparison with the others and in view of the facts to which it was applied. In my view they are all pertinent as illustrations. They all follow a substantially uniform line of reasoning, variously applied to individual cases. An excellent selection, with analyzing discussion, is contained in Mr. Tucker's paper on "Invention *vs.* Mechanical Skill." I regard as especially instructive the decisions relating to double use, and those in which slight novelty in means was found patentable because of distinguishing novelty in function, which must, of course, be read in comparison with others in which an adverse conclusion was reached. I cite below a few decisions deemed especially in point as illustrations, viz: Ex parte McCullom, supra; Atlantic Works *vs.* Brady, supra; Webster Loom Co. *vs.* Higgins, 21 O. G., 2031; McClain *vs.* Ortmayer & Son *et al.*, 42 O. G., 724; Ansonia Brass & Copper Co. *vs.* Electrical Supply Co., 58 O. G., 1692; Topliff *vs.* Topliff, 59 O. G., 1257; Potts *vs.* Creager, 70 O. G., 494; Consolidated Electric Mfg. Co. *vs.* Holtzer, 72 O. G., 415; Mast, Foos & Co. *vs.* Dempster Mill Mfg. Co., 82 O. G., 338; Hobbs *vs.* Beach, 94 O. G., 2357; Westinghouse Electric Mfg. Co. *vs.* Allis-Chalmers Co., 158 O. G., 482; Diamond Rubber Co. *vs.* Consolidated Tire Co. and Rubber Tire Wheel Co., 166 O. G., 251; *In re* Moulton and Jones, 191

O. G., 588; National Tube Co. *vs.* Mark et al., 200 O. G., 329.

I suppose that the words "invented or discovered" in the statute were intended to designate an act which has, in its intellectual aspect, the character called by Robinson "creative" in contradistinction to "merely imitative." The statute must always be construed as applying to the things and acts designated in it. Experience may improve our understanding of the natural character of those things or acts. Since the first patent statute was enacted we have had an enormous amount of pertinent experience, in which improvements requiring but a moderate degree of ingenuity bulk large, and in which the very great aggregate value of such improvements, and their dependence upon something more than what is incidental to the intelligent practice of the arts, are shown. That experience also throws a strong light upon the natural character of the act of invention which the statute designates. I believe that, in the light of accumulated experience, we can see that the creative activity designated by the statute amounts to invention in the fundamental sense herein stated minus the expectable incidental improvement, and that it is manifested when a substantially new item of knowledge is embraced in its result. Clearly, the legislators were vastly more interested in the improvements which inventors would achieve than in the character of the mental process required for the achievement. I think that the minds of the legislators and the minds of the judges came together upon the proposition that what is not mechanical skill is invention, and that mechanical skill is but another name for the expectable incidental improvement.

November 19, 1914.

# The Oath Required by Rule 46

A paper read December 3, 1914, before the Examining Corps of the United States Patent Office


BY

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# The Oath Required by Rule 46

By

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## OATH ORIGINALLY NOT NECESSARY.

Originally patents were granted on a petition to the Secretary of State, the Secretary of War, and the Attorney-General; and no oath of any kind was necessary, unless there was opposition. The Statute of 1793, was the first to require an oath to accompany the application and provided, "That every inventor before he can receive a patent, shall swear or affirm, that he does verily believe that he is the true inventor or discoverer of the art, machine, or improvement for which he solicits a patent." This was superseded by the Statute of 1836, under which the oath became enlagred and partook somewhat of its present form. Article 6 in part reads:

> "The applicant shall also make oath or affirmation that he does verily believe that he is the original and first inventor or discoverer of the art, machine, composition or improvement, for which he solicits a patent, and that he does not know or believe that the same was ever before known or used; and also of what country he is a citizen. . . ."

This statute had the peculiarity that, after search had been made and references cited, if the applicant elected to withdraw his application, he was entitled to receive back twenty dollars, part of the fee paid; but if he continued the prosecution he was required to "make oath or affirmation anew in manner as aforesaid" (Art. 7),

whether he altered the specification or not. Presumably, the theory was that the applicant's knowledge or belief might be modified, by the art revealed in the search, to such an extent that he would be unable to make the necessary averments laid down in the law.

The next change in the oath was made by the Consolidated Patent Act of 1870, Article 30 of which was word for word like the present Section 4892 of the Revised Statutes, except as to the persons before whom the oath could be taken. It also had articles corresponding to Sections 4886, 4887, etc., of the Revised Statutes, by which it was replaced in 1874.

## OATH A PREREQUISITE TO GRANT.

There are a number of cases reported where the courts have refused to hold a patent void although the application papers contained either no oath at all or none that was valid. But that is no reason why the Office should be lax in enforcing the requirements of the law; for in these cases the courts have proceeded on the theory that, inasmuch as an oath is a prerequisite to the granting of a patent and the patent states that all the requirements have been complied with, it is presumed to have been made. Mr. Walker says:

> "It is presumed that the Commissioner will never issue a patent till he is satisfied that the applicant has somehow made oath to the facts to which the statute requires him to swear" (Walker, 4th Ed., p. 105).

Such a presumption was made in Hancock Inspirator Co. v. Jenks (21 F., 913), where the court said:

> "There is nothing in the act requiring this oath to be in writing, and . . . it is possible that the patentee appeared personally before the Commissioner and made the required oath in his presence."

Cyclopedia of Law and Procedure is in harmony with this view:

> "A patent is not invalid merely because no written oath appears among the papers of the record, since it is presumed that an oath was taken" (30 Cyc., 888).

So also is American and English Encyclopedia of Law:

> "A recital in the patent that the required oath was taken is conclusive, in the absence of fraud" (A. and E., 2d Ed., vol. 22, p. 364).

Cyclopedia of Law and Procedure also considers the oath a prerequisite:

> "It is provided by statute that the applicant must make oath that he believes himself to be the original and first inventor, etc., and on construing this statute it has been held that the taking of the oath is but a prerequisite to the granting of the patent and in no sense essential to its validity" (30 Cyc., 888).

The illustrious William Wirt put a similar construction on the law:

> "My opinion is, that the law is imperative; and that no patent can issue in the case until Mr. Duplat shall have taken the oath in the terms in which it is prescribed by Congress" (1 Op. Atty. Gen., 332).

## MADE BY THE INVENTOR.

From the very nature of the averments to be made it would seem evident that the inventor, as long as he is alive and sane is the only proper person to make the oath; but ever-experimenting man is continually attempting to have some other perform that duty.

Apparently the earliest authority on the subject is the opinion of the Attorney-General in 1861 construing the

statute of 1836. This opinion is somewhat elaborate and only the last paragraph is quoted:

> "In the present case the oath required is eminently one of substance. It compels the applicant to assert two facts, which necessarily can only be within his own personal knowledge, viz: that he believes he is the original inventor of the thing proposed to be patented, and that he does not know or believe that the same was ever before known or used. It is impossible that these facts can be originally known to any one but the inventor, and if they are sworn to by his agent or attorney, the evidence is nothing but hearsay. I can imagine no inconvenience which would excuse so wide a departure from the language and purposes of the act of Congress, and I am, therefore, of opinion that the oath prescribed by the 7th section must be taken by the applicant, and can not be taken by his agent or attorney" (Op. At. Gen., vol. 10, p. 137).

In 1888 the Supreme Court expressed a similar opinion in Kennedy *vs.* Hazelton (C. D. 1889-349). It said:

> "The patent law makes it essential to the validity of a patent that it shall be granted on the application, supported by the oath, of the original and first inventor (or of his executor or administrator), whether the patent is issued to him or to his assignee."

There is nothing in this decision inconsistent with those cited above. The patent in suit was fraudulently obtained in the name of a third person and assigned to the inventor to avoid an agreement to assign any such improvements to the plaintiff. The fraud overcame the presumption that the proceedings in the Office were regular and allowed the court to go behind the grant.

Commissioner Duell recognized the authority of this in *Ex parte* Tropenas (90 O. G., 749; C. D. 1900-14), where it was sought to have a petition, specification, and oath executed by the inventor before the United States Consul in Paris on October 26, 1899, substituted for

those executed by his attorney and filed October 27, 1899, to enable applicant to obtain an application date of October 27, 1899, and thereby avoid the running of the statute set in motion by the issuance of a foreign patent. He held that the papers executed by the attorney could not be treated as forming any part of a valid application.

*Ex parte* Tropenas was followed by Assistant Commissioner Chamberlain in *Ex parte* Richards (95 O. G., 1853; C. D. 1901-46), where it was sought to file a supplemental oath executed by the assignee instead of the inventor. He said:

> "Such an oath can not be accepted since the law does not authorize the execution of the oath by any one save the inventor as long as he is alive."

Moreover, this situation seems to be covered by Section 4895 of the Revised Statutes (Sec. 33, Act 1870), which provides that:

> "In all cases of an application by an assignee for the issue of a patent, the application shall be made and the specification sworn to by the inventor or discoverer. . . ."

"Sworn to" here, of course, refers to the original oath, but as a supplemental oath is to cover matter disclosed but not substantially embraced in the statement of invention and original claims, it must necessarily be made by the inventor if alive and sane. For, as said by Commissioner Mitchell in *Ex Parte* Lillie (53 O. G., 2041; C. D. 1890-181):

> "The statute (Sec. 4892) and the corresponding rule (46) imperatively require that when a patent is granted all the claims shall be warranted either by the original oath or by some supplemental oath of the applicant."

Again in *Ex Parte* McCoy (80 O. G., 2037; 1897-74) the sufficiency of an assignee's oath was tried. Here the inventor executed the oath on September 1, 1894, and assigned the application to one Hodges at about that

time. He reexecuted the oath on November 3, 1894; but the application was not filed until April 4, 1896, when it was accompanied by the assignee's affidavit attempting to make the required averment with reference to public use. The examiner refused to consider the affidavit as an additional oath under Rule 46. The Commissioner said:

> "In regard to this question it is noted that neither the statutes nor the rules make any provision for the filing of an oath to an application by any party other than the inventor so long as he is alive."

When the inventor dies or becomes insane Sec. 4896 of the Revised Statutes allows his Executor or Administrator, or his guardian, conservator, or representative in trust, as the case may be, to make application in his stead. It reads:

> "When any person, having made any new invention or discovery for which a patent might have been granted, dies before a patent is granted, the right of applying for and obtaining the patent shall devolve on his executor or administrator, in trust for the heirs at law of the deceased, in case he shall have died intestate; or if he shall have left a will disposing of the same, then in trust for his devisees, in as full manner and on the same terms and conditions as the same might have been claimed or enjoyed by him in his lifetime; and when any person having made any new invention or discovery for which a patent might have been granted becomes insane before a patent is granted the right of applying for and obtaining the patent shall devolve on his legally appointed guardian, conservator, or representative in trust for his estate in as full manner and on the same terms and conditions as the same might have been claimed or enjoyed by him while sane; and when the application is made by such legal representatives the oath or affirmation required to be made shall be so varied in form that it can be made by them. The executor or administrator

duly authorized under the law of any foreign country to administer upon the estate of the deceased inventor shall, in case the said inventor was not domiciled in the United States at the time of his death, have the right to apply for and obtain the patent. The authority of such foreign executor or administrator shall be proved by certificate of a diplomatic or consular officer of the United States.

"The foregoing section, as to insane persons, is to cover all applications now on file in the Patent Office or which may be hereafter made." As to the change of form, see Walker, 4th Ed., 123.

## VENUE.

The provision for a formal statement of venue, in the blank forms in general use, is in compliance with a very ancient custom, probably founded on good reason. But the failure to fill in the state and county or district, as the case may be, does not appear to be a fatal defect now, provided the seal shows the jurisdiction of the officer before whom the oath is taken. At least, this seems, to be a fair deduction from Prym *vs.* Heilbruner (81 O. G., 2245; C. D. 1897-192). This case involved a preliminary statement affirmed before Acting Counsel Madden, at Cologne, Germany, but having no statement of venue. A motion to strike it out for irregularity was denied by the Examiner of Interferences and on appeal, the Commissioner said:

> "The venue is one of the formal requisites of an affidavit. It states the county or district in which it is taken, and is *prima facie* evidence that it was taken in such place. In the older practice it was deemed so essential that without it the affidavit was treated as a nullity. Later cases modify this rule. (Enc. of Plead. & Prac., vol. I, p. 313.) One of these cases is that referred to above. The purpose of the venue is to show that the officer administering the affidavit acted within his jurisdiction. The majority of cases now hold that it need not conclusively appear on the face

of the affidavit by venue that the officer acted within his jurisdiction. It would be presumed that he so acted if nothing appears to the contrary. (Same authority.)"

From the last paragraph of the case, however, it seems that the real ground for his decision was that the venue was included in the seal. It reads:

> "A presumption that the affidavit in question was taken by a proper officer at a proper place is established by the use of the consular seal, by means of which the words 'U. S. Consulate, Cologne, Germany,' were impressed into the body of the paper and thereby made a part of the permanent record. Sound reasoning and common sense would seem to indicate that this is the equivalent in all essential respects of the formal use of similar words at the beginning of an affidavit to indicate the county in which it may have been executed."

In the later case of *Ex parte* Delavoye (124 O. G., 626; C. D. 1906-320), where the omission of the venue was considered fatal by the Examiner. Commissioner Allen said:

> "No reason appears why proper evidence should not be furnished that the oath was administered within the territorial jurisdiction of the notary."

But there is nothing in the decision to indicate that he intended to overrule Prym *es.* Heilbrunner or to direct the Examiners to require a formal statement of venue when the notary's jurisdiction appears in the seal.

However, if a venue is given it must not be inconsistent or at variance with the seal.

## CITIZENSHIP.

The citizenship of the inventor was originally of no importance; the statutes provided that "any person" under the prescribed conditions could obtain a patent and required no statement as to citizenship. But under the statute of 1793 it became very material, for that law

only made provisions for granting patents to citizens; and it was not until the amendment of 1800 that the privilege was extended to aliens. Again in the act of 1836 discrimination was made against aliens; and it was required that the applicant make oath "also of what country he is a citizen" (Sec. 6). This discrimination, however, was abolished in 1870 and apparently so remains to the present, since Sec. 4892 Revised Statutes is the same as Art. No. 30 of that Act in this regard. The situation under the later law was ably stated in Tondeur *vs.* Chambers (46 O. G., 110; 37 F., 333) where the defendant in an infringement suit set up that the patent was void "upon the ground that in the application for his patent the plaintiff made oath that he was a citizen of the U. S., which he was not," and cited Child *vs.* Adams (1 Fish, 189) to support it.

> "But" said the court "that case arose under and was governed by the patent act of 1836, which allowed the grant of Letters Patent to aliens only upon peculiar conditions, to which citizens were not subject (5 Stats. at Large, 117). By that act the patent-fee payable by a citizen was $30 only, whereas an alien was required to pay at least $300, and if a British subject $500; and by the stringent language of the act the fee was to be paid before the application for a patent could be considered by the Commissioner (Section 9). Then, again, an alien patentee was compelled 'to put and continue on sale to the public, on reasonable terms, the invention or discovery for which the patent issued' (Section 15.) It was therefore, under that act of the highest importance that the applicant should truly disclose his citizenship, and Section 6 required that before any inventor should receive a patent he should 'make oath . . . of what country he is a citizen.' The decision cited was expressly put upon the ground that an alien, whether through ignorance or intention, falsely swearing that he was a citizen in order to procure a patent not only failed to perform a condition upon which his right to a patent depended, but committed

a fraud upon the Government. But the law governing the present case— i. e., the patent act of 1870, as embodied in the Revises Statutes— abolished all such discriminations against aliens and placed them upon the same footing as citizens in respect to the grant of Letters Patent for inventions, and the enjoyment of the privileges thereby secured (R. S., Secs. 4886, 4920, 4934). Therefore, under the law as it stood when the plaintiff applied for and obtained his patent, the mistake in his statement as to his citizenship operated. and could operate, neither to his advantage nor to the detriment of the Government or the public. Furthermore, it is well worthy of notice that while Section 4892 Revised Statutes requires the applicant for a patent to 'make oath that he does verily believe himself to be the original and first inventor,' etc., in respect to citizenship, the language is 'and shall state of what country he is a citizen.' This change in phraseology seems to be intentional and to dispense with the necessity of an oath as to citizenship. At any rate, the citizenship of the applicant for a patent is no longer a matter of any real importance, and a mistake touching the same is harmless."

The impression must not be gotten, however, that the statement of citizenship may be omitted; it is a statutory requirement and absolutely necessary (See *Ex parte* Benecke, 126 O. G., 3423; C. D., 1907-66). Nor is it sufficient to say that he has declared his intention of becoming a citizen of the United States (*Ex parte* Rhodes, 105 O. G., 1261) though a statement that he is not a citizen of any country is compliance with the statute (*Ex parte* Benecke, supra).

## RESIDENCE.

Rule 46 requires the applicant to state where he resides; but in this it is not supported by the statute; and the want of such a statement would not warrant the Office in holding an application otherwise unobjectionable to be incomplete. In such a case, however, a new oath should be required (*Ex parte* Becker, 97 O. G., 1597; C. D., 1901-198).

## ORIGINAL AND FIRST.

'It is the intent of the United States patent law that patents shall issue only as a reward for progress made in the useful arts (Constitution, Art. 1, Sec. 8). Under its provisions the "true inventor or discoverer" (as he was defined in the first statute requiring an oath in the application, 1793), is the only person entitled to reward. And by "true inventor or discoverer" here is meant the man who in deed and in truth originated the art, machine, manufacture, etc., and brought it to light for the first time in the knowledge of the world, in contradistinction to bringing it into the realm as in England, or originating at a time subsequent to some other. The later laws adopted the words "original and first" in recognition of the fact that a man might originate the thing, in so far as his own knowledge was concerned and yet not be the first to do the act, and with the intention of excluding such secondary originator from the peculiar and special rights and privileges contemplated by the constitution. Therefore, the applicant's averment that he verily believes himself to be the original and first inventor or discoverer is of first and primary importance, for it his affidavit to these facts that establishes his *prima facie* right under the law to receive a patent for his invention; and unless he can make this portion of the oath it is useless to proceed further (*Ex parte* Hill, 16 O. G., 765; C. D., 1879-236).

## JOINT AND SOLE.

The possibility of joint as well as sole invention seems to have been recognized from the earliest times of our patent system. The statute of 1790 provided for the grant of patents to "any person or persons;" and in the list of patentees under date of August 10, 1791, are found the names of John Biddis and Thomas Bedwell presumably joint inventors of "Making extract of barks." Certain it is that the term "joint" was current in 1836; for on page 1 of the rules in force in July of that year appears the following:

> "Joint inventors are entitled to a joint patent, but neither can claim one separately."

However, in the form of oath given on page 10 of those rules no reference is made to either "joint" or "sole" and the requirement in that regard did not appear in Rule 46 until July 31, 1906, though the forms used those words as early as 1871.

The statutes are silent on this question, but the rule requires that the applicant "shall state . . . whether he is a sole or joint inventor," and that rule has all the force and effect of law (Miller *vs.* Lambert, 72 O. G., 1903, and Revised Statutes, Sec. 483), and every part of it is material (*Ex parte* Leverstein and Naef, 110 O. G., 1726; C. D., 1904-217). It seems safe, therefore, to assume that this statement is a material and necessary part of every oath; but, from the wording of the Rule which puts it on the same footing as the statements as to residence and citizenship, apparently no actual averment is necessary. A careful search disclosed no decision on these points. However, in *Ex parte* Mygatt (160 O. G., 773; C. D., 1910-205), Commissioner Moore held that, while the omission of the word "sole" resulted in a defective oath, it did not render it invalid and warrant holding an application abandoned for failure to complete within the year.

Such an omission, would probably not invalidate a patent, for, as above noted, the courts will not go back of the grant to examine the papers except in cases of fraud; but a joint patent on a sole invention or a sole patent on a joint invention would be void (Walker, 4th Ed., Secs. 50 and 51).

The use of the word "sole" is not such a significant and material matter as would support an indictment for perjury under Section 5392 Revised Statutes (Patterson *vs.* U. S., 181 F., 970; U. S. *vs.* Patterson, 174 O. G., 287). And an oath by two people as joint inventors does not preclude either one of them from subsequently filing a sole application for the same invention if he should come into possession of information leading to the belief that he was in fact a sole inventor. Indeed, in such a case an interference may be declared for the purpose of determining whether the invention was made by one or by both jointly (Kohler *vs.* Kohler and Chambers, 43 O. G., 247; C. D., 1888-19).

For a short time under the rules of 1897 a sole application could be transformed into a joint application and vice versa, but a new application would be necessary now (*Ex parte* Erne and Bridges, 84 O. G., 2247; C. D., 1897-197; and *Ex parte* Gordon, 108 O. G., 561; C. D., 1903-20).

In a joint application the oath must be made and signed by both parties (In re Crane, 106 O. G., 999; C. D., 1903-332); but it is not necessary that they sign the same paper, each may sign and execute dupliate copies (*Ex parte* Wellman & Wellman, 88 O. G., 2065; C. D., 1899-176).

## IDENTIFICATION.

When all parts of the application are filed at one time, there is generally no trouble on this score; for the papers are usually permanently attached together and the oath refers to the annexed specification for a disclosure of the invention about which its averments are made. But when the specification and oath are filed at different times, it almost always happens that the form of the latter has not been changed, and it refers, as usual, to an annexed specification, which in fact does not exist. The averments are, therefore, all about an unidentified invention, and without force or effect. Rules 10 and 32 "apply to an oath as well as to any other paper relating to or a part of an application." *Ex parte* Heusch, 88 O. G., 1703; C. D., 1899-172).

## DOES NOT KNOW AND DOES NOT BELIEVE.

In the Patent Act of 1800 extending the privileges of the Law of 1793 to aliens, the applicant was required to make oath as to "the best of his or her knowledge *or* belief;" and likewise under the Statute of 1836 he swore that he did "not know *or* believe;" but in 1870 the language was changed to "does not know *and does not* believe" as it is at present. The positive reason for the change could not be readily ascertained, but it was apparently the intent of Congress to put applicants on oath as to both knowledge and belief. This was the opinion of Commissioner Allen in *Ex parte* Nicholson

(96 O. G., 1035; C. D., 1901-86) where instead of using the words of the law the applicant said:

> "I verily believe . . . that the said improvement was not known or used by others . . . ,"

and contended that the averment of belief was sufficient to comply with the statute. But the Commissioner said:

> "It seems clear to my mind that the framers of this Section 4892 intended to require the applicant for a patent to disclaim, first, his personal knowledge, and, second, his belief, which, in contradistinction to his knowledge, may be defined as that reasonable belief which is founded upon information derived from others, thus disclaiming two classes of means by which conviction is wrought. Thus considered as excluding personal knowledge and information and belief, the words of the statute have that vitality which should be expected from the fact of their use, and they are not construed as meaningless.
>
> "These provisions of section 4892 are conditions precedent to the grant of a patent, and since such grant follows a course of statutory procedure resulting in the creation of a monopoly in derogation of the common-law rights of the public any failure to comply with these conditions would render the patent granted fatally defective. The only safe course is strict conformity, although some latitude in the use of terms may be permitted to cover the requirements of other portions of Rule 46, whereby the applicant is required to make for himself a *prima facie* case under sections 4886 and 4887, Revised Statutes."

*Ex parte* Buddington (84 O. G., 1728; C. D. 1898-184) was a similar case in which the applicant made oath to his knowledge, but said nothing about his belief, and the Commissioner said:

> "Section 4892 of the Revised Statutes distinctly requires that the applicant shall make

oath in regard to his invention 'that he does not know and does not believe that the same was ever before known or used,' and this Office has no authority to waive any positive requirement of the statut ."

## THAT THE SAME WAS EVER BEFORE KNOWN OR USED.

These are the words of Section 4892, Revised Statutes, and have been in the corresponding sections or articles since 1836, when an averment of that nature was first required. They are also the words of Rule 46, and were in the form of 1836. But the present form (No. 18) reads:

> "That the same was ever known or used before ——— invention or discovery thereof,"

and has so read since April 15, 1882 ("or discovery" was not inserted until February 9, 1897, but the words are synonymous). There is nothing wrong about this, however, for the form is a patch-work of Sections 4886, 4892, 4923 and others, and also Rule 46. Section 4892 and Rule 46 are indefinite as to the time before which the alleged improvements were not known or used. They simply make the applicant swear "that he does not know and does not believe that the same was ever before known or used," without setting the date from which that speaks. And it could not be the date of the oath or that of the application, which is theoretically the same (*Ex parte* Brauna, 97 O. G., 2533; C. D., 1901-232), for it would not do to bar a patent because the invention had been used (for a time less than two years) before the application was filed (*Ex parte* Rowan, 22 O. G., 1037; C. D., 1882-12). However, Section 4892 relates merely to the knowledge and belief of the applicant whereas Section 4886 deals with the actual facts of invention, and admits only such improvements as are "not known or used by others in this country before his invention or discovery thereof." That then is the time before which knowledge or use of the invention would be fatal. Still, the oath must not be limited to knowledge or use in this country (*Ex parte*

Nicholson, 96 O. G., 1035; C. D., 1901-86), as the quotation would imply, for it is contemplated by Section 4923 that, at the time of making his application, the inventor shall believe himself to be the original and first inventor, although it prohibits holding a patent void because the invention or any part thereof was known or used in any foreign country before his invention or discovery thereof.

**Or Patented or Described**
**in any**
**Printed Publication in any Country**
**Before ——— Invention or Discovery thereof or more than**
**Two Years Prior to this Application.**

The germ of this averment made its entry into the patent law in Section 7 of the Act of 1836, which provided:

> "That . . . if, on any such examination, it shall *not* appear to the Commissioner . . . that it had been patented or described in any printed publication in this or any foreign country, . . . it shall be his duty to issue a patent therefor."

It next appeared as a bar in Section 24 of the Act of 1870, which was embodied in Section 4886 of the Revised Statutes in 1874; but the two-years clause was not added until the Act of 1897.

The rules did not require it until 1899, when it was alo inserted in the form.

**Or in Public Use**
**or on**
**Sale in the United States for More Than Two Years Prior to this Application.**

Public use or sale with the consent or allowance of the inventor as such, at the time of the application was made a bar to the grant of a patent by Section 6 of the Act of 1836. Under Section 6 of the Act of 1839 relative to foreign patents, introduction of the invention covered by

the foreign patent into "public or common use in the United States" debarred the grant of a patent here. While by Section 7 of the Act of 1839 public use or sale by others without the consent specified by Section 6 of the Act of 1836 for more than two years prior to the application rendered the patent void. Section 24 of the Act of 1870 barred the grant for "public use or sale for more than two years prior to his application;" and Section 25 of this Act contained a limitation similar to Section 6 of the Act of 1839. Section 4886 took its original form from Section 24 of the Act of 1870, and the limitation of the use or sale to this country was not made until the amendment of 1897.

This bar came into the Rules associated with foreign patents. Thus, in 1867, Rule 16 corresponding to Rule 46 and the form contained nothing in regard to public use or sale, but Rule 80, under the heading "Of Foreign Patents," read:

> "When an application is made for a patent for an invention which has been already patented abroad, the inventor will be required to make oath that, according to the best of his knowledge and belief, the same has not been introduced into public and common use in the United States."

This oath was a separate instrument, from that commonly attached to the specification.

The words "and common" were dropped in 1871; and the present words "or on sale" occurred first in the form for the oath relating to foreign patents issued in 1880, though they did not come into the corresponding Rule (39) until 1883. The forms were consolidated in 1882; but Rule 45, which corresponds to present Rule 46, did not mention public use or sale until 1885.

There are few published decisions involving this clause of the oath, but Rule 46 has all the force of a statute and the requirement there is sufficient (See Miller *vs.* Lambert, 72 O. G., 1903; 1897-77).

"That said Invention
has not been
Patented in Any Country Foreign
to the
United States on an Application Filed
by him or his
Legal Representatives or Assigns More Than
Twelve Months Prior to this Application."

This clause had its inception in Article 8 of the Act of 1836; it was changed by Section 6 of the Act of 1839, by Section 23 of the Act of 1870, and by Section 8 7 Revised Statutes in 1874, which was amended by the Act of 1897, and received its final form by the Act of 1903.

The various steps of its development are very interesting, but anything like a detailed examination of them would be too long for this paper.

(For decisions see next head.)

"And That
no
Application for Patent
on said
Improvement has been Filed by
——— or ———
Representatives or Assigns in any Country
Foreign to the United States Except as Follows:"

This requirement was added to the Rule (46) in 1897 when Section 4887, Revised Statutes, was amended to make a foreign patent granted on an application filed more than seven months before the date of the application in this country a bar to the grant here, instead of a mere limitation of the life of the patent, as it would have been under the preceding law. It gave the Office notice of applications pending in foreign countries more than seven months prior to the execution of the oath and which might become patents before allowance in this country. And it serves a similar purpose under the present law (1903). Also, it shows what dates applicants are entitled to under the second paragraph of Section 4887 Revised Statutes.

Both these statements about foreign patents and applications are productive of trouble. Applicants seem inclined to use their own language and to give as little information as possible.

In *Ex parte* Levenstein and Naef (110 O. G., 1726; C. D., 1904-217) the statement relative to foreign patents granted on applications filed more than twelve months prior to the domestic application was omitted, and on petition taken from the Examiner's requirement for a new oath the Commissioner said:

> . . . . . .
>
> "Present Rule 46 requires that the applicant state in his oath that the invention has not been patented to himself or others with his knowledge or consent . . . on an application for a patent filed in any foreign country by himself or his legal representatives or assigns more than twelve months prior to his application.
>
> "This rule is based upon section 4887, Revised Statutes, as amended March 3, 1903, which states:
>
> "Section 4887. No person otherwise entitled thereto shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid by reason of its having been first patented or caused to be patented by the inventor or his legal representatives or assigns in a foreign country, unless the application for said foreign patent was filed more than twelve months, in cases within the provisions of section forty-eight hundred and eighty-six of the Revised Statutes, and four months in cases of designs, prior to the filing of the application in this country, in which case no patent shall be granted in this country.
>
> "It therefore appears that this requirement of Rule 46 and section 4887 of the Revised Statutes has not been complied with by the petitioners. They contend, however, that their oath substantially complies with the present requirements, for they state . . . that no application for patent on said improvement has been filed . . . in any country foreign to the United States except . . . one filed in Great Britain, the date

of which appears to be less than twelve months prior to the filing in this country.

"A similar contention to this was urged in *Ex parte Mason* (C. D., 1888, 33; 43 O. G., 627), wherein applicant instead of using the phraseology required by the rules then in force changed it in a material particular, and it was said by Commissioner Hall:

"'It is evident that this language is far from a compliance with the rules. It may possibly put the applicant to some trouble or delay to file a proper oath but the requirement is one which should be insisted upon. If a material variation, or, rather, violation of the rule, can be permitted in one particular, the practice would soon become very lax in others.'

"In the present case, the applicants have ignored one of the positive requirements of Rule 46, but state that their compliance with another requirement of the rule is sufficient to cure any defect in the omission of the other one. This position is not thought sound. Every portion of Rule 46 is material, and it can not be held therefore, that a compliance with some of its requirements is a compliance with all of them. In the present case the papers are sufficient to entitle the applicants to the date upon which they were filed in this office; but the requirement of the Primary Examiner that a new oath be filed to comply strictly with Rule 46 is right and is affirmed."

This decision was modified by a notice published in 110 O. G., 2019, as follows:

"The decision of *Ex parte Lerenstein and Naef* (110 O. G., 1726) is to the effect that the oath forming a part of an application must be so clear as not to require a comparison of the allegations therein as to the filing of foreign applications with the date of filing of the application in this country in order to determine whether or not the application in question has been filed in this country within twelve months from the date of filing of the

foreign application. An oath which states that no foreign applications have been filed prior to the filing of the application in this country complies with the rule in this particular; but when an application has been filed in a foreign country it must be positively stated that the said foreign application has not been filed more than twelve months prior to the date of filing of the domestic application."

And both these were interpreted by *Ex parte* Giradot (115 O. G., 1584; C. D., 1905-124):

"The Examiner's objection relates to the statements concerning the inventor's applications and patents in foreign countries. The inventor has sworn that he does not know and does not believe that the invention or discovery has been patented in any country foreign to the United States on an application filed twelve months before this application and that no application for patent upon his invention has been filed by him or his representatives or assigns in any country foreign to the United States, except one in France identified by date and number, the date given being within twelve months of the date of the application in this country. The Examiner's objection is that the oath does not positively state that the foreign application mentioned was not filed more than twelve months prior to the filing of this application.

"The Examiner's position is not well taken. There is no good reason for requiring the applicant to state, in addition to the statements already made, that his foreign application was not filed more than twelve months before the filing of the application in this country. If the foreign application had been filed outside of the twelve-months' period, the application here would nevertheless be entitled to full consideration, no patent having issued upon the foreign application. In citing his foreign application, in stating that no other foreign application has been filed and that no

patent has been granted upon an application filed in any foreign country more than twelve months before the date of the domestic application the applicant has made every allegation respecting his foreign applications and patents required by the rule. The Examiner based his action upon *Ex parte Lorenstein and Naef* (C. D., 1904, 217; 110 O. G., 1726), and notice concerning this decision published in the Official Gazette, volume 110, page 2239. This decision and notice should not, however, be interpreted to require more than the applicant has already done in this case."

The language of Commissioner Allen in *Ex parte* Thorsten von Zweibergh (110 O. G., 859; C. D., 1904-176) is a good guide. He said:

> "While . . . filing a new oath may cause slight delay . . . it is essential that the practice should be uniform, and the rule relating to oaths should be strictly followed. To hold otherwise would cause endless confusion in determining whether or not language chosen by the applicant in his oath was sufficient to comply with the requirements of the statute."

## DATE.

In French *vs.* Rogers (1 Fisher, 133, 1851) the court said:

> "We do not see the justice of the criticisms upon this application that the jurat affixed to it is without date of day or month."

But that was in an infringement suit on a patent and the presumptions referred to earlier in this paper would protect it. The oath deals with conditions at the date of the application and it should be dated so that the Office can determine whether or not there has been an unreasonable delay in filing the papers after the execution of the oath. However the issue division is instructed to pass cases where the month and year are given.

## MUST BE SUBSCRIBED TO BY THE AFFIANT.

Rule 46 says that: "This oath must be subscribed to by the affiant;" and that appears to be sufficient authority, in view of the numerous decisions that hold it to have all the force and effect of a statute.

## BEFORE WHOM TAKEN.

Section 4892 of the Revised Statutes provides that:

> "Such oath may be made before any person within the United States authorized by law to administer oaths, or, when the applicant resides in a foreign country, before any minister, charge d'affairs, consul, or commercial agent holding commission under the Government of the United States, or before any notary public, judge, or magistrate having an official seal and authorized to administer oaths in the foreign country in which the applicant may be, whose authority shall be proved by certificate of a diplomatic or consular officer of the United States,"

to which Rule 47 adds:

> ". . . the oath being attested in all cases in this and other countries, by the proper official seal of the officer before whom the oath or affirmation is made, except that no acknowledgment may be taken by any attorney appearing in the case. When the person before whom the oath or affirmation is made is not provided with a seal, his official character shall be established by competent evidence, as by a certificate from a clerk of a court of record or other proper officer having a seal.
>
> "When the oath is taken before an officer in *any country including the United States* all the application papers must be attached together and a ribbon *or tape* passed one or more times through all the sheets of the application, and the ends of said ribbon *or tape* brought together under the seal before the latter is affixed and impressed, or

each sheet must be impressed with the official seal of the officer before whom the oath was taken, or, if he is not provided with a seal then each sheet must be initialed by him."

(Only people specified competent. *Ex parte* Harkanson, 63 O. G., 1688; C. D. 1893-76). (See also Op. Atty. Gen., 60 O. G., 1481.)

This language is sufficiently specific without construction or explanation to form a guide in most instances; but the exception made in the case of the attorney deserves special mention, for an oath administered by him is absolutely void (Rieger *vs.* Beierl, 150 O. G., 826; C. D. 1910-12). This exception had its initial appearance in the revision of the Rules made July 17, 1907; and was apparently made in view of the opinion of Attorney General Bonaparte (127 O. G., 3642) under date of April 18, 1907, construing the amended section 558 of the D. C. Code relative to notaries. This section in part read:

> "That no notary public shall be authorized to take acknowledgments, administer oaths, certify papers, or perform any official acts in connection with matters in which he is employed as counsel, attorney, or agent in which he may be in any way interested before any of the Departments aforesaid,"

and was construed to apply to all notaries who may practice before the Departments. The Court of Appeals of the District of Columbia expressed a similar opinion in the Hall's Safe Company *vs.* Herrnig-Hall-Marvin Safe Company (135 O. G., 1804; C. D., 1908-473). For a full discussion of the subject and directions to be followed see Riegger *vs.* Beierl, *supra.*

The holding in *Ex parte* Wolski et al. (84 O. G., 2022; C. D., 1898-210) that an oath executed before a judge of the Imperial Royal District Court of Austria can not be accepted, and the similar holding in *Ex parte* Gruson and Schumann (26 O. G., 274; C. D., 1884-2) are no longer controlling for they were made before the amend-

ment in Section 4892 Revised Statutes, contained in Section 2 of the Patent Act of 1903 and incorporated in Rule 47 April 15, 1903, which extended the authority to foreign judges and magistrates.

The Patent Act of 1903 also brought the requirement for proof of the authority of the foreign officer who administered the oath, by a certificate of a diplomatic or consular officer of the United States; and a certificate of the authority of one officer who in turn certifies the authority of the officer before whom the oath was taken is not a compliance (*Ex parte* Rose, 180 O. G., 322; C. D., 1912-194); nor is a proper certificate sufficient for more than one case. In re Fred G. Dieterich and Co. (110 O. G., 309; C. D., 1904-151).

Ribboning the papers, or impressing the seal or placing the initials upon each sheet of foreign applications which has been necessary since the revision of the Rules published January 2, 1903, is still insisted upon; but the similar requirement in domestic cases imposed by the amended Rules of November 21, 1908, has been informally waived.

To sum up: No application should be allowed unless it contains an oath or affirmation made and subscribed to by the inventor, and before an officer named in the statute; stating his citizenship and residence; declaring a belief that he is the original, first and sole inventor (or joint inventor, as the case may be) of the invention or discovery disclosed in an identified specification; disclaiming knowledge and belief of the knowledge or use thereof before his invention or discovery, or the existence of a patent thereon or a description thereof in a printed publication in any country before his invention or discovery, or more than two years prior to his application; denying that said invention has been patented in any country foreign to the United States on an application filed by him or his representatives or assigns more than twelve months prior to his said application, and also that any application for patent on said improvement has been filed by him or his representatives or assigns in any country foreign to the United States, except as are named and identified by date and country; said oath

bearing the seal of the officer before whom it was made, or, if he had none, being accompanied by competent certification of his authority; said oath also showing venue either in a formal statement or in the seal of the officer before whom it was made, or consistently in both. In cases of dead or insane inventors the oath or affirmation is made by their proper legal representatives with appropriate variations in "form."

December 3, 1914.

# PITFALLS

OR

# HOW AN INVENTION MAY BE LOST

A paper read December 3, 1914, before the Examining Corps of the United States Patent Office

BY

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# Pitfalls
# or
# How an Invention May Be Lost

By

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The idea of property is at the bottom of all human progress. In addition to the existence of property there must be an exclusive ownership thereof, and not an ownership in common, otherwise men would not work and strive to produce new things.

This ambition to own and control appeals to inventors as well as other individuals and induces them to create new ideas. When an inventor has thus conceived a new idea and follows this up by embodying that idea in a practical machine or process he at once becomes the possessor of a property right therein and he has a natural right to conceal or reveal the same. This property right would be but a small inducement to inventors to exercise their genius without the possibility of taking some steps to gain exclusive control of the manufacture and sale of their devices. In order to protect these natural rights it now becomes necessary for him to seek statutory protection by applying for and obtaining a patent. The law steps in and comes to the aid of inventors in this respect. It provides a system of procedure which may ripen into a patent granting a private monopoly to the inventor as a reward for his ingenuity and diligence.

It is the private monopoly resulting from the patent which affords the chief inducement or incentive to those possessed of inventive skill to exercise their faculti s in order to promote the arts and sciences.

The inventor must initiate the proceedings and comply

with the requirements of the Patent Acts in order to obtain a patent.

The object of this paper is to point out some of the unusual errors or mistakes which may result in failure to secure the full benefits of the protection intended to be secured by the Patent Statutes.

After an invention has been conceived, the inventor's first thought is naturally how to get a patent as soon as possible. While the law contemplates diligence on the part of the inventor who expects to apply for a patent, it does not require undue haste. In the case of complicated machines an application for patent hastily prepared will frequently be found to disclose an inoperative device. This fault of inoperativeness or lack of proper disclosure may be discovered by the primary examiner. The remedy then is to file a new and corrected application. This will not be a serious hardship on the inventor. However, if the inoperative feature is discovered in interference proceedings with other parties they may take advantage thereof to secure a decision in their favor. Hence a premature application may result in the loss of the patent by judgment of priority being rendered against an inventor who was first to conceive, either on motion to dissolve or at final hearing, whereas a reasonable time devoted to experiments might have enabled the inventor to cure the defects and protect his rights. Moreover, much needless argument and confusion may be avoided in the prosecution of the application before the primary examiner if the invention has been thoroughly tried out and tested before filing.

The law recognizes the inventor's right to a reasonable time for experimenting with and completing his device. Yet during this period there must be no relaxation of effort which would amount to a lack of what is technically known as "due diligence." Even a lack of money to carry on and complete the reduction to practice will not always be received as a sufficient excuse.

In all cases the application must be filed before the process or thing invented has been in public use or on sale in this country for more than two years, or patented or described in any printed publication in this or any foreign country for more than two years.

While it seems to be the intention of the patent law

that an inventor shall disclose his invention fully and promptly and take the necessary step provided by the law to protect the same, yet he may, at his own opiton and risk, conceal it.

A spirit of indulgence has always been manifested toward those inventors, who in good faith, delay application for a patent while engaged in diligent effort to perfect and adapt their devices to practical use. The courts recognize and protect the rights of inventors under such circumstances.

When, however, the invention has been fully completed and reduced to practice a different question may arise in considering delay of application for patent. The public has a right to be informed of and benefited by the invention in return for the private monopoly which the inventor expects to secure. The doctrine laid down in cases of this kind is stated in Bates *vs.* Coe, 15 O. G., 337, as follows:

> "Inventors may, if they can, keep their invention secret, and if they do for any length of time they do not forfeit their right to apply for a patent, unless another in the meantime has made the invention and secured by patent the exclusive right to make use and vend the patented improvement. Within that rule and subject to that condition inventors may delay to apply for a patent."

An example in which delay of this kind has cost an inventor his right to a patent is found in the case of Mason *vs.* Hepburn (84 O. G., 147).

Mason had invented a detachable clip for a shot-gun. This device was satisfactorily tested in 1887, and the gun, with its attached clip in working condition was hung up and concealed in the inventor's store room for seven years. In the meantime Hepburn made the same invention and secured a patent therefor. Mason, upon seeing this patent, at once asserted his rights to the device as the first inventor by filing an application in the Patent Office. An interference was declared and judgment was rendered in favor of Hepburn, the last inventor. Mason had been too slow in applying for his

patent under circumstances which had worked an equitable estoppel against him. He had neither benefited nor intended to benefit the public by disclosing his invention until another had produced the same device and obtained a patent.

The same theory of equitable estoppel has been applied in withholding a patent in the case of a renewal application. The point has been discussed at length in the decision of the Examiners-in-Chief in the case of Barber *vs.* Wood (207 O. G., 299).

Wood's application had become forfeited and he relied upon his right as stated in Revised Statutes, Section 4897, to renew at any time within two years after the date of allowance. Barber's patent came out soon after Wood's application was allowed and in the meanwhile he began manufacturing under his patent and marketing the machines, entirely ignorant of Wood's forfeited application for the same invention in the Patent Office. Wood contended that he had an absolute statutory right to delay two years before renewing. In the conclusion reached by the Examiners-in-Chief this right is qualified to the extent that the entrance of a patentee who manufactures-and sells the device imposes a new duty on the inventor who has a forfeited application to re-assert promptly his claims for a patent by renewing his application. A protracted and unnecessary delay in renewing under such circumstances will be considered as an equitable abandonment and the renewed application will be rejected for that reason.

Another way of losing the right to a United States patent is by exercising too great haste in obtaining foreign patents. Under the law of 1903 the securing of a foreign patent, granted on an application more than twelve months old, will bar the inventor's rights in the United States. Prior to 1903 the domestic patent was barred under the law of 1897 if the foreign patent was granted on an application over seven months old instead of twelve months.

Under this practice it was sometimes possible for unscrupulous applicants in this country to take unfair advantage of foreign inventors. A person might see the invention in practical operation abroad. He would return to the United States and file an application therefor.

A subsequent application filed by the foreign inventor would fail in an interference because of the fact that knowledge and use of an invention abroad is no bar to a patent in the United States and therefore is incompetent matter to be shown and considered in an interference proceeding. In this way the theft of a foreign invention might be perpetrated in this country.

To remedy this evil the law has lengthened the former period of seven months to twelve months and, in addition, gives to the foreign inventor the benefit of the date of filing in his own country as the date of reduction to practice under the provisions of the International Convention for the Protection of Industrial Property. Hence, in an interference the foreign inventor may protect himself from such questionable applications as are referred to above by showing an earlier filing date of the invention in the foreign country.

This may be done by furnishing a certified copy of the foreign application as filed in order to enable the Examiner of Interferences to determine the identity of invention in the foreign and domestic applications. The uncertified copies of foreign patents as received in the United States are not sufficient.

## JOINT AND SOLE INVENTORS.

A patent to be valid must disclose the real inventor and must be founded on his right as such. "It follows that if one of two or more persons obtains a patent for a process or thing which was jointly invented by them all that patent is not valid." If one inventor could have a valid patent for a joint invention, each of his co-inventors could do likewise, and each of several persons would possess the exclusive right to the same thing. This state of affairs clearly would be impossible among the patentees and intolerable as to the public.

Conversely, if a joint patent be issued to several persons for what was invented solely by one of them that patent is void (Walker, Sec. 50).

"Where several independent inventions are claimed by several different claims in a joint patent and where one of those inventions was made by one of the joint applicants for the patent, without any co-operation of another

joint applicant, the claim of the patent which covers that invention is void" (Walker, Sec. 51). In other words, a joint patent may contain claims covering several distinct inventions. Each of these distinct inventions must be the joint invention of all the applicants. If any one of them be, in fact, invented by one of the applicants solely, without the co-operation of the other applicants, a claim covering such invention will be void.

Generally speaking, it is an applicant's privilege and right to have claims expressed in language of his own choosing. The claim is the inventor's fence defining the limits of his invention to distinguish it from the prior art. In building this fence the applicant may select his own materials; usually the office in behalf of the public is concerned only with the size of the plat included. When two inventors attempt to fence off and appropriate the same particular spot, a dispute arises as to which was the first discoverer. The office must settle this controversy.

A claim will be suggested to one or all of the applicants. They must take the claim exactly as presented to them. Neither may understand it. Yet it would be hazardous to refuse and the acceptance must be within a time specified by the examiner. If either of the inventors fails to make the suggested claim the examiner will reject all the claims commensurate therewith in such applicant's case.

In this incipient stage of an interference an inventor must necessarily be more or less in the dark as to the exact issue intended to be covered. After the interference is actually declared and all the parties have access to each other's files the applicants may then determine for themselves whether the issue includes all interfering subject-matter. If it does not, any applicant may make a motion under Rule 109 to have claims covering such additional subject-matter included in the issue or made the basis of other interferences. Neglect to take advantage of the opportunity afforded by Rule 109 to include all the common subject-matter will operate as a disclaimer of such matter. After the expiration of 30 days from the approval of the preliminary statements it will generally be too late to entertain claims for interfering matter which might have been earlier presented.

For example, A, B, and C may be involved in an interference, each at the same time, having other claims for distinct inventions not included in the issue but which might have been included therein or made the subject of other interferences. If judgment of priority be rendered in favor of A, then B and C are thereafter estopped to claim the distinct invention not included in the interference. Although their files may have previously contained claims for such subject-matter they will be rejected (*Ex parte* Temple and Goodrum, 176 O. G., 526; Robinson *vs.* Copeland, 187 O. G., 514).

An invention may be lost by inadequate or improper prosecution of the application in the Patent Office thus leading to abandonment not only of the application but of the invention, but it is not proposed to go into a detailed discussion of this matter in this paper as it will undoubtedly be fully treated by others.

More rights are probably lost to inventors by making inadequate, defective, or insufficient claims than by any other fault. The difficulty of drawing a claim to define an invention properly is well understood by all concerned with patent affairs. The claim, which is the measure of the patentee's rights, has to run the gauntlet of the ideas of the inventor, the attorney, the examiner, the appellate tribunals of the Office, and finally must withstand the criticisms of the courts.

The claims are frequently found to be too broad or too narrow or too inaccurate to define exactly the real invention, and while there may be a real and valuable invention disclosed in the specification, yet the inventor loses his rights by reason of the defective claim, perhaps through no fault of his.

While it is necessary to have a broad claim to cover a generic invention it is quite as important that the claim should be specific to a specific invention; that is, a claim should define and point out accurately just what the real invention is.

## REISSUES.

An invention may be sacrificed by taking out an invalid or insufficient reissue. The application for the reissue of a patent is often attended by more serious consequences than are at first apparent. The petition should recite sufficient grounds to entitle the patentee to a reissue and, failing in this, as intimated by the Supreme Court in Eby *vs.* King (71 O. G., 1454), Gen. Elec. Co. *vs.* Richmond (178 F., 784), the Commissioner obtains no jurisdiction to act. If the reissue were granted upon a petition defective in this respect, that alone might be sufficient reason for holding the reissue void. Nor can the inventor fall back upon the original patent since the grant of a reissue amounts to a legal cancellation of the former patent. No rights can thereafter be asserted upon it and even suits pending for an infringement of such patent fall with its surrender because the foundation upon which they were commenced no longer exists (Reedy *vs.* Scott, 7 O. G., 463).

In making application for reissue the patentee should not forget that the surrender of the original patent is good even though the reissue be void. Again, an interference involving a patent will be decided against the patentee if, in the meantime, a reissue is granted, omitting claims corresponding to the issue of the interference. Such action of the patentee will be regarded as a formal written abandonment of the issue of the interference (Lattig & Goodrum *vs.* Dean, 115 O. G., 505).

The final step in securing the benefits arising out of patent rights consists in giving the public notice that the thing or process has been patented. Without notice the inventor is not entitled to recover damages or profits for infringement of his patent.

The patent act of 1842 provided a penalty for failure to mark by stamping or engraving on each article vended the date of the patent. Neglect to give the required notice made the patentee liable to a fine of not less than $100 for each offence, one-half of which was paid into the Patent Office fund. This source of revenue, however, did not endure for many years because in 1861 the law was modified to abolish the penalty. On failure to mark the article patented the patentee is not allowed to re-

cover any damages for infringement, except on proof that the defendant was actually notified of the infringement and continued after such notice to make and vend the patented article.

If the inventor does not manufacture and sell the article, of course he can not mark. Under these circumstances the patent itself is deemed to be constructive notice.

Pioneer inventions are usually the most valuable, but it often happens that the inventor is so far ahead of the art that he exhausts his rights before the art develops sufficiently to make his invention profitable; pioneering is therefore dangerous. An excellent illustration of this is found in the pneumatic tire patent granted to Thompson, May 8, 1847, No. 5104, in which the modern pneumatic tire was fully disclosed, not only broadly but in many details and in practical form; worked out, tested and described in Mechanics Magazine, vol. 46, page 290. The invention seems to have lain perfectly dormant for more than forty years or until Dunlap again invented it in 1888. The invention was not only lost to the original inventor but to the subsequent one as well. The value of the invention thus lost can hardly be estimated when it is considered that a subordinate patent merely for the manner of fastening the pneumatic tire to its rim sold for one million dollars.

December 3, 1914.

# ABANDONMENT OF INVENTION

A paper read December 10, 1914, before the Examining Corps of the United States Patent Office

BY

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Principal Examiner, Division Eleven,
U. S. Patent Office.

WASHINGTON, D. C.
1914.

THE LAW REPORTER PRINTING COMPANY, WASHINGTON, D. C.

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Abandonment of invention is referred to in the Revised Statutes, directly or indirectly, in four sections, 4886, 4887, 4897, and 4920.

In section 4886, which sets forth who may obtain a patent and under what conditions, occur the reservations "not patented or described in any printed publication in this or any foreign country . . . more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same (the invention) is proved to have been abandoned."

In section 4887, relating to the bearing of a foreign patent granted to an applicant in this country for the same invention, it is provided that a patent shall not be granted in this country upon an application filed more than twelve months subsequent to the filing of the application upon which the foreign patent was granted. The act of the inventor in permitting a foreign patent to issue under such circumstances operates as a virtual abandonment of his invention to the public in this country.

Section 4897, providing for the renewal of a forfeited application by means of a second application, contains the reservation "but such second application must be made within two years after the allowance of the original application," and further "and upon the hearing of renewed applications preferred under this section, abandonment shall be considered as a question of fact."

Section 4920, relating to the pleading in suits for infringement, enumerates among the proofs which may be adduced the fact that the invention had been in public use

or on sale for more than two years before the application for a patent or had been abandoned.

The term abandonment of invention is often somewhat loosely applied to three quite distinct conditions:

*First:* That situation where the would-be inventor has failed to complete his invention and embody it in an operative device or process useful to the public, and finally, either through discouragement or from pressure of other affairs, lays it aside uncompleted. This is hardly an abandoned invention for, properly speaking, there has been no invention. It is necessary that the inventive act shall be complete and embodied in operative and useful form, otherwise there exists merely an incomplete concept which if cast aside in that condition can be no more than an abandoned experiment or abandoned attempt to make an invention. A patent is essentially a contract between the inventor and the public in which the latter agrees to confer upon the former a monopoly, limited as to time, of the exclusive rights in his invention in consideration of the cession to the public of all such rights at the expiration of the term of the monopoly. If the invention has not been completed it can not serve as a consideration for such a contract and therefore the neglect or inability to complete it can not constitute an abandonment to the public nor serve to deter another from completing it or using it as a basis for other inventions and reaping the rewards of his greater inventive skill or diligence.

*Second:* That condition where the inventor completes his invention and clothes it in operative and useful form ready for disclosure to the public, and fails to make such disclosure, laying it aside for future development. There seems to be here no idea of abandonment to the public since the latter, under such circumstances, can have no knowledge of the invention nor profit from it. Such withholding of the invention from public knowledge does not prevent another and more diligent inventor from obtaining a patent on the invention so withheld from the public, nor does it prevent the dilatory inventor from later obtaining a patent if the delay in disclosure be excusable or if no other inventors have established rights during the delay.

*Third:* That condition arising when the inventor has

completed his invention in operative form and then, voluntarily or involuntarily, at any time, either before applying for a patent, at the time of such application or during its prosecution, relinquishes to the public his rights to that invention. This seems to be properly termed abandonment of invention, for the relinquishment is final and irrevocable, the public enters into full possession of the invention so abandoned and any subsequent patent thereto is barred to the inventor or any other person. As Robinson tersely sums up these different classes: "The first abandonment is an abandonment of his intention to become an inventor; and leaves the field open for subsequent inventors to conceive such new ideas or such improvements upon his idea, as will complete the invention and enable them to appropriate it to their exclusive use. The second abandonment is an abandonment of his intention to render the invention practically available for any purpose, and thereupon it is regarded as never having been conceived. The third and true form of abandonment is a dedication of the invention to the public and closes the field forever against not only himself but every subsequent inventer, until the art or instrument shall once more pass from public knowledge and thus become a subject for re-invention."

The surrender of a patent to the public before the expiration of its life seems not to be properly included in the term "abandonment of invention," but rather is a dedication or gift to the public of an item of personal property analogous to the similar gift of any other form of property.

Abandonment of invention may, therefore, be defined as the complete and final relinquishment to the public by the inventor of a complete invention of all his rights thereto. The surrender must be to the public as a whole and not merely to an individual nor to particular individuals and must be before the grant of a patent.

Abandonment of invention, once effected, is irrevocable:

"An inventor may abandon his invention. This inchoate right thus once gone can not be resumed." (Pennock *vs.* Dialogue, 2 Peters, 1.)

Consideration of the subject of abandonment of invention naturally follows two broad lines, those of actual abandonment and of constructive abandonment.

## ACTUAL ABANDONMENT OF INVENTION.

Actual abandonment of an invention is effected by the expressed or inferred intention of the inventor to relinquish to the public his entire rights in such invention. He may expressly declare his purpose or his conduct and circumstances may make reasonable the inference that he had such intention to relinquish his rights. The circumstances tending to show such intent on the part of the inventor may and do vary in each case, but the courts look with scant favor upon forfeiture by abandonment of the inventor's rights and the intent to so relinquish must in all cases be clearly and fully established by proof.

## WAYS IN WHICH AN INVENTION MAY BE ABANDONED.

An inventor may complete his invention and communicate it to the public, verbally or in writing, and at any time make known his intention to dedicate his invention to the public, waiving any rights to exclusive use by himself; or he may publish his completed invention and then neglect to use it or to seek to patent it, thus showing no intention to retain it for his own use; or he may perfect and use it and then apply for a patent before two years public use has occurred, the public use being accompanied by circumstances which show an intention on his part to relinquish his rights to the public, even though such intention was afterward repented of and an application filed. All the foregoing conditions effect abandonment of the invention, the presumption of abandonment being always strengthened where another inventor has entered the field and established an equity while the first inventor has inexcusably neglected to file an application to protect his rights. What constitutes unreasonable delay is of course a question of fact in each case. A brief outline helpful in such consideration is given in Von Schmidt *vs.* Bowers, 80 O. G., 347:

> Delay in applying for a patent after an invention is made will not constitute abandonment where the inventor has used reasonable diligence to perfect the invention and avail himself of its

benefits and there is no general standard by which such diligence is to be established; but it must be reasonable under all the circumstances of the particular case. The character of the invention; the health, the means, the liberty of the inventor; his occupation upon kindred or subordinate inventions; are proper subjects for consideration. Such reasonable diligence does not involve uninterrupted effort nor the concentration of his entire energies upon the single enterprise.

A delay of years between the reduction to practice of an invention and application for a patent therefor shown to be for the purpose of first profiting from the use of the invention in secret and then from patent protection was held to constitute abandonment (*In re* Mower, 88 O. G., 191).

Abandonment of invention may be effected by a statement signed by the inventor, filed with or included in an application, dedicating to the public the matter disclosed therein, or any part of it; or the inventor may embody in one application as filed an express declaration of abandonment of an invention disclosed or claimed in another application.

The inventor may fail to claim an invention disclosed in an application containing claims to other features indivisible from such invention. The statutes require that the inventor "shall particularly point out and distinctly claim the part, improvement or combination which he claims as his invention or discovery." If he discloses an invention without any effort to claim it the presumption is that his intention is to dedicate it to the public unless the circumstances are such that he could not claim it in the same application with the invention to which he has directed his claims, or unless he claims it in another contemporaneously pending application.

Abandonment of invention by failure to claim it is discussed in *ex parte* Mullen and Mullen, 50 O. G., 837. In this case the examiner declined to examine a certain application on the ground that it covered matter shown, but not claimed, in an earlier patent granted to the same party prior to the date of the second application. He

held that applicant's only relief lay in a resissue of the earlier patent. The Commissioner, Mr. Mitchell, reversed the examiner and took occasion to say:

> The only relief possible is through the right to obtain a patent upon the latter application for that which was described but not claimed in the earlier application, if such a right is recognized by law and is applicable to this case.
>
> It is believed that applications may be divided into three different classes with reference to that aspect of the question of division which is here involved.
>
> 1. Cases where the various claims differ among themselves only as they constitute different statements of one and the same indivisible invention—cases where, in other words, the lines of division exist as mental figments only and have no corresponding existence in the concrete subject of invention. In all such cases one application only is permissible, whether pending concurrently or not, because only one patent can be granted for a single invention and a second patent for the same invention under another guise would result inevitably in an illegal extension of the period of exclusive use.
>
> 2. Cases where several distinct inventions are dependent upon each other and mutually contribute to a single result. In such cases the several inventions may be included in one patent or they may be separated into as many patents as there are separate and distinct inventions. In all such cases if a patent issues describing all of the mutually dependent inventions and claiming but one of them, a presumption of dedication arises out of the failure to claim what might have been claimed in the same application. This presumption of dedication is repelled, however, if the inventions not claimed in the patent first to issue are claimed in applications contemporaneously pending in the office.
>
> 3. Cases where the invention described and not

claimed is absolutely independent of the invention actually claimed in the first patent. In such a case the invention described but not claimed could not have been lawfully protected in one patent with the independent subject-matter which was actually secured. There can be no presumption of dedication arising out of a failure to claim in a given application what could not have been claimed in that application and it is believed that no obstacle exists in such a case to obtaining a patent otherwise allowable upon any application that may be filed before the invention has been in public use or on sale for more than two years and before actual abandonment.

It may be remarked that in the class last referred to the second application must be filed not more than two years from the patent date of the first application, else the patent will serve as a publication to bar the grant of a subsequent patent.

An invention may be abandoned by deliberately canceling claims to it from an application in which it is claimed and omitting to file other claims to it, either in the same or another application, before the grant of a patent on the application from which it was canceled. For the purpose of securing a speedy allowance the applicant not infrequently cancels claims which are under rejection on references or for other reasons and obtains a patent with more limited claims than those which he had at some time pending in his application. If he later repents of the cancellation and seeks to secure by a reissue the matter covered by the claims he had eliminated, he finds that he is unable to do so—he has abandoned the invention covered by them; there was no inadvertence, accident or mistake. Closely allied to this situation is that where the applicant inserts in the specification a disclaimer or statement of limitation of the scope of the matter claimed. The final result is equally disastrous, for the scope of the patent granted after such a history will be held strictly within the limits set by the applicant himself. This practice is well established by decisions of the Supreme Court, from which are selected Yale

Lock Co. *vs.* Berkshire Bank, 51 O. G., 1291; Pittsburg Reduction Co. *vs.* Cowles, 55 F. R., 320; Leggett *vs.* Avery, 17 O. G., 445; Union Metallic Cartridge Co. *vs.* United States Cartridge Co., 30 O. G., 771; Shepard *vs.* Carrigan, 34 O. G., 1157; and Roemer *vs.* Peddie, 49 O. G., 2151, the following excerpts being taken from certain of these decisions:

> The proceedings in the Patent Office are for the purpose of reducing the description of the real discovery and the claims to such a form that a patent may properly be granted for them. Until the patentee accepts the patent, he can not be held impliedly to disclaim anything in his real discovery. If he makes a claim which is rejected and he accepts the patent without the claim, then he waives the right to a monopoly therein (Pittsburg Reduction Co. *vs.* Cowles, supra).
>
> If an applicant, in order to get his patent, accepts one with a narrower claim than that contained in his original application, he is bound by it. If dissatisfied with the decision rejecting his application, he should pursue his remedy by appeal. Under the circumstances of this case, the inventor could not even get a reissue based on the broader claim which she has abandoned (Leggett *vs.* Avery). Much less can she, in a suit brought to restrain its infringement, enlarge her patent by argument, so as to cover elements not falling within its terms, and which she had explicitly abandoned (Shepard *vs.* Corrigan, supra).
>
> This court has often held that when a patentee, on the rejection of his application, inserts in his specification in consequence, limitations and restrictions for the purpose of obtaining his patent, he can not, after he has obtained it, claim that it shall be construed as it would have been construed if such limitations and restrictions were not contained in it (Roemer *vs.* Peddie, supra).

Under such rulings the importance of careful consideration by the examiner in requiring cancellations and

limitations and by the applicant in complying with such requirements becomes apparent.

A party having a patent involved in interference may file a reissue therefor leaving out the claims corresponding to the counts of the issue. This has been construed as a formal abandonment of the invention covered by such claims (Lattig & Goodrum *vs.* Dean, 115 O. G., 505).

An invention which forms the subject-matter of an interference may be abandoned under Rule 125 by an unequivocal, unconditional, unlimited, written declaration of abandonment of the invention, signed by the applicant in person and by any assignee. Judgment of priority will then be rendered in favor of the remaining party if there be only one, or the interference will be continued between the remaining parties if there be more than one (Skinner *vs.* Murray, 107 O. G., 542, and Gabrielson *vs.* Felbel, 121 O. G., 691).

If each party involved in interference file such a declaration of abandonment the interference will be dissolved (Krakau *vs.* Harding, 107 O. G., 1662).

A stipulation of the parties to an interference setting forth that the issue is not patentable will be treated as an abandonment, and the interference remanded to the primary examiner with instructions to dissolve it (Lesley & Spackman *vs.* Ellis, 21 Gourick, 35-5).

An application may be abandoned without necessarily abandoning the invention covered by it, unless there be other facts to show conclusively that the inventor, in abandoning his application, intended thereby to abandon the invention also.

Another cause of abandonment after application may be the operation of equitable estoppel. An inventor who completes an invention and inexcusably delays application for its protection by a patent, does so at his own risk, since during the period of his laches another more diligent inventor may apply for and obtain a patent for the invention or intervening rights may arise to deprive the first inventor of the rewards he might have reaped by the exercise of greater diligence. Does this doctrine of equitable estoppel apply to applications filed in the Patent Office and prosecuted within the provisions of its

rules? This question has been treated in a recently published decision of the examiners-in-chief (Barber *vs.* Wood, 207 O. G., 299). Briefly stated, the facts are that while Wood's application was in issue awaiting the payment of the final fee, Barber's patent was inadvertently issued by the office without institution of interference proceedings between these copending applications of Barber and Wood and Barber soon after made machines embodying the invention and placed them on the market, selling a number of them. Wood forfeited his application after Barber's patent had issued and did not renew it until nearly eighteen months after such issuance. The application and patent then went into interference, the final adjudication of which was a decision by the examiners-in-chief awarding priority to Barber on the ground that Wood, through his delay in renewing his forfeited application when other parties had patented the invention and established intervening rights, was equitably estopped from obtaining a patent for the invention he had thus abandoned through his own laches. This conclusion appears to be based upon no proved intention on the part of Wood to abandon his invention, but rather upon the broad equities as disclosed in the record, differing in this respect from the other causes of abandonment previously referred to in this section. This decision should be read in omection with Cutler *vs.* Leonard, 136 O. G., 438; Cain *vs.* Park, 86 O. G., 797; Mason *vs.* Hepburn, 84 O. G., 147; Crown Cork and Seal Co. *vs.* Aluminum Stopper Co., 96 O. G., 2573; Warner *vs.* Smith, 84 O. G., 311; Christensen *vs.* Noyes, 90 O. G., 223; and Farmer *vs.* Brush, 17 O. G., 150.

## CONSTRUCTIVE ABANDONMENT.

Constructive abandonment of invention is effected by the application of statutes which operate entirely regardless of the intention of the inventor with respect to the abandonment of his invention.

The most usual example of constructive abandonment is, perhaps, that due to public use or sale for more than two years prior to application.

The statutes of 1793 provided that abandonment

should ensue in case of any public use of an invention before the inventor had applied for patent therefor. This was interpreted by the courts to mean any public use with the consent or acquiescence of the inventor. In 1836, this interpretation of the courts was adopted in the statutes and at the same time, the sale of the invented thing was made equivalent to its public use. In 1839, in order to alleviate somewhat the hardships imposed upon inventors by so strict a rule, and, possibly, to avoid certain difficulties arising in the consideration of questions of fact relating to consent or acquiescence in different cases, Congress provided by statute that an invention might be used or sold for not over two years before date of application for a patent without abandonment thereby ensuing. In this statute the words "with the consent or allowance of the inventor" were omitted and have not been embodied in any subsequent statute.

The courts in interpreting the statute of 1839 have held that the omission of the clause above quoted was intentional on the part of Congress, and that constructive abandonment is effected when the invention has been in public use or on sale for more than two years prior to the date of application, whether or not such use or sale is known to or acquiesced in by the inventor. The leading decision on this point is the so-called "driven well case," Andrews *vs.* Hovey, 41 O. G., 1162 (Supreme Court).

The tests for determining public use or sale constitute a separate subject for consideration and will not be discussed here.

An invention applied for after 1897, may be constructively abandoned by failure of the inventor to apply for a patent in this country within two years of the issuance of a patent in any country to any person, or within two years after the subject of invention was described in a printed publication anywhere.

Closely allied to this form of constructive abandonment is that occurring under Section 4887, where the inventor of an art, machine, manufacture, or composition of matter, has applied for a foreign patent more than twelve months before the date of application in this country,

and a patent has been granted on such foreign application before the invention has been patented in this country. In the case of designs this period of twelve months is reduced to four months. This form of constructive abandonment applies to all applications filed subsequent to March 3, 1903.

With respect to all applications filed subsequent to 1897, and prior to March 3, 1903, foreign patents granted on applications filed more than seven months prior to application in this country effect constructive abandonment of the invention covered thereby, if the patent in this country be not granted before the issuance of the foreign patent.

December 10, 1914.

# THE ENTRY OF AMENDMENTS

A paper read December 10, 1914, before the Examining Corps of the United States Patent Office

BY

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WASHINGTON, D. C.
1914.

THE LAW REPORTER PRINTING COMPANY, WASHINGTON, D. C.

# The Entry of Amendments

By

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It is the well settled practice of the Patent Office to permit an inventor to amend his application under certain restrictions, to supply omissions and defects and correct informalities in the papers that have been filed, and to otherwise revise the application to secure for him the invention to which he is legally entitled. But in permitting amendments to be made, due regard must be had for the rights of the public in general and the rights of rival inventors.

## UNSIGNED OR IMPROPERLY SIGNED AMENDMENTS

which are to be returned for signature should be forwarded to the Chief Clerk of the Patent Office with a memorandum giving the name and address of the attorney, date of the last office action in the case, and a statement as to why the paper is to be returned. The Chief Clerk will cancel the receiving stamp and conduct the correspondence incident to the return of the papers. If there is not sufficient time for the return of the amendment for signature before the expiration of the time allowed by law within which to take proper action, the examiner will endorse it on the file wrapper, but will not enter the amendment, and will notify the applicant of the status of the case. The informal amendment may be useful in determining the question of abandonment of the application.

In all cases where papers are returned to applicants for any reason it is advisable that the clerk place a pencil memorandum in the file for future reference. The record in every case should be so complete that any person

taking up the case at any time can understand the status or condition of the case without making any inquiries.

If an amendment is signed by rubber stamp, it should not be accepted. Ex parte Minehan, 134 O. G., 1298 (1908). Acceptance of amendments so signed would open the door for grave irregularities. Amendments should be signed by the applicant or his attorney with pen and ink or their equivalent. An amendment with a stamped signature should be treated as an unsigned or improperly signed paper.

## PERMANENT INK.

Amendments must be written in permanent ink. Ex parte Burns, 101 O. G., 661 (1902). In 1880, July 30th, Commissioner Marble issued the following order, No. 32:

> All applications, communications, and other instruments in writing or print, which should constitute a permanent record in the office, must be prepared with a substantially permanent ink. Analin and other perishable inks will not be accepted.

It appears that a permanent ink must have a foundation of lampblack or carbon. The tests given in Ex parte Blaubach, 84 O. G., 1732 (1898), and used in other Executive Departments are two in number—first the application of Labarraque's solution followed by a saturated solution of oxalic acid, and second, the application of a 10 per cent solution of nitric acid. Ex parte Ritter, 57 O. G., 1883 (1891) is another decision that bears on the question of fugitive inks. See also Rule 30.

## AMENDMENTS IN GENERAL.

Where an amendment to an application is received more than a year after the date of the last office action, it is indorsed on the file wrapper of the application, but is not formally entered, and the examiner immediately notifies the applicant that the amendment was not filed within the statutory period, and therefore can not be entered. Order 1854.

When an Associate Attorney is prosecuting a case, and the Principal Attorney files an amendment over his own signature, it must be entered and acted upon, if it is otherwise a proper amendment. The practice of filing amendments by both the principal and associate is discouraged. Ex parte Eggan, 172 O. G., 1091 (1911). This decision also states with whom the correspondence is held when there are several attorneys in the case.

A substitute specification is objectionable and in general should not be filed unless required by the office in view of the number or nature of the amendments to the original specification. No general rule can be given as each case must be decided upon its own merits. Ex parte Orewiler, 170 O. G., 481 (1911).

Where an inventor files his own case, and at the suggestion of the office employs an attorney a new specification is admitted. Ex parte Clifford, 193 O. G., 511 (1913). This is not an exception to the general practice, but is based upon the presumption that the conditions are such as to necessitate a new specification.

It is the well-settled practice of the office that an amendment can not be entered in part. To enter an amendment so far as responsive and to refuse to enter the remainder thereof, would lead to endless confusion. As an example, where after final rejection an amendment is presented canceling the finally rejected claims and presenting certain new claims without a verified showing, the amendment should not be entered. Ex parte Hodge, 173 O. G., 1079 (1911).

An amendment is presented in which the last claim is canceled by a line drawn through it with a pen without anything to indicate who canceled it. The amendment is informal but should be entered and applicant should be required to cancel the claim by the usual amendment. In like manner, pencil interlineations which apparently are intended to be a part of the specification should be called to applicant's attention in order that they may be erased or entered in the case upon proper authorization.

Where applicant's instructions to amend are erroneous, but it is clear what his intentions are, the amendment should be properly entered and applicant, in the next office letter, should be informed definitely what has been done.

Where a case is not closed against further prosecution and an amendment is received that is fully responsive and also contains additional matter that is not responsive, it is the practice to enter the entire amendment, give action on the responsive part, and require the cancellation of the part that is not responsive.

Claims which necessitate the requirement of division, if presented in an amendment, should be entered and division required. Claims presenting a new species other than that elected should be entered and applicant should be required to cancel them. Ex parte Selle, 110 O. G., 1728 (1904).

Where the examiner suggests claims to an application for the purpose of interference under Rule 96, and sets a time within which to make them, and the applicant does not make the claims until the other interfering application has become a patent, it was held that the amendment should be entered, and the claim considered in order to give applicant an opportunity for appeal. Ex parte Swift, 111 O. G., 2494 (1904).

## DELAYED APPLICATIONS.

It is a great injustice to the public and other inventors to permit an applicant to prosecute his application indefinitely and keep his invention from the public while the art is growing up and passing by his invention. To then allow a patent to issue with claims covering the art is unjust and inequitable to the public and especially to other inventors who have developed the art. The practice announced in Ex parte Miller, 139 O. G., 730, and Ex parte Perry, 140 O. G., 1001, is designed to remedy this evil by closing the prosecution of applications before the office, when they have been pending for a long time, or when an issue has been reached.

The policy of the Patent Office, as gleaned from the Commissioner's report, 199 O. G., 939, and a later report in the Scientific American, August 1, 1914, is to reduce the time during which applications may pend in the office. An order is now in force which requires amendments to cases which have been pending five years or more, to be called to the personal attention of the Commissioner before being entered. This time is to be

gradually reduced until cases which have been pending more than two years will probably be included in this order. An investigation instituted by Commissioner Ewing last June disclosed the fact that the patents issued during the first six months of 1914 were pending in the office as applications an average time of twenty-one and one-half months. This average has risen until it is now (December, 1914) more than two years. With many of the old applications ultimately eliminated the average time applications pend in the office will be much less than that. Hence a new rule or order requiring all cases which have been pending more than two years and all amendments thereto to be called to the personal attention of the Commissioner may eventually be promulgated.

## AMENDMENTS AFTER FINAL REJECTION.

After a case is under final rejection, the following amendments may be entered:

(1) Amendments canceling claims or the matter upon which appeal is to be taken.

(2) Amendments presenting the rejected claims in better form for appeal.

(3) Amendments accompanied by a showing duly verified of good and sufficient reason why they were not earlier presented.

(4) The examiner has discretion to admit other claims for the purpose of appeal.

(5) He can waive the final rejection and open the case for further prosecution.

(6) He can admit amendments containing claims for the purpose of interference.

(7) He can admit an amendment containing a claim which he deems patentable; but the entry of the amendment does not reopen the case for further prosecution.

When broad claims are finally rejected, an amendment canceling the broad claims and substituting more limited claims is not in itself a sufficient showing to reopen the case. Ex parte Lange, 163 O. G., 727 (1911).

In a finally rejected case, the Examiners-in-Chief affirmed the examiner but cited a new reference which disclosed certain features of the claim not shown in the

references of record. This reopened the case for further prosecution before the examiner. Ex parte Wade, 158 O. G., 704 (1910).

Where claims which were recommended by the Examiners-in-Chief are rejected by the examiner on new references, applicant has a right to amend them or substitute new claims therefor, provided they are directed to the same invention as that covered by the rejected claims. If, however, a claim is presented directed to an invention different from the rejected claim, it should not be entered, as the case is not reopened for general prosecution. Ex parte Lindsey, 156 O. G., 1067 (1910).

Where, after a final rejection, an amendment is presented containing some claims which are admissible, such as claims copied from a patent, for instance, and some which are not admissible, the entire amendment should be entered and the requirement made that the claims which are not admissible be canceled before forwarding the appeal. Ex parte Stickney, 185 O. G., 1379 (1912).

After final rejection amendments to the description which do not touch the merits of the claims but present the invention more clearly may be entered without reopening the case for further consideration. Ex parte Loppentien, 122 O. G., 1723 (1906).

If, after final rejection, the examiner requires an amendment to the specification, this does not reopen the case. Final rejection of claims in a case closes the further prosecution not only of the claims under final rejection, but of others substituted therefor. Ex parte Casselman, 116 O. G., 2012 (1905), and Ex parte Novotny, 108 O. G., 1327 (1904).

In a finally rejected case, and in response to an argument, the examiner called attention to a new reference as showing features referred to in the argument. It was held that this citation reopened the case. Ex parte Lawton, 97 O. G., 187 (1901). This decision is based on Rule 68, which states that an applicant "may amend as often as the examiner presents new references or reasons."

No definite rule can be laid down to determine what constitutes a satisfactory showing of reasons why the

amendment was not earlier presented. In determining this question the record of the application should be considered, to see whether the application has been prosecuted in good faith and expeditiously. In Ex parte Schmidt, 171 O. G., 482 (1911), an affidavit was filed by the attorney of record, to the effect that matters contained in the amendment were not earlier presented because of the fact that the inventor had not earlier pointed out to counsel features covered by the proposed amendment. This was held to be a sufficient showing, as the case had been prosecuted in good faith and expeditiously. This case is not inconsistent with Ex parte Schrader, 120 O. G., 2127 (1906), where the petition was denied. There the attorney had filed a statement, stating that the inventor had not called the attention of the attorney to the subject-matter of the proposed claims. The proposed claims were presented to be substituted for the claims finally rejected by the examiner, which rejection was affirmed on appeal by the Examiners-in-Chief and also by the Commissioner.

The excuse that the inventor did not fully explain the subject-matter to the attorney must be carefully considered, as it can be given in almost any case, and if accepted as sufficient, the rule against amending after final rejection would be a nullity.

When a claim is admitted under Rule 68 upon a showing duly verified, the claim must be considered and acted upon by the examiner. He can not hold that it was admitted for appeal only. Ex parte, Meyer, 148 O. G., 1088 (1909).

Where claims are finally rejected and applicant alleges that such claims cover a feature not disclosed in the application, held, that applicant should be permitted to present for appeal claims which unquestionably read upon his disclosure. Ex parte Swanson, 21 Gour., 76-30 (Aug., 1909).

An applicant has no right to amend after decision on appeal except under unusual circumstances and where a proper showing is made. Even then a petition must be made to the Commissioner to reopen the case. Ex parte Auer, 116 O. G., 595 (1905).

## AMENDMENT AFTER ALLOWANCE—RULE 78.

Let us follow the course of an amendment under Rule 78, from the time it is filed up to and including its final disposition. After being filed in the Application Division the amendment is sent to the Docket Clerk who then sends to the Issue and Gazette Division for the allowed application file, to which he attaches the proposed amendment, and the notice for the examiner's recommendation, all of which he sends to the examiner. The examiner will recommend that the proposed amendment be entered or not entered as the case may be—usually by endorsement on the proposed amendment—and returns the file with the attached parts, together with his recommendation, to the Docket Clerk, who will transmit it to the Commissioner. If the Commissioner approves the entry of the amendment, the Docket Clerk will immediately send the file and papers to the examiner who will cause the amendment to be entered. The file is then brought back to the Docket Clerk and the applicant or his attorney is notified that the amendment, having been recommended by the examiner, and approved by the Commissioner, has been entered. This letter bears the signature of the Chief Clerk. The Docket Clerk then returns the application to the Issue and Gazette Division. In case the examiner recommends that the amendment be not entered, he will write a letter stating his reasons therefor, and send a copy to the applicant, and return the file, together with the adverse recommendation, to the Docket Clerk, and if the Commissioner approves such adverse recommendation, the Docket Clerk will in like manner notify the applicant or his attorney that the adverse recommendation of the examiner, on the admission of the amendment, a copy of which was sent to him, has been approved by the Commissioner and will return the file to the Issue and Gazette Division.

The examiner is presumed to have jurisdiction of the case until the notice of allowance is sent to applicant. All proper amendments, therefore, received before the notice of allowance is sent, must be received and considered. This is analogous to the practice in interference cases, where the examiner retains jurisdiction of the case until the Examiner of Interferences declares the interference by

forwarding the notices to the several parties to the proceedings. Rules 100 and 102. If an examiner sends a case to issue and thereafter a proper amendment is received, which was filed before notice of allowance is sent, the amendment must be entered and considered. If the notice of allowance is sent, the examiner must withdraw the case from issue and enter and consider the amendment. This is the practice. But if the amendment leaves the case in condition for allowance, no reason is seen why it should not be entered under Rule 78 without withdrawing the case from issue, upon the initiative and recommendation of the examiner, and the approval of the Commissioner. This course would avoid the necessity of withdrawing the case from issue, and of sending a second notice of allowance.

After a case has been sent to issue and the notice of allowance sent, the time for amending, as a matter of right, has expired. The entry of claims under Rule 78 is not a matter of right, but is a privilege granted to applicants after such examination of the case by the examiner as he may deem necessary. Ex parte Goldsmith and Whiting, 184 O. G., 553 (1912).

The admission of amendments under Rule 78 rests largely with the examiner, whose recommendation will not be overruled except under unusual circumstances. It is well settled that an amendment will not be admitted after allowance, where it requires a reexamination of the case. Ex parte Holz, 154 O. G., 1411 (1910).

If the examiner reports that the claims are unpatentable, they will not be entered. Ex parte Langhaar, 159 O. G., 747 (1910). The applicant has no right to appeal from the examiner's decision holding that the claims are unpatentable and therefore the usual reason for explaining fully to the applicant the grounds upon which the conclusion is based does not exist. Ex parte Orndoff, 140 O. G., 1001 (1909). Rule 78 does not provide for prosecution of the case. The examiner has no jurisdiction and his report to the Commissioner is not an action in the case. No hardship or irreparable injury results from the refusal to enter the amendment under Rule 78, as the applicant may allow the application to become forfeited and then file a renewal, or he may abandon

the application in favor of a continuing application, and in this way, secure consideration of the amendment as a matter of right.

The claims in a certain case were finally rejected, appealed to the Examiners-in-Chief, and allowed. The case was passed to issue, and then withdrawn for the purpose of interference. The applicant was defeated in the interference and the claims were rejected under Rule 132. The applicant now presents an amendment canceling the rejected claims and adding new claims. What shall be done with the amendment? The amendment must be entered and considered. The case is not closed before the examiner, although it was closed before the appeal was taken. Withdrawing a case from issue for the purpose of interference reopens the case for further prosecution, and moreover the rejection under Rule 132 is a new ground of rejection. Ex parte Klepetko, 126 O. G., 387 (1907).

## AMENDMENTS TO THE PETITION.

The entry of amendments to the petition of an application is governed by Order No. 1874 as modified by Order No. 1994. The petition in an application may be amended to correct names and addresses (other than post-office addresses), and titles of invention. To make a change in the post-office address, a letter signed by the applicant in person and giving his actual post-office address will be accepted. An applicant's post-office address in care of his attorney will not be accepted. Ex parte King, Com. MS. D., Mar. 23, 1900.

## AMENDMENT OF THE DRAWINGS.

Where applicant desires to amend a drawing, he should file a photographic print of the original drawing and illustrate on this print or by means of a sketch the change in the original drawing that he desires to make. The print and sketch should then be filed accompanied by a written request for permission to amend the drawing as indicated. The examiner's response to this request should be in writing. Signatures to the drawing may be corrected and reference characters changed by the

office without filing photographic prints if the requirement for such corrections and changes appear in the examiner's letter.

Order No. 2112, of March 30, 1914, directs that—

> Hereafter, corrections and alterations in the disclosure of the drawings of pending applications will be made only by the draftsmen employed by the Patent Office. Inventors, attorneys, and examiners will be guided by this order. The Chief Draftsman will make a reasonable charge for such changes as may be necessary. (See Order No. 1958 of February 3, 1912.)
>
> The purpose of this order is to stop the constant mutilation of office records.

## EXAMINER'S AMENDMENTS UNDER ORDER 1718.

Where the citizenship of the applicant is given in the oath, but omitted in the preamble to the specification, it may be supplied by examiner's amendment.

In applications otherwise ready for allowance, where the first name of the applicant is disclosed in the record but does not appear in the preamble to the specification, the examiner will insert the first or Christian name of the applicant in the preamble by examiner's amendment.

Examiner's amendments are a great convenience in making minor corrections, but care must be exercised so as not to expand this order to include amendments other than the correction of obvious informalities.

## AMENDMENTS CONTAINING NEW MATTER.

The subject of new matter will be presented in another paper, and will not be treated in this paper further than to say that an amendment containing claims to new matter should be entered and rejected for that reason and all other reasons which are deemed applicable. Rice, 21 Gour., 56-22 (June, 1909).

If the amendment attempts to introduce new matter

into the specification but does not present claims for the new matter, the examiner should refuse to enter it. Ex parte Mothes, 113 O. G., 1146; and Ex parte Smith, 58 O. G., 1840 (1892).

If the amendment attempts to introduce new matter into both the specification and the claims, the entire amendment should be entered. The examiner should reject the claims and require the new matter in the specification to be canceled. New drawings, however, should not be entered until the question of new matter is finally determined. Ex parte Furness, 104 O. G., 1655 (1903).

December 10, 1914.

# Practice Relating to Division

## AS INDICATED BY DECISIONS OF THE BOARD OF EXAMINERS-IN-CHIEF

A paper read December 17, 1914, before the Examining Corps of the United States Patent Office

BY

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# Practice Relating to Division as Indicated by Decisions of the Board of Examiners-in-Chief

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The purpose of this paper is to outline briefly the principles which underlie the practice of the office in the matter of division.

Widely different views have been held with regard to this question, depending upon the individual construction placed upon Section 4886 of the statutes which is as follows:

> "Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country before his invention thereof, and not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof, or more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law, and other due proceedings had, obtain a patent therefor."

The question to be answered is, how much may a single patent cover? May more than one invention receive protection by a single instrument? Is it proper to join two or more inventions in a single patent, and if so, under what conditions?

Robinson in his work on patents inclines strongly to

the belief that joinder of inventions is not contemplated by the statute. He says (vol. 11, p. 48):

> "The joinder of several inventions in a single application is not altogether consistent with the principles or policy of patent law, however nearly related to each other such inventions may be. A right to the exclusive use of one invention is entirely distinct from a right to the exclusive use of any other, and the monopolies created in favor of an inventor must, therefore, always be as numerous as the inventions upon which they are based.
>
> "That several monopolies *can* be created by one granting act, and *can* be witnessed by one instrument of grant is undeniable; but the symmetry of the law and the avoidance of unnecessary confusion would require that each invention be protected by a separate patent, in which the limits of the single monopoly conferred thereby might be clearly and perpetually defined."

And then bowing to the actual realities of things he adds:

> "A contrary practice, however, has arisen, and out of consideration for its convenience and its economy to applicants, has been sanctioned by the Patent Office and the courts."

In Ex parte Bancroft and Thorne, 20 O. G., 1893, Commissioner Marble said:

> "The fair construction, I think, of this statute is that an invention or discovery for which a person may receive a patent is a single invention or discovery, not several . . . My attention has been called to the fact that patents have been issued for a process and a product; a machine, process, and product; and a machine and product, and, as I think, in many cases, improperly. The fact that the courts will sustain patents in order to protect the rights of parties, or that patents have been improperly issued, furnishes no rule of ac-

> tion for this office. . . . I am unable to appreciate the suggestions made upon the argument about public policy or the policy of the law in connection with the issuing of patents. The law has no policy other than that expressed in itself, and that policy is to give to every person, upon his complying with its terms, all the rights and privileges contemplated therein. It certainly is not the policy of the law to give to a person any more than is authorized. If there is any policy in the law it is to allow all persons whom the law recognizes as proper applicants for patents for inventions, the right to devise ways and means, mechanical or otherwise, for practicing or producing anything useful and beneficial to man. This, I think, is best done when the particular thing invented or discovered is embraced in one patent."

In Wyeth *vs.* Stone, 1 Story, 273, the court emphasized this principle calling attention to the exact wording of the statute in the following words:

> "For if different inventions might be joined in the same patent for entirely different purposes and objects, the patentee would be at liberty to join as many as he might choose, at his own mere pleasure, in one patent, which seems to be inconsistent with the language of the patent acts which speak of the thing patented, and not of the things patented, and of a patent for an invention and not of a patent for inventions; and they direct a specific sum to be paid for each patent. . . . There is no ground, founded in public policy or in private right, which calls for any expanded meaning of the very words of the statute; and to construe them literally is to construe them well."

On the other hand, there have been those who have been extremely liberal in their views, and who would cover by a single instrument as many monopolies as might be described in a specification, just as a deed may give title to many different properties. As an illustration

may be mentioned the case of Benjamin Electric Mfg. Co. *vs.* Dale Co. et al., 158 F., 617. The original application of Benjamin contained claims to a number of modifications between which division had been required. The court said:

> "The logical way would have been to include the genus and its varieties in the same patent, and half a dozen claims would have covered every possible combination which he was entitled to hold. But by the time the Patent Office got through with him, Benjamin was the holder of four separate patents granted upon divisional applications split off from the original one, the four patents containing together ninety-eight claims. It does not seem just that the patentee, who was powerless to obtain any modification of the rule for dividing applications, should be made to suffer from such misdirected energy."

The practice of the office with reference to division has at times changed with the change of Commissioners. In 1884, the Commissioner referring to the language of the statute said in Ex parte Blythe, 30 O. G., 1321:

> "I am compelled to hold that the plain provisions of the statute, as well as the weight of judicial opinion and the dictates of what seems to me common sense, requires that arts, machines, manufactures, and compositions of matter should be made the subjects of separate and independent patents except as indicated."

But a year and a half later the succeeding Commissioner stated in Ex parte Young, 33 O. G., 1390, that he had no hesitancy whatever in saying, generally, that the unqualified statement that claims for method, apparatus, etc., are prohibited by the statute from ever being joined or included in one patent was faulty, and, in his judgment, could not be sustained.

Lying between such extreme views are found the principles which define the practice of the office. While the matter of fees is not to be neglected which, during the years since the patent system was inaugurated, have

created a surplus of more than $7,000,000, nevertheless much latitude is afforded an applicant in the scope and character of the claims which shall protect him in the use of his invention. Where only a single invention is claimed the question of division naturally does not arise. For whether claimed generically or specifically the invention remains the same (Ex parte Lord, 50 O. G., 987). But where different, distinct inventions are involved, the question of proper joinder has to be considered.

Two conditions are clearly stated in Rule 41, which says:

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

Inventions thus fall into two groups—independent and dependent inventions, and it is the purpose of this paper to ascertain what is comprehended by each of these terms. It may be stated that the principles underlying the present practice of division are both few in number and general in character.

The independence of different species was long ago enunciated in Ex parte Eagle, 1870 C. D., 137, and has been affirmed in many later decisions.

Two devices, even though they are classified in the same office class, are independent inventions if independent in structure and operation. Ex parte Davidson, 101 O. G., 1371.

And if the claims cover inventions so independent that each requires an independent search to determine its novelty, division should be required. Ex parte Adams, 106 O. G., 541.

Independence between combination and subcombination, where the latter has acquired a distinct status in the arts, manufactures, and office classification, and is useful in other relations, is affirmed in Ex parte Moriarty 99 O. G., 2549, and Ex parte Dyer, 15 Gour., 36-11. As stated in Ex parte Herr, 41 O. G., 463, and later in Willcox and Borton, 45 O. G., 455, wherever the original invention is such that it could be the subject of a patent and the organism was not changed in its structure or

identity, it is believed that several improvements on its parts may be embraced in one patent, providing they cooperate in affecting the whole organism, improving it as a whole, and provided, also, invention and art have not subsequently so advanced as to select the improved parts as distinct subjects of invention, art and manufacture.

If there is absence of any necessary relation between a process and the apparatus by which it is carried out, the inventions are independent. Ex parte Frasch, 117 O. G., 1166.

So also independence exists between a process and a product when the process can result in other products and the product be made by other processes (Ex parte, McHale, 18 Gour., 41-26); or between a process and a product which may be made by other processes (Ex parte Schmidt, 100 O. G., 2602); or between a process and an article which is independent of any particular process (Ex parte Williams, 105 O. G., 1780); or between a process and product when the product has acquired a distinct status in the arts, manufactures, and office classification (Ex parte Christensen, 105 O. G., 1261).

Independence exists between a composition and the process of using the same. Ex parte Tschirner, 97 O. G., 187.

Division can not be required in a reissue application. Ex parte Van Nostrand, 194 O. G., 1141.

These few simple statements substantially embody the general principles upon which the practice of the office is based.

Prior to February, 1904, division was held to be a matter of form to be considered by the Commissioner on petition and, to unify the practice in a measure, Rule 41 had been formulated requiring that process and apparatus be claimed in separate applications. But the United States Supreme Court in Stinemetz *vs.* Allen, 109 O. G., 549, overruling the conclusions of all lower tribunals not only declared this rule at fault because making a hard and fast rule where discretion must be exercised, but declared that the question of division was a matter of merits appealable to the Board of Examiners-in-Chief. From February, 1904, until June, 1914, 175 appeals relating to division have been decided by the Examiners-

in-Chief in accordance with the principles above mentioned.

These decisions being unpublished have not been available to the examiners and it is a significant fact that in more than 60 per cent of all such appeals the examiners have been reversed, this being largely due to the impossibility of ascertaining, except in isolated cases, the way in which these general principles were being applied by the Examiners-in-Chief to specific cases. It may not be amiss, therefore, to give a brief synopsis of a few representative decisions from applications which have now matured into patents, covering the various classes of questions which commonly arise, and which may outline what is to be considered the practice of the office.

## UNRELATED DEVICES.

Ex parte Bean, Patent 1,030,702:

In a shoe-blacking machine, three sets of claims covering (1) brushes and means to operate them; (2) the same brushes and means to apply blacking to them, and (3) the same brushes, a foot rest and means to raise and lower the rest, were held to be related in purpose and properly joined, while claims to a different set of brushes and operating means therefor to polish a different part of a shoe were held to cover an unrelated machine, though mounted on the same base. The ultimate object of the two sets of brushes was the sum of their separate objects and not a unitary result. Each machine accomplished its own work completely, without being affected in any way by the operation of the other.

Ex parte Frasch, Patent 951,721:

Requirement for division was sustained between claims to the separating portion of an oil purifying apparatus, and a pump useful in other relations and a rectifier adapted for use in any place where a rectifier is needed, each having acquired a distinct status in the arts and manufactures.

## RELATED DEVICES.

Ex parte Morgan, Patent 975,563:

Two sets of claims covered respectively, means for inserting a bit, and means for removing a bit. Held, that although the devices might be used separately or together, there is no practical reason why applicant should not be permitted to exercise the option of joining the two in one application since they have not acquired a distinct status in the arts and manufactures, and, except in the case of species, the office rarely, if ever, has gone ahead of the time when inventions have acquired such distinct status. Rules of joinder are interpreted as applying to inventions as they are found in the art and not as things apart from the art.

Ex parte Smith, Patent 1,026,714:

Several sets of claims relating to beet harvesters covered cutting and pulling mechanisms alone and in combination. The combination being old in the art, division had been required between the different mechanisms. Two patents were found showing one of the inventions claimed separately, but no separate office classification had been established. It was contended that two patents indicate the independence of the inventions and the necessity of division as truly as a hundred, and office classification should follow. Held, that division should not be required since two patents may indicate the existence of an invention, but that manufacture and sale are important factors in determining its status in the arts.

Ex parte Levi, Patent 968,245:

This application contained claims for an ornamental cover for a box, to act as a frame for the goods displayed in the box, and claims for a card to hold the article displayed in the bottom of the box. Either could be used without the other, and separate patents for each invention have been secured. Held, that division should not be required, since these inventions have not acquired a distinct status, they were intended to be used

together and neither office classification nor the work of examination could be especially facilitated by division, which is after all largely a matter of discretion.

Ex parte Wagner and Malocsay, Patent 920,698:

This application related to an improvement in a machine for applying bands to cigars, designed to gum the bands, wrap the same around the cigars, and secure the overlapping ends together. One set of claims relates to the mechanism for transferring a band from a stock of bands in a holder. Other sets of claims relate to the gumming of the bands, the delivery of the article, the closing of the band, and a delivery carrier for the finished article. The examiner held that the band transferring claims should be divided out and classified with Pneumatic Separators under Printing, thus obviating the difficulty of classification and examination incident to the presence of such devices in many widely different arts. The decision of the Board is in part as follows:

> "The rule as to joinder of inventions is that independent inventions can not be claimed in one application, but that where the inventions, though distinct, are dependent upon each other and mutually contribute to a single result, they may be claimed in one application. . . . The office classification can not, of course, establish the fact of the independence of any given two or more inventions. The office classification is only evidence to show how the several subjects-matter are there classified. In short, the independence of invention is one thing and its classification another and different thing. Thus in the case of species, for example, their independence of invention is conclusive from the fact that they are species. And yet the several applications for the separate species are classified in the same art and in the same sub-class. In any event the office classification simply follows the art, accepting it as it finds it, and does not announce any opinion as to the independence of invention in any given case. . . . It can not be indubi-

tably said that the claims for the transferring device and its combination with the holder are independent of the claims for the other combinations, the devices in both sets of claims, each and all, going to make up the organized machine for banding articles. The fact that the transferring device is similar to transfer devices in other arts, or might be used therein, is not conclusive evidence of the independence of the other inventions in the banding machine of which it constitutes a part. . . . There is no evidence that the transfer device claimed in this application has a sovereignty of its own, such, for example, as a mechanical element has in the arts at large. Though, perhaps, it might facilitate the examination of applications and inventions were all transfer mechanisms classified together and subclassified according to their character, such classification is more of a wish, and, as such, father to the thought, for independence of invention than any real evidence establishing the fact that the transfer device herein and the other parts of the banding machine are, in fact, independent inventions."

## COMBIANTIONS AND SUB-COMBINATIONS.

### (1) Unrelated.

Ex parte Howard & McKee, Patent 840,332:

Claims for a mail carrying receptacle and a specific harness for carrying the same held improperly joined with claims for a specific receptacle, the latter having attained a distinct status in the arts and manufactures and capable of use with other forms of harness.

### (2) Related.

Ex parte Johnston, Patent 837,475:

The claims were drawn to a sash cord guide comprising a pulley and casing having certain cooperating features, and to a pulley having certain of said features. Although

the office classification has a class of pulleys, yet it was held that division should not be required since office classification should not be followed in requiring division unless it appears that the reason for the existence of the separate class is the reason on which the requirement for division is based. The pulley as claimed had certain structural features which were designed with special reference to certain structural features of the casing, and therefore it was a dependent and related invention.

Ex parte Fessenden, Patent 857,985:

A claim for a key was held to be properly joined with claims to a watchman's time recorder, the key having both a locking edge and a ward to actuate the recorder, and being therefore a removable part thereof.

Ex parte Brown, Patent 922,385:

This application contained claims to a type bar having inclined type faces, and claims to a platen having a certain movement rendered necessary by the inclination of the type, and claims to the combination of the two. It was admitted that type bars and platens have each acquired a distinct status in the arts and office classification, yet joinder was permitted as related inventions because of the relation between the shape of the type and the movement of the platen.

Ex parte Clark, Patent 837,894:

A storage battery has two terminals—one permanent, the other detachable. There were claims generic to both forms, claims specific to each, and claims specific to both. Although they can be used independently or one substituted for the other, yet they may be joined because in the mind of the inventor they were intended to be used together, the construction being such as to afford permanent electrical connection between plates at one end and the detachable terminal permitting ready separation of one cell from another.

Ex parte Matthews, Patent 950,489:

Held, that claims to the combination of a coupler and specific form of uncoupler, were properly joined with specific claims to the coupler.

Ex parte Kelso & Kelso, Patent 1,024,083:

Held that division should not be required between a car coupler and a knuckle, where the knuckle was limited by features particularly designed to cooperate with this coupler.

Ex parte Holson, Reissue Patent 7341 (before Ex parte Van Nostrand, supra).

Claims to a train of gears were properly joined with combination claims for an electric motor and gearing. It was held that gear trains did not have a distinct status in the arts as machines for separate manufacture and sale. Every manufacturer of machines makes such gear trains as are necessary for his particular use. They may be joined as sub-combinations in the same application with the combination claims, or may be claimed in a separate application. The fact that they are often separately applied for does not justify the requirement for division. The test is whether each device is, in industry, under a distinct name made and put on the market and sold for general use.

## GENUS AND SPECIES.

Ex parte Christensen, Patent 940,673:

This invention related to a telephone exchange system. One set of claims were commensurate in scope with patents in a certain sub-class. Other claims, by including the mechanism more specifically, were commensurate in scope with patents in another sub-class. Held that the claims bore the relation of genus and species. The fact that they correspond to an arbitrary line of classification should not determine the question of joinder It does not appear that the inventions set up in the two sets of claims have been made the subject of separate manufacture and sale.

## COMBINATION WITH SPECIFIC ELEMENTS.

Ex parte Renstrom, Patent 897,491:

Certain claims covered a gas generator broadly, and a gasometer specifically, while others included the gas generator specifically and the gasometer broadly. Held that division should not be required; both sets of claims being drawn to the same invention.

Ex parte Tyler, Patent 900,239:

Where each claim is drawn to a separate modification but all are generic to one certain modification, held division should not be required.

## MODIFICATIONS.

Ex parte Sprette, Patent 826,379:

Division was required between claims to a finger board having transparent portions, and claims to a finger board having sight openings therein, these being distinct modifications.

## COMPOSITIONS.

Ex parte Ernst, Patent 1,019,443:

One claim was drawn to a composition consisting of two ingredients in definite proportions, and another to the two ingredients in combination with a restrainer. Held, that since the restrainer was not an essential element of the combination, and could be used or not, at will, division should not be required.

## COMPOSITIONS AND METHOD OF USING.

Ex parte Betzer, Patent 968,528:

The claims covered a method of generating oxygen from a compound, and a compound for generating oxygen by the method. Held, that the composition has no other function, and the method could not be carried out by the use of any other composition, and since the

field of search is the same, and no additional burden is placed upon the office, they may properly be joined.

Ex parte Knetsch, Patent 794,512:

Division was required between a catalytic agent and a process of manufacturing sulphuric anhydride which used this agent, because catalytic agents have hitherto been employed in similar processes, and because this agent does not differ in its effect from other agents, and because this agent may be used wherever a catalytic agent is needed, and because the field of search is different for the agent and the process.

## APPARATUS AND PRODUCT.

Ex parte Hoefer and Strohhaecker, Patent 966,746:

Four groups of claims covered (1) a body of meat wrapped with cord which was looped together in stitches, (2) the specific stitch; (3) the machine for sewing the wrapping and (4) mechanism for handling the meat and advancing the package during the sewing. It was held that the stitch and the wrapping of which it was an element might be joined, but the machine by which the stitching was done was an independent invention and division should be required.

It was also held that the machine for handling the meat and feeding the package as the wrapping was being sewed, had not acquired a distinct status in the arts and was so related in its ultimate purpose to the sewing mechanism that these two inventions might be joined in one application.

## PROCESS AND APPARATUS.

Ex parte Eggleston, Patent 1,018,040:

Division was required between a process of separating hydrogen sulphide from oil, and an apparatus for treating oil, because there was so little in common to the two inventions and because of absence of necessary relationship between them.

Ex parte Momot, Patent 910,405:

In this case division was not required between a process and the apparatus by which it is carried out, because their relation was so close that their independence was not clear, and even though the process might possibly be carried out by other apparatus, the field of search was the same.

Ex parte Peirce, Patent 914,303:

Held that division should not be required between the process of cutting marble with a wheel of carborundum, and a machine for cutting marble having a carborundum wheel, since there was only one novel idea involved.

## PROCESS AND PRODUCT.

Ex parte Beckwith, Patent 1,023,357:

Division was held to be proper between claims to the process of forming a filament, placing it on a frame and mounting the frame in a lamp bulb, and claims to an incandescent lamp having a filament in zigzag form, because the article was not limited in terms to a structure necessarily made by the process, and also because they have been recognized by inventors as distinct inventions to such an extent as to justify the office in forming different sub-classes for them.

Ex parte Hooper and Robertson, Patent 867,658:

Division was held to be proper between claims for a process of wire drawing and an electrical conductor made by the process, because the independence of particular electric conductors and the process of wire drawing by which they are formed is so well established and so well recognized that they are separately classified in this office, and are examinable in different divisions.

Ex parte Haefley, Patent 858,385:

The inventions here were insulating tubes and the method of making them.

The process claims were paralleled by the product claims in the sense that this particular article must neces-

sarily result from the performance of the process as stated in the process claims. Whether the product could be practically produced in any other way than by the execution of the specified process seemed to the Examiners-in-Chief extremely doubtful. A search for either of the alleged inventions would doubtless determine the patentable novelty of the other. Therefore, there is such close relationship between them that division should not be required.

Ex parte Monnot, Patent 894,162:

Compound metal bodies and process of producing them. The process disclosed must result in the product, but the product is not necessarily produced by this process only. Held, that there is no knowing what the future may develop, but since at the time there was no other process known for making the product, division should not be required. The board further said:

> "Rule 41 specifically provides for covering distinct inventions in one case where they are dependent on each other and mutually contribute to a single result. Here the process is ancillary to the article—the latter is the single result of the inventions stated in both sets of claims. There is nothing contrary to Rule 41 in the joinder of the process and product claims.
>
> "It may be that separate patents covering respectively, the process and product would both be valid if granted. At the same time it is perfectly clear that a single patent covering both process and product would be valid. It is generally to the advantage of the public that two inventions, one of which is dependent on the other, be covered in a single application, as otherwise they may get into hostile hands and the public be deprived of the use of the dependent invention during the life of the dominant patent. Further, the poverty of the inventor may, in case of a requirement of division, cause a loss to the public of the invention eliminated from the application. Further, aside from the question of validity of the

patents, if granted, the joinder in a single case of two or more inventions means a saving of one or more fees to the applicant.

"In our opinion applicant should be permitted to elect the protection to be afforded him in the absence of controlling reasons to the contrary. Where no question of validity arises, as in the present case, the only possible reasons assignable against joinder in one application are, first, the exigencies of office classification, and, second, the fact that applicant obtains for one fee, that for which he should pay two fees. The second of these reasons is, in a case like the present, so unimportant as compared to the other considerations as to be negligible, especially as it would appear that a single search would cover both inventions, and there would, therefore, seem to be no reason for requiring two fees of applicant.

"As to the first reason, the question of office, classification, while always to be considered, is by no means controlling in all cases. Where the inventions have been made, by workers in the art, separate subjects of invention to such an extent that separate sub-classes have been created for the inventions, and that, therefore, they would be separately classified if presented in separate applications, division would, in general, be a proper requirement. In the present case, however, it does not appear that the process and article are separately classified, but even if such were the case, the relations between the process and the article are so close that we should hesitate to affirm a requirement for division."

## SUMMARY.

It is therefore apparent, as clearly set forth in Ex parte Lord (supra), that three conditions may exist: First, there may be claims which must be joined, such as claims to genus and species; second, claims which may or may not be joined, at the option of the applicant, viz., dependent and related inventions; and, third, claims

which can not be joined, such as claims to different species and claims for entirely distinct and unrelated inventions.

The test as to what constitutes independence of invention appears to be inherent in the ideas of the inventors themselves—whether the inventions were looked upon by those working along those lines as occupying different fields. Office classification is no test. Office classification, it is to be observed, arises from two considerations, viz., convenience in the work of searching and the existence of distinct fields of inventive effort. The latter only is a factor in the solution of the question. Sub-combinations of a machine involving its various mechanical movements may be separately patented at the option of the inventor, but he can not be compelled to divide. The fact that such sub-classes exist for the reception of sub-combinations which inventors may see fit to divide out and cover by separate patents does not establish the fact that the idea covered by the mechanical movement is not a part of his larger invention and closely related thereto. It frequently happens that the larger invention is found not to be new with an applicant, and the claims are further and further limited until only a small fraction of the original invention is found to be patentable, and this after traveling from one division to another at last finds a resting place in the machine element class. This, however, under the consistent practice followed by the Examiners-in-Chief, would not constitute a valid ground for thereafter requiring every applicant to divide out claims to similar sub-combinations. As set forth in the decisions cited, a few patents do not establish the independence of an invention. They may be the first faint movements toward a final declaration of independence, but they may, on the other hand, be simply the remains of a larger invention, which has run the gauntlet of the prior art, or the product of what has been before referred to as the misdirected energy of the Patent Office.

The truest and surest test of independence of invention is the fact of separate manufacture and sale, and a distinct name in the trade. Failing in the possession of such a sure criterion, the examiner must analyze the case

to discern, if possible, whether or not the ideas underlying the different inventions are distinct or are related as component elements in the accomplishment of a definite, practical, and unitary purpose. In many instances, the lines which mark the boundaries of independent inventions are clear-cut, and occasion no doubt or question. In marginal cases, the examiner can do no better than remember that discretion in the exercise of a public trust with which Congress invests the Commissioner, and those who represent him, and be guided in his actions by the general rule, that related inventions may be joined unless the mind of that great body by whose genius the useful arts have been developed has seen them as distinct subjects for inventive consideration.

December 17, 1914.

# Rules 75, 94, 96, and 124, Read in the Light of Decisions Explanatory Thereof.

A paper read January 7, 1915, before the Examining Corps of the United States Patent Office

BY

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# Rules 75, 94, 96, and 124, Read in the Light of Decisions Explanatory Thereof

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The purpose of this paper may be thus explained:

A number of the Rules of Practice have been amended, and some new rules have been added in view of, or in consequence of, certain decisions of the Commissioners and the courts. Other rules have had their meaning more fully explained or their scope more clearly indicated in decisions of the Commissioners. What I purpose to do is to consider a few of these rules in connection with the decisions on which they are founded or which interpret and explain their meaning, in the effort to thus render less difficult and more accurate the application of the rules to particular cases.

## RULE 75.

A number of important decisions have been rendered by several Commissioners with regard to the nature of the showing that must be made under Rule 75 for the purpose of overcoming references. The first of these in order of date was *Ex parte* Gasser, 17 O. G., 507, in which Commissioner Paine held as follows:

"The applicant, being rejected on an unexpired patent, shows, by an affidavit filed under Rule 74 (now 75), 'that he made the invention' before the filing of the patented application. This is a mere assertion of invention. 'It may embody a legal opinion as well as facts. To avoid a rejec-

tion on an unexpired patent the applicant is required by Rule 74 to make oath to 'facts showing the completion of the invention before the filing of the application for the domestic patent.' It is not necessary that the earliest actual date of his invention should be shown, but he must show a date prior to the filing of the application on which the unexpired patent was granted.

"The rule is not to be so interpreted as to deny a patent or an interference to an inventor who, being first to conceive a device, was diligent in the prosecution of his invention, but was not the first to reduce it to practice. But it is to be so construed as to require the applicant to make oath to facts showing his right to a date of invention prior to that of the filing of the patented application. The applicant, therefore, must state on oath facts showing either that a reduction to practice had been made before the filing of the application on which the patent was granted, or that the invention had been conceived before that time, and by due diligence connected with a subsequent reduction to practice."

This decision was followed by *Ex parte* Saunders, 23 O. G., 1224; *Ex parte* Hunter, 49 O. G., 733; and *Ex parte* Donovan, 52 O. G., 309, in which decisions *Ex parte* Gasser was approved and in which the Commissioners at considerable length set forth the nature of the proof required by Rule 75 in order to overcome an anticipating reference. The mere naked statement of an applicant that he completed the invention prior to a specified date was said to be an insufficient compliance with the rule, which requires an oath to facts showing a completion of the invention by him before a certain date. If the applicant rests his claim of invention upon drawings or devices made by him, he should produce such drawings or devices or furnish copies or representations of the same, in order that the office may judge whether he in fact made the invention claimed in his application before the date specified.

In the development of an invention from its first crude conception and embodiment to the perfected form in

which it is disclosed in an application for patent, it might be the belief of the applicant that at a certain date he had made the invention disclosed in a cited reference. This, however, would be a mere matter of opinion. Different minds might reach different conclusions. It was accordingly held in *Ex parte* Saunders, that—

> "no patent will hereafter be granted, therefore, for inventions disclosed in prior patents or publications until the applicant shows by exhibits or descriptions properly verified by oath that the invention was made and completed by him in a patentable sense before the date of the application upon which the patent was granted or before the date at which the printed publication was made."

The purpose of these decisions with reference to the kind of showing required under Rule 75 is to put before the examiner in a tangible way, evidence upon which the applicant relies to overcome a reference, so that the examiner may be in a position to determine whether or not the rejected claim covers the article or machine which applicant avers he made before the date of the anticipating reference. If the rule permitted the mere statement, under oath, of the applicant that he completed the invention before the date of the reference, to be sufficient to overcome such reference as an anticipation of the claim, it would permit the question of anticipation to be decided by the opinion of the applicant. This is the function of the examiner. Drawings or a model are preferable for the reason that they show in a more definite and distinct way than could any verbal description, no matter how complete it might be, just what was the antedating device. Under the well-recognized rules of evidence, it would be best if the device itself and not merely a model or drawing thereof should be filed. Ordinarily, however, at least in the case of machines, this would be impracticable, and accordingly, the ordinary practice is to file models or drawings. Models or drawings are also generally preferable, as they can be more readily filed as a part of the permanent record of the application.

In *Ex parte* Hunter, *supra*, the question considered was

as to the *completion* of the invention before the date of the reference. The showing was clearly sufficient to shew a conception of the invention in 1883, the references cited being a publication bearing date 1887, and two patents the applications for which were filed July 30, 1887, and March 5, 1888, respectively. The affidavit stated that the invention as shown was embodied in a car constructed in the year 1887, and that other cars embodying it were begun in the early spring of 1888, and had been used since September 4, 1888. On this shewing the Commissioner held as follows:

> "It therefore appears, if it be conceded that the drawing discloses the invention, and of this there seems to be no doubt, that in 1883 petitioner had a conception of the invention, but that there was no complete reduction to practice of the same until after the dates of the references. The invention in controversy, therefore, can not be said to have been completed before such reference dates. If the petitioner is entitled to his patent in the face of the disclosure of the references, it must appear, as was stated by Mr. Commissioner Paine, that he has connected his prior conception by due diligence with his subsequent reduction to practice. Such diligence has not been shown. It is true that petitioner avers 'he has used every diligence possible in putting the invention into use,' but a mere statement of this character unaccompanied by any facts which tend to show such diligence is not a sufficient compliance with the rule as interpreted by the office."

It is an exceedingly liberal rule that permits the withdrawal from the public of an unclaimed invention in a prior patent; and it is believed for this reason that the requirements of Rule 75 should be strictly enforced. The *ex parte* showing required by this rule should be such as to establish the same state of facts as would be required in an interference between the application and patent. To this effect is *Ex parte* Crosselin, 97 O. G., 2977, in which Commissioner Allen held as follows:

> "The statutes make no provision directly by which an applicant may establish his right to a

patent over a reference showing and describing but not claiming, the invention by proving that he is in fact the first and original inventor. There can be no contest where the reference is not a United States application or patent claiming the invention. By analogy to the statute relating to interferences, however, the applicant should be permitted to show in some way that he is the prior inventor and entitled to a patent in spite of the reference, and since there can be no contest the Office, by Rule 75, permits him to make an *ex parte* showing of his rights. In that *ex parte* showing, however, it requires the same kind of facts to be set forth which, if true, would establish *prima facie* his right to a patent even if the reference claimed the invention. The whole proceeding is by analogy to the interference practice, and therefore it follows that practice as closely as possible. This is necessary for the protection of the public."

Accordingly, therefore, it is not sufficient, in order to overcome a prior patent as a reference, to show that before the date of the application on which the patent was granted, the invention had been reduced to practice by the applicant, if the knowledge of his invention was deliberately concealed from the public until after the grant of said prior patent. See Mason *vs.* Hepburn, 84 O. G., 147.

If the Examiner is of the opinion that an affidavit filed under Rule 75 is insufficient, he should reject for that reason (*ex parte* Donovan, *supra*).

A deposition taken in an interference proceeding is an affidavit under the meaning of Rule 75 and should be received as such (*Ex parte* Keller, 61 O. G., 1790).

Affidavits filed by a party under Rule 75 should be sealed up or removed from the file before the papers in the case are thrown open to the inspection of opposing parties in an interference (*Ex parte* Gasser, *supra*, and Davis *vs.* Ocumpaugh *vs.* Garrett, 103 O. G., 1679).

The filing of an incomplete application does not constitute "a completion of the invention" within the meaning of Rule 75, as no patent can be granted on an applica-

tion until it is complete (*Ex parte* McElroy, 140 O. G., 1207).

## RULE 94.

The affidavit required by Rule 94 is not of the same character as that required by Rule 75, since Rule 94 does not call for the showing of facts required by Rule 75. The reason for this is clear, since as a result of an oath filed under Rule 94, the application will go into an interference, in which, in an *inter partes* contest, will be proven the same facts that would be required to be set forth *ex parte* under Rule 75, if the patent did not claim the invention. See Ries *vs.* Thomson, 57 O. G., 1598, and *Ex parte* Davis, 62 O. G., 1516.

## RULE 96.

Present Rule 96 reads as follows:

> "Whenever the claims of two or more applications differ in phraseology, but cover substantially the same patentable subject-matter, the examiner, when one of the applications is ready for allowance, will suggest to the parties such claims as are necessary to cover the common invention in substantially the same language. The examiner will send copies of the letter suggesting claims to the applicant and to the assignees, as well as to the attorney of record in each case. The parties to whom the claims are suggested will be required to make such claims and put the applications in condition for allowance within a specified time in order that an interference may be declared. Upon the failure of any applicant to make the claim suggested within the time specified, such failure or refusal shall be taken without further action as a disclaimer of the invention covered by the claim, and the issue of the patent to the applicant whose application is in condition for allowance will not be delayed unless the time for making the claim and putting the application in condition for allowance be extended upon a proper showing.

If a party make the claim without putting his application in condition for allowance, the declaration of the interference will not be delayed, but after judgment of priority the application of such party will be held for revision and restriction, subject to interference with other applications."

This rule was adopted for the purpose of carrying into effect the practice set forth by Hammond *vs.* Hart, 83 O. G., 743. Preceding this rule, but subsequent to Hammond *vs.* Hart, Rule 96 read as follows:

> "Whenever two or more applications disclose the same invention, and one of said applications is ready for allowance and contains a claim to said invention, the primary examiner will notify the other applicant of such fact, furnish him with a copy of the patentable claim, and require him to make such claim and put his case in condition for allowance within a specified time, so that an interference can be declared. Upon the failure of any applicant to make the claim suggested within the time specified, such failure or refusal shall be taken without further action as a disclaimer of the invention covered by the claim, and the issue of the patent to the applicant whose application is in condition for allowance will not be delayed unless the time for making the claim and putting the application in condition for allowance be extended upon a proper showing. If a party make the claim without putting his application in condition for allowance, the declaration of the interference will not be delayed, but after judgment of priority the application of such party will be held for revision and restriction, subject to interference with other applications."

It will be observed that present Rule 96 differs from this earlier rule principally in the fact that under the earlier rule, in order to warrant the suggestion of claims, it was only necessary that the several applications should *disclose* the common invention; while under the present rule the claims of the applications must cover substan-

tially the same patentable subject-matter in order to authorize the examiner to suggest claims to this subject-matter. The former rule was obviously not in accordance with Hammond *vs.* Hart, and was superseded by the new rule for that reason.

It will be interesting, and it is believed instructive, as to the meaning of Rule 96, if the development of the practice of declaring interferences from Ex parte Upton, 27 O. G., 99, up to the adoption of present Rule 96 be considered. In Ex parte Upton, which was rendered by Commissioner Butterworth, the following was stated:

> "The examiner says:
>
> " 'This appeal is taken from the action of the primary examiner refusing a patent to the applicant, in view of Patent No. 282,449 to T. H. Dodge July 31, 1883, and involves a question of practice as to the right of the examiner to cite as a reference a patent granted on an application pending at the same time with the application under consideration.
>
> " 'The application at issue was filed June 25, 1883. That of the patentee, Dodge, was filed December 15, 1879, and a patent accordingly issued as above July 31, 1883. No question is here raised as to the pertinency of the reference from lack of identity of subject-matter. In fact, it is acknowledged to be generically the same in both. Dodge, the patentee, made one very limited claim to the construction shown and described. The applicant makes broad claims to the genus, and denies the right of the examiner to cite said patent, holding that under the rules either an interference should be declared or both patents allowed to issue, and cites Rule 74 as sustaining his views. No interference exists nor has at any time existed.'
>
> "The examiner is in error as to there being no interference. An interference does and did exist. The spirit of the interference rule is not that claims must conflict in terms in order to constitute an interference, but that the subject-matter claimed must conflict. It is not necessary that the

claims should be so alike that the claim in either case will apply just to the matter or device of the other. If the claim of one party will include that of the other, there is an interference in fact. The Dodge case having got to issue, the examiner was right in citing the patent to the applicant. It should be settled in the Patent Office who is entitled to the broad claim, and this should appear as the result of an interference proceeding.

"Neither the spirit of the law nor public policy sanctions the granting of patents with specific claims while applications with generic claims which include the specific claim allowed, are still pending, the objection being that whether the application with the generic claim pending belongs to the same party who has a specific claim under the genus, or is an application of a different party, a patent covering by a generic claim, if a subsequent patent, improperly extends the monopoly."

The practice under the Upton decision, therefore, was to declare an interference between two or more applications whenever any one or more of the applications contained a claim or claims which were broad enough to dominate or include the claims made in the other applications. These broad claims were made the issue of the interference, and the interference was declared without the suggestion of claims, and in many cases, probably in most cases, the limited claims were such as could not have been made by the party making the broad claims.

This practice was followed until Reed *vs.* Landman, 55 O. G., 1275, rendered by Commissioner Mitchell in 1891. In this case an interference had been declared between Reed's application containing broad or dominating claims and Landman's patent, none of whose claims could have been made by Reed. After a rather extensive review of the decisions of the courts and a very full consideration of interferences between applications and between applications and patents in the Patent Office, the Commissioner arrived at the following conclusions:

1. That interferences in the Patent Office, like

interferences in the courts, exist only when the claimed inventions conflict.

2. That generic and specific claims based upon the same structure of invention conflict because the invention is one and the same, whether generically or specifically stated.

3. That an interference should not be declared between an unexpired patent which shows and claims one species of an invention and a subsequent application disclosing another and different species, even though the latter contains a claim of sufficient scope to include the species claimed in the unexpired patent.

4. That where a patentee claiming specifically would be entitled to all of his claims, even if he were an applicant, in spite of a judgment of priority in favor of his opponent, the fact that his opponent's claim would dominate his own is no sufficient reason for declaring or continuing an interference. Rule 75 provides for precisely such a case, and unmistakably states that on filing the proper antedating oath, the unexpired patent shall cease to be a bar.

It was accordingly decided, therefore, by this decision, that in the case of an application and a patent, in which the only claims in the patent were specific to a structure different from that of the application, no interference should be declared between the application and the patent, notwithstanding that the applicant made claims which would dominate or include the claims of the patent. It was, perhaps, not quite clear from this decision whether or not an interference should be declared between two applications, one of which made broad claims and the other of which had only claims limited to a structure different from that of the application having the broad claims. It was made clear, however, in the later decision of Kinyon *vs.* Carter, 66 O. G., 513, that in such cases an interference ought to be declared. Assistant Commissioner Fisher, in rendering this decision, stated:

> "Applicant Kinyon has a broad claim, which covers not only the particular form shown in his

application, but also the form shown in Carter's application. Carter's application has one claim, which is limited to the specific form shown. Kinyon, the applicant having the broad claim, is the one who seeks to have the interference dissolved.

"The question to be decided, therefore, is whether or not it is proper to declare an interference between two applications which show and claim different species and only one of which has a claim broad enough to cover both species. If each application contained this broad claim, it is unquestionable that an interference ought to be declared. (Searle *vs.* Frumveller *vs.* Sessions, C. D. 1892, 27; 58 O. G., 804; Dodd *vs.* Reading, C. D. 1892, 49; 58 O. G., 1413.)

"If one of the cases is a patent and the other an application and the patent contains narrow claims to one species and the application broad claims dominating those of the patent and specific claims directed to a different species, it is also unquestionable that an interference ought not to be declared. (Reed *vs.* Landman, C. D. 1891, 73; 55 O. G., 1275; Zeitinger *vs.* Reynolds *vs.* McIntire, C. D. 1891, 212; 57 O. G., 1279.)

"It becomes necessary, therefore, to consider whether the principle governing the present interference is the same as that governing the interference between a patent and an application.

"It is obvious that the applicant Carter might have had a claim in his application as broad as the broad claim in the Kinyon application. In such case an interference would be proper. It is also obvious that the applicant having the narrow claim may not wish to contest the interference. In such case he might file a disclaimer, under Rule 107, and the interference would be dissolved as a matter of course. If, however, an interference had never been declared, both cases would have been passed to issue and the applicant having the single narrow claim would find his patent dominated by the patent having the broad claim without having had a chance to have decided by an

interference which party was entitled to the broad claim as being the original inventor. His only remedy, as far as this Office is concerned, would be to file a reissue application and demand that it be put in interference with the patent containing the broad claim. If this should be done and he should succeed in this interference, the reissued patent would contain the broad claim and the claim to the species shown in his application. There would then be extant two patents having an interfering claim. This would necessitate a suit in equity if either patentee wished to have the broad claim of the other patentee declared void. Necessarily this would result in an increase of litigation, and if interferences in this office have any justification it is that they should, in some measure, prevent litigation by having only one of the interfering applications mature into a patent.

"I therefore think the action of the examiner in declaring an interference was proper. If the applicant having the narrow claim does not choose to contest the interference, he can easily avoid such a proceeding by filing a disclaimer under Rule 107. For the applicant having the broad claim, as in the present case, to bring a motion for dissolution seems indefensible. He practically asks that the broad claim be allowed to him and refused to another applicant who has a right to make it."

The practice under Reed *vs.* Landman and Kinyon *vs.* Carter continued until Hammond *vs.* Hart, before referred to. In this case, in which an interference had been declared between the pending applications, Commissioner Duell, after a review of the court decisions, stated at length his reasons for disagreeing with Ex parte Upton, Reed *vs.* Landman and Kinyon *vs.* Carter. These reasons may be more briefly stated as follows:

That it is not the province of the Patent Office to settle who is entitled to any claim, broad or narrow, unless an applicant first makes the claim. In the case of *Ex parte* Upton, since the patent contained no claim for the broad

invention, if the applicant complied with the requirements of Rule 75, he would have done all that should have been required of him to have had his claim allowed without an interference. That the spirit of the law can only be determined by its language and by the decisions of the courts construing this language. That it is unsafe to conclude that what the law requires is contrary to public policy. Further, that the objection of an improper extension of the monopoly is not well founded. That under a long line of reported cases a patent with a specific claim and one with a generic claim would undoubtedly be held not to be interfering patents. That a monopoly is extended only when two patents claim the same thing in the same breadth. That so far as the Upton case holds that an interference should be declared between two applications or between an application and a prior patent whose claims are not substantially identical in tenor and scope it is not well founded in law.

As to Reed *vs.* Landman, Commissioner Duell did not agree that "generic and specific claims, based on the same structure of invention conflict, because the invention is one and the same, whether generically or specifically stated." The Commissioner, however, stated that—

> "It is not essential to the decision of this case to assert that this contention is clearly erroneous, and the necessity for its application to any given case hereafter can easily be avoided. Where two applications are concurrently pending having claims of different scope drawn on the same structure, I see no good reason why the examiner should not give the applicant making the specific or narrow claim an opportunity, by suggestion, if necessary, to make the broader claim. If the suggestion is followed, then the parties would be making a claim identical in tenor and scope, and an interference will properly and naturally follow."

Commissioner Duell also disagreed with Kinyon *vs.* Carter in holding that an interference exists when different specific forms are shown by two applicants, both

capable of being covered by a broad claim, although but one of the applicants makes the broad claim, while the other makes a claim limited to his species, holding that the same rule is to be applied in an interference between two applications, and one between an application and a patent. In both cases an interference does not and can not legally exist unless the claims are coextensive.

This part of the decision concludes as follows:

> "Reviewing the uniform decisions of the courts and the conflicting decisions of the Patent Office, giving due weight to the reasons adduced for arriving at the various conclusions, and noting the authorities sustaining the various conclusions, whenever authorities have been cited, I am of the opinion that an interference can only be instituted for the purpose of determining the question of priority of invention between two or more parties *claiming* substantially the same patentable invention; that of necessity there must be allowed claims to all parties before an interference can be declared, and that only a patent and an application must claim in whole or in part the same invention, but also two applications must claim in whole or in part the same invention before an interference can be declared."

Present Rule 96 was adopted for the purpose of carrying into effect the practice approved by Hammond *vs.* Hart, and under this rule and decision it is necessary, in order that an interference may properly be declared, first, that the disclosure should be of the same structure, and, second, that the claims shall be substantially identical. This last condition is secured under the rule by suggestion of the broad claim covering the subject-matter common to the applications. There is no ground, however, for the suggestion of claims in the case where an application is limited to a specific structure different from that of the application in which the broad claims are made. This is clear not only from the definite language of the rule, in which it is said that in order to authorize such suggestion the claims of the application

must "cover substantially the same subject-matter," and from Hammond *vs.* Hart, on which said rule is based, but it is also definitely required by Myers *vs.* Brown, 112 O. G., 2093, in which Commissioner Allen said:

> "Prior to the promulgation of amended Rule 96, it had been the practice to suggest claims to an applicant who had merely disclosed the invention, either in his specification alone or in his drawing alone, or in both the specification and drawing, but had failed to file any claim at all based upon such disclosure. Experience has shown the desirability of discontinuing this practice, and Rule 96 was promulgated with that end in view."

To summarize:

An interference was declared between applications or between a patent and an application under the practice as established by the decisions hereinbefore referred to, as follows:

Under *Ex parte* Upton:

1. Between claims of the same scope.
2. Between a broad or dominating claim and a specific claim, whether or not the claims were based on the same structure.

Under Reed *vs.* Landman and Kinyon *vs.* Carter:

1. Between claims of the same scope.
2. Between a broad or dominating claim of one application and a specific claim of another application, whether or not the claims were based on the same structure.
3. Between a broad or dominating claim of an application and a specific claim of a patent only when based on the same structure.

Under Hammond *vs.* Hart and present Rule 96:

Between claims of the same scope only.

It is no simple matter to formulate a rule for the declaration of interferences which will observe both the

rule that pending applications are to be preserved in secrecy, and the one that interfering applications should claim the same invention. Ex parte Upton, Reed *vs.* Landman and Kinyon *vs.* Carter violated the second of these rules. Present Rule 96 violates neither. The trouble with Rule 96, however, is that, under penalty of an implied disclaimer of the invention if he fails to do so, an applicant is compelled to adopt a suggested claim based on a structure which he is not permitted to see, and which claim, therefore, he often can not understand.

In the event that an applicant does not understand a suggested claim, or its patentability over the prior art, he should adopt it, although under protest, the question of the patentability of the claim being reserved for determination subsequently on a motion for dissolution (*Ex parte* Zamboni, 20 Gour., 22-14).

There are several classes of cases in which claims may be suggested under Rule 96.

1. In pending applications where claims are made in both applications based on identically the same structure, *i. e.*, where the claims in each application will read exactly on the disclosure of the other.

2. In pending applications where one application contains a claim broad enough to read on the disclosure of the other while the claims in the second application contain immaterial limitations not found in the first.

3. In pending applications where the claims in each application will read on the other except for immaterial limitations contained in the claims of each application.

4. In a pending application when a claim is made in a patent broad enough to read on the disclosure of the application and the claims in the application also read on the disclosure of the patent.

5. In a pending application when a claim is made in a patent broad enough to read on the disclosure of the application and the claims of the application will read on the patent except for immaterial limitations.

6. In a pending application when the claims therein will read on a patent and the claims of the patent will read on the disclosure of the application except for immaterial limitations.

7. In a pending application when the claims of a patent and those of the application are such that the claims of each case will read on the other except for immaterial limitations.

The practice as to the first class of cases is clear and is directly covered by the rule. The broad claims of each application should be suggested for adoption in the other application.

In the second class of cases the rule also applies, since because the limitations are immaterial the claims of the two applications cover *substantially* the same subject-matter. The broad claims should be suggested in the application having the limited claims.

In the third class of cases neither party makes a claim which can form the issue of an interference, but it is apparent that the claims in both cases should not be allowed, since neither device is patentable over the other. The examiner, therefore, should suggest a claim to each party which will cover the invention common to both, omitting immaterial limitations. Such a practice is authorized by *Ex parte* Thompson, 98 O. G., 227, in which the Commissioner said:

> "Rule 96 permits the examiner to suggest to one party an allowable claim made by another, so as to bring about a proper interference, when they are both claiming the same thing in different ways, but it does not in terms permit the suggestions to both parties of a claim not made by either. The suggestion of such a claim, however, in a case like the present to cover the real invention common to the two cases clearly comes within the spirit of the rule. The purpose of the rule and the recent practice of the office are not to avoid interferences between applications because of some differences in the form of the claims, but merely by suggestions to bring the parties together upon an issue which shall be as nearly as possible the

same as the claims of the parties, so as to reduce to a minimum the chances for motions and controversies during the progress of the interference based upon differences in the claims. There is nothing in the rule which prohibits the suggestion of a claim to constitute the issue in a case of this kind, and the suggestion would be in accordance with the general purpose of the Rule."

In the fourth and fifth classes, the broad claim of the patent should be suggested to the applicant and a time limit set within which to make such claim the same as in the case of pending applications. This practice is authorized by *Ex parte* Card & Card, 112 O. G., 499, in which the Commissioner said:

"It must be held as a matter of procedure that the examiner was right in suggesting the claims of the patentee to these applicants and in his statement that if they failed to make them certain of the claims which they now make will be rejected. An applicant can not be permitted to avoid an interference with a patentee by carefully avoiding the words of his claims when the real invention is the same. When he claims substantially the same thing he can secure his patent only by proving priority of the invention in the regular way.

. . . . . .

"The petitioners make the additional point that even if it was proper to suggest the patentee's claims to them, it was not proper to fix a time limit within which they should make them. They say it might be proper to fix a time limit if the other party was an applicant; but it is not proper where the other party is a patentee. It seems perfectly clear that if these applicants are to have the option of either making the claims of the patent and contesting an interference or of having their present claims rejected *ex parte* it is necessary to fix a time limit within which they shall choose. There seems to be no reason why they should not make the claims of the patentee

within a reasonable time if they intend to make them, and it is no injustice to hold them estopped after a time specified. In regard to interferences it is a matter of practical necessity and has always been considered proper to fix time limits, because of the interests of the opposing party. No good reason is seen for departing from that practice."

The sixth and seventh classes of cases are the only ones in which an interference may be declared including a claim which is not in the exact terms of the issue. This for the reason that the only claim or claims to the common subject-matter in the patent contain immaterial limitations not found in the application and because the patent is not subject to amendment like an application. There can be no question, however, that an interference should be declared, since the invention is substantially the same notwithstanding the immaterial limitations. As was said in *Ex parte* Thompson, *supra*:

> "It is not believed that the decisions cited and others of the same character were intended to mean that there is in law no interference in fact in a case of this kind, where the real invention claimed is the same in both cases, merely because the claims differ in the statement of the specific form of one of the elements of the combination. If those specific elements are the mechanical equivalents of each other, there is an interference under the well-settled principles of law. Winans *vs.* Denmead, 15 How., 330; Rodebaugh *vs.* Jackson, C. D., 1889, 435; Reece Button-Hole Co. *vs.* Globe Co., C. D., 1894, 360. Each party's device would infringe the other's claim under the doctrine of mechanical equivalents, and under such circumstances it can scarcely be said that there is no conflict."

The patentee's claim with the immaterial limitations omitted would form the issue of the interference and should be suggested to the applicant.

In some instances there should be a liberal application

of the rule in regard to the suggestion of claims, as, for instance, where an applicant is prosecuting his own application, or where by amendment in view of a rejection an applicant cancels a broad claim substantially the same as one subsequently allowed in another application. When an applicant, however, is represented by a competent attorney, and it is clear that at no time during the pendency of the application was there any intention to cover anything but the applicant's specific structure, under present Rule 96, and the decisions bearing thereon, especially Hamond *vs.* Hart, on which said rule was based, there is no warrant for the suggestion of a broad claim made in another application.

## RULE 124.

Rule 124 in the Revised Edition of the Rules of Practice of July 1, 1891, reads as follows:

> "Appeal may be taken directly to the Commissioner from decisions of the primary examiner on all motions except the following: (1) on motions to dissolve which deny the patentability of applicant's claim; (2) on motion to dissolve which deny the right of an applicant to make the claim; (3) on motions involving the merits of the invention. Decisions on these motions, when appealable, go to the Examiners-in-Chief; and upon such appeals, the party only whose claim is affected should have the right to appear and be heard.
>
> "From a decision of the Primary Examiner affirming the patentability of the claim or the applicant's right to make the same, no appeal can be taken."

It will be observed that under this rule the appeal from the Examiner's decision upon a motion to dissolve was heard *ex parte*. In the later editions the rule was amended to require that the appeal be heard *inter partes*. In the case of Newcomb *vs.* Thomson, 122 O. G., 3012, and 122 O. G., 3013, an interference was declared between a patent to Newcomb and an application of Thomson. A motion was brought by Newcomb to dis-

solve the interference on several grounds, and this motion was granted by the Primary Examiner. Attempt was made by Thomson to avoid the *inter partes* hearing required on appeal from the Examiner's decision in this manner: Appeal was taken from this motion to the Examiners-in-Chief, but was subsequently withdrawn and the interference dissolved. The Thomson application was then taken up for *ex parte* consideration, and the claims which had been involved in the issue were twice rejected on the ground stated in the decision granting the motion to dissolve. Thereupon Thomson took an appeal, *ex parte*, to the Examiners-in-Chief, who reversed the decision of the Primary Examiner. The interference was then reinstated, and time set for taking testimony. Motion was then brought by Newcomb to vacate the official action reinstating the interference, and by the appeal from the denial of this motion the case came before the Commissioner. In order to prevent this manner of avoiding an *inter partes* appeal, and also to avoid an appeal *inter partes* on the motion to dissolve and an appeal *ex parte* on the rejection of the claims after dissolution of the interference, the Commissioner stated:

> "It was my intention in the decision, to which this is a supplement, to institute a practice by which parties must appeal *inter partes* and in a reasonable time where there has been a holding upon motion for dissolution against the merits of their cases if they would appeal at all, and it was also my intention that the Examiner should take such action subsequent to his decision upon the motion as will put the cases in condition for the statutory appeal so that appeal might be continued directly to the court of appeals without the necessity of a second course of appeals through the Patent Office."

In order to carry this practice into effect, Rule 124 was later amended to read as follows:

> "Where, on motion for dissolution, the primary examiner renders an adverse decision upon the merits of a party's case, as when he holds that the issue is not patentable or that a party has no

right to make a claim or that the counts of the issue have different meanings in the cases of different parties, he shall at once reject such claims as may be affected and shall set a time for reconsideration; after reconsideration, if he adheres to his original conclusion, he will make the previous rejection final and fix a limit of appeal. The appeal must go to the Examiners-in-Chief in the first instance and will be heard *inter partes*. If the appeal is not taken within the time fixed, it will not be entertained except by permission of the Commissioner.

"No appeal will be permitted from a decision rendered upon motion for dissolution affirming the patentability of a claim or the applicant's right to make the same or the identity of meaning of counts in the cases of different parties."

"Appeals may be taken directly to the Commissioner, except in the cases provided for in the preceding portions of this rule, from decisions on such motions as, in his judgment, should be appealable."

It is to be especially noted that the change in practice indicated in Newcomb *vs.* Thomson and in Rule 124 was necessitated, as stated in said decision, by the refusal of the court to receive appeals on motions. Following this decision a petition was filed for a writ of mandamus against the Commissioner of Patents directing him to vacate and set aside the proceedings in the Patent Office just referred to (Newcomb Motor Co. *vs.* Commissioner of Patents, 130 O. G., 302.) This petition being dismissed, appeal was taken to the Court of Appeals of the District of Columbia, (133 O. G., 1680), and after a full discussion of the case the court decided that when the appeal from the decision of the Primary Examiner was abandoned his decision became final and binding upon the parties, or in other words, that no subsequent *ex parte* action could be taken. Attention is also called to Cosper *vs.* Gold and Gold, 168 O. G., 787, in which the Court of Appeals of the District of Columbia held that where the Commissioner of Patents affirms a decision dissolving an interference on the ground that one of the

parties thereto has no right to make the claims, the Commissioner has jurisdiction to award priority to the other party, since the question of the right to make the claims is ancillary to that of priority.

These decisions avoid the necessity of rejecting the claims at the time that the adverse decision is rendered on the motion for dissolution, since if the appeal from the decision of the Primary Examiner is abandoned his decision becomes final and binding upon the parties under the decision of the Court of Appeals of the District of Columbia; and if appeal is taken up to the Commissioner and his opinion is adverse to the right of an applicant to make the claims, he can award priority to the other party, from which decision appeal can be taken to the court.

Accordingly, the first paragraph of Rule 124 was superseded by the first paragraph of present Rule 124, which reads as follows:

> "Where, on motion for dissolution, the Primary Examiner renders an adverse decision upon the merits of a party's case, as when he holds that the issue is not patentable or that a party has no right to make a claim, or that the counts of the issue have different meaning in the cases of different parties, he shall fix a limit of appeal not less than twenty days from the date of his decision. Appeal lies to the Examiners-in-Chief in the first instance and will be heard *inter partes*. If the appeal is not taken within the time fixed, it will not be entertained except by permission of the Commissioner."

January 7, 1915.

# CLAIMS FOR AGGREGATIONS OF ELEMENTS

A paper read January 14, 1915, before the Examining Corps of the United States Patent Office

BY

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# Claims for Aggregations of Elements

By

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Most, if not all, of the previous papers have been submitted quite impersonally on well settled subjects. Any opinion I may express in this is advanced merely as my own, and with the knowledge that others may, and probably do, disagree with some of my conclusions; and my hope is that the paper will lead to a full discussion of all phases of the question.

In the sense of the term common in the practice of the Patent Office, an aggregation is a collocation or an assembly of mechanical elements in which assembly each element performs its own expected function and no more.

Negatively defined, an aggregation is what a combination is *not*. The late Commissioner Butterworth defined a combination as "a coordination of individual functions so as to constitute a common function. Coordination necessarily implies some modification of the individual function of each part as it existed prior to the combination." If I may presume, I would modify his definition to this extent, if it is to be applied to apparatus claims. A combination is a joinder of *elements* having individual functions in such a manner as to merge these individual functions into a unitary function. Otherwise, the definition applies only to method claims. Negatively, then, an aggregation is a joinder of elements in which there is no such modification of the individual functions as will produce a common function.

As an example of a good combination, and as a basis for illustration of other points, I submit the following: In a time-piece, in combination, a source of power, a shaft

driven therefrom, an escapement wheel on said shaft, an anchor pivotally mounted to engage said escapement wheel and a pendulum mounted in operative engagement with said anchor.

Of course, this combination is almost as old as the art of horology, but it is still, as it always has been, a good combination in a patentable sense. It long ago ceased to be patentable under the statute, because it long ago ceased to be novel; but there is still that coordination of individual functions of the weight or spring, the wheel-teeth and anchor, and of the pendulum, which produces the common function of sustained synchronism that makes the appartus chronometrically valuable. The motor, through the escapement, maintains the pendulum in oscillation and these oscillations of the pendulum restrain the motor, likewise through the escapement, and accurately measure duration throughout a considerable period, without attention or renewal of the potential energy of the motor.

As an example of a claim for an unquestionable aggregation, let us consider the following:

> "A package or case which, when made with distributing holes and filled, is cemented by the wax or wafer, as set forth."
>
> Sawyer *vs.* Bixby et al., 1 O. G., 165.

> "The distinction between a combination and an aggregation lies in the presence or absence of mutuality of action."
>
> Am. Choc. Machy. Co. *vs.* Helmstetter, 142 F. R., 979.

The main statutory prerequisites to the patentability of a claim are found in Section 4886, R. S., which need not be quoted. Not only must the art, machine, manufacture or composition of matter be new and useful; but it must have been invented or discovered. Discovery usually has to do with arts or compositions of matter; invention, with machines or articles of manufacture. As has already been stated in prior papers, no court has yet attempted to say, unequivocally, what

invention is; but there are scores of particular instances where they have told us what it is not.

There is no mention of aggregations in the statutes, but Section 4888 says that the inventor "shall particularly point out and distinctly claim the . . . combination," which he deems his invention.

What statutory basis, then, has a rejection on the ground that a claim is for an aggregation of elements? It is solely that of lack of invention. In other words, one who has merely juxtaposed a plurality of elements which thereafter perform only the identical functions they performed before the assembling, has not displayed, and did not need to display, any invention.

Decisions supporting this statement may be found by scores, and it would be but a waste of time to cite any considerable number of them; but it may be of interest to trace briefly some of the earlier ones in point of time. One of the first to state the principle from a common sense viewpoint, irrespective of any statutory considerations is the English case Sanders *vs.* Acton, 1 Am. and Eng. Pat. Cases, 469 (1832). The patent before the court was one for improvements in making buttons, and the specification stated that the improvement consisted in the substitution of a flexible material for metal shanks. Neither the construction of the button-body nor the application of a flexible shank was new; but the two were joined by a novel form of collet, which collet, however, was not claimed. Three justices wrote separate but concurring decisions, best expressed, perhaps, by Justice Littledale as follows:

> "Then it comes to this, that neither of them are new inventions, nor is the manner of putting them together new. It seems to me that putting the two together and making it an entire button . . . does not constitute such a new invention as to be the subject of a patent."

The patent was declared void. The decision, of course, does not state in so many words that the button-body and the flexible shank each perform only their separate functions, but the inference that this view was in the mind of each of the justices is, I think, entirely warranted.

The earliest United States decision I have found, bearing on the subject of claims for aggregations, is Ex parte Whitney, MS. Dec. vol. 1, p. 23; July, 1853. Early as it was, no subsequent decision, even of the Supreme Court, has stated the ground of rejection more clearly. In it, Commissioner Charles Mason said:

> "I fully assent to the proposition that a combination of old devices is patentable where a new and useful result is thereby attained, but in such cases something more than the mere assembling together of the several devices and placing them in juxtaposition is requisite. . . .
>
> "It seems to me that the different devices which are here claimed to be combined act wholly independent of each other, and that neither is dependent on any of the others for its utility. If, therefore, there is any meritorious invention, it is for the devices themselves separately and not for a combination. The utility of all is only the *aggregate* of the separate utility of each without receiving any augmentation or modification from the fact of combination. If this be true, there is no doubt of the propriety of refusing a patent."

(The invention was a revolving firearm, and no claim was quoted.)

In discussing the aggregation claim quoted above from the case of Sawyer *vs.* Bixby, Judge Woodruff said:

> "Pepper boxes, etc., are not new and are not claimed to be new. The closing of packages of various forms . . . by . . . paper made to attach itself by the use of . . . adhesive material, is no more new than the other. . . . In combination there is no other effect. . . . The employment of these instrumentalities in putting up packages for transportation is, therefore, *the exercise of judgment in selecting*, not of invention or devising or combining."

These decisions, each published more than forty years ago, set forth as well as could a score of citations,

the statutory ground for rejecting claims for aggregations of elements. Hailes *vs.* VanWormer, 20 Wallace, 353; Reckendorfer *vs.* Faber, 92 U. S., 357; Pickering *vs.* McCulloch, 104 U. S., 318; Thatcher Heating Co. *vs.* Burtis, 121 U. S., 293; Krell Auto Piano Co. of Am. *vs.* Story et al., 207 F. R., 951; are decisions more recent and from higher authority, and therefore more frequently cited; but they add nothing of clearness of statement or positiveness of judicial conviction to the earliest decisions cited above.

There is, however, a class of claims often rejected as aggregations which are, in my opinion, not such and not properly so rejected. Such claims were first discussed, so far as I have had time to trace, in Ex parte Griffith, 85 O. G., 936. In this case, Ex-Assistant Commissioner Greeley, after discussing claims which were undoubted aggregations, continued:

> "A party may invent an improvement on a certain element of an old combination without in any manner changing that combination itself, and in such case he is not entitled to a claim as the inventor of the combination, although it includes the thing which he really has invented. Mere double use of his invention does not give him a right to the combination in which he places it."

This "Griffith Doctrine," if I may so term it, has been rather firmly established by subsequent decisions, such as In re McNeil, 100 O. G., 2178; In re Hawley, 121 O. G., 691; Ex parte Potter, 82 MS. D., 46 (published in part in 17 Gourick); In re Ratican, 162 O. G., 540, and Ex parte Mumford, 206 O. G., 878.

Now it is clear enough from Ex parte Griffith, cited, that the ground of rejection is not lack of invention. It was conceded that invention may appear in the production of an improved element. The ground of rejection of a claim for a combination embodying this novel element was that of lack of novelty of the combination. This is perhaps more clearly stated in In re McNeil, cited.

There is a paragraph in Ex parte Potter, cited, which,

unless considered as a whole, may appear to support the rejection of this type of claim as an aggregation. It is this:

> "Specific features of an element should not be included in claims to combinations of elements where the specific features do not themselves co-operate with the other elements and thus modify and enter into the combination. . . . Where limitations of combination claims to specific features of an element of the combination seems to be necessary in order to distinguish the supposed invention from prior combinations, although the specific features do not cooperate with the other elements, the fact is that *no new combination* has been invented. The novel invention, if there is one, resides in the element itself."

The first sentence of this paragraph seems to imply that unless the elements specifically claimed do not make a novel combination, they do not make any combination; in other words, that the assembly is a mere aggregation. This implication, however, is negatived by the last sentence. That is, no new and, therefore, no patentable combination is formed. The ground of rejection is clearly that of lack of novelty in the combination as a unit and not lack of invention in a collocation of elements which never did and never could cooperate to effect a common function.

So it will be seen that whether a party merely substitutes one old element for another old element in an old combination or whether he substitutes an entirely new and patentable element for an old element in an old combination, he has not produced that novel and patentable unit or entity, a new combination, unless the substituted element, in cooperation with the remaining old elements, brings about some new common function—one not possessed by the combination before the introduction of the new element.

I believe the best way to express the rejection of such a claim is to reject it as an unpatentable combination, because the combination is no longer novel, or to reject it as an old use of applicant's novel element, which element

should be claimed *per se*, as a manufacture, if the prior art warrants it.

Thus, the question of aggregation and the question of novelty are entirely separate ones. It is conceivable that an inventor might actually produce a half dozen entirely novel and patentable manufactures and still be properly denied a claim for all six, if the claim covered the six merely so juxtaposed as to be convenient for successive use, or without being able to perform any common function contributed to by each. If there is no capability of cooperation between the elements assembled, it does not matter in the least how novel they may be, considered as elements, any more than it matters, in a combination, how old they may be individually, if they cooperate perfectly to perform a common function, and thus form a unitary and patentable entity. (Krell Auto-piano Co. *vs.* Story & Clark, *ubi supra;* Electric Accumulator *vs.* Julien Electric Co., 38 F. R., 117.)

Nor is it in the least necessary, in rejecting a bald aggregation claim, to cite references showing the elements themselves to be old, although it is much more satisfactory to the applicant, usually, to be shown the old elements. To quote again from Ex parte Potter:

> "Where the applicant contended in effect that rejection on the ground of aggregation can not properly be made except when supported by references showing the devices which are alleged not to cooperate; *Held*, that the contention is error; that the question of aggregation is one of invention and not of novelty."

It is, however, exceedingly difficult in many instances to convince applicants that they should claim the novel element rather than the old combination, or that they are sufficiently protected, in fact better protected, by a claim to the element than by a claim to a combination including it; for a patentee "is entitled to all the benefits of his improvement . . . as fully as if he had foreseen all the uses to which it would be applied" (Ex parte Day, C. D., 1869, 4), unless, perhaps, the use is in an art so remote as to itself involve invention in the adaptation. (Potts *vs.* Creager, C. D., 1895, 143.)

On the other hand, if the inventor patent the combination, his claims therefor are void for want of novelty, although he may believe that he invented a new combination as well as a new element. (Langan *vs.* Warren Axe & Tool Co., 166 O. G., 986.) In fact, he may have actually invented the entire combination; may never have seen or known of such a combination prior to his disclosure of it; but that does not make it any the less unpatentable for want of novelty. He is in no worse position than another inventor who has expended time, labor and money to reinvent something which proves to be old *in toto*. It is in all respects, then, preferable for him to relinquish all that is old and to claim in the broadest manner possible that which proves to be actually novel.

There is one more point to be considered. It is held by some that although both a combination and many of the elements thereof are novel, specific features of the elements should not be included in claims to such combinations where the specific features do not themselves cooperate with the other elements to modify the combination. To express this more briefly, they hold that there may be a combination broadly where there is no combination specifically; which is equivalent to saying that a collocation of elements may be a good and patentable combination when claimed broadly and an aggregation when claimed specifically. This seems to me to run counter not only to the statutory ground of rejection of an aggregation, but to a number of authorities and decisions, as well. For instance, in conceiving and embodying in practical form a new and useful invention, an inventor will devise, modify and adapt elements to fit them into a combination, also new, which shall disclose "the best mode in which he has contemplated applying the principle" underlying his invention, as required by the statute (Section 4888). To hold that in claiming his new combination he may not also simultaneously claim his new elements as specifically as he chooses is, first of all, to deny him the right to "particularly point out and distinctly claim," as required by the same section. Furthermore, the elements broadly claimed, cooperate in some way to effect a common function;

specifically claimed, they still effect a common function, the same one, and a novel one; and, lastly, if it required invention to conceive and produce the broad combination, it required so much the more invention to produce the concrete, specific assembly which embodies "the best mode . . . of applying the principle" utilized.

To illustrate, let us revert to the claim for a time-piece, suggested at the beginning of the paper; and let us suppose that the inventor had first experimented with pendulums and had devised a mercury pendulum which was practically synchronous for all temperatures. Let us also suppose that he was the first to devise a spiral-spring motor. Is it logical, after having allowed him the broader claim quoted to deny him one like the following: In a time-piece, in combination, a spiral spring, a shaft driven therefrom, an escapement wheel on said shaft, an anchor pivotally mounted to engage said escapement wheel, and a pendulum having a bob comprising a receptacle containing an elongated column of mercury, said pendulum being mounted in operative engagement with said anchor. I think not, for the latter claim sets forth a novel combination as much as the other, and one which it required invention to produce. In short, it meets all the prerequisites of Section 4886 quite as well as the broader claim. The inventor says, in effect: Here is the actual, physical embodiment of my conception in the best mode in which I have contemplated applying it; having complied fully with the statute, you can not deny my right to claim it as specifically as I choose.

Walker says:

> "It is a proper practice to make a generic claim and also a specific claim, in an application for a patent on a generic invention, even where only one species is described in the specification. In such a case, if the inventor's understanding that his invention is primary turns out to be true, both claims will be valid. But, if some invention is afterward discovered in the prior art, which relegates the patent to a secondary place, the specific claim may stand and be valid, though the generic claim is too broad to be maintained." (Walker on Patents, 4th Ed., sec. 116.)

Ex parte Eagle, C. D., 1870, 137, the office standby on requirements of division, says:

> "An applicant may fairly describe several species of a genus and may make any claim that is generic in its character and includes them all. In addition to this, . . . he may select one of the embodiments of his invention for specific claims."

See, also Ex parte Ewart, C. D., 1880, 78, and Ex parte Cook, C. D., 1890, 81.

Neither Walker nor any of the decisions just cited puts any limit upon the inventor. He may claim his preferred embodiment just as specifically as he chooses, provided always that he does not file what the courts have styled "a multitude of fuliginous and attenuated claims," which do not differ patentably from each other.

As recently as 1913, the Circuit Court of Appeals for the Sixth Circuit outlined this right to specific claims to the following extent:

> "Each claim should be directed at some function, step, or advantage to give it individuality; it should have a characterizing thought or point by which it can be identified; and, if the court which is to construe the claim can find this dominant thought, its task will be simplified. We may make this concrete by supposing that elements A, B, and C are each old in several specific forms, but are operative only in the combination A, B, C. An inventor perfects new and useful specific forms of each, a, b, c. The most desirable form of his invention is the combination a, b, c, and this the inventor considers his perfect work; but he may use and is entitled to monopolize one or two of the old forms in combination with two or one of his new forms. He may have, and the proper drafting of his patent will secure for him, a series of combination claims like this (capitals representing generic; lower case, his new specific forms): (1) a, b, c; (2) a, b, C, (3) a, B, C, (5) A, b, c, (6) A, B, c, (7) A, b, C."

Scaife & Sons Co. *vs.* Falls City Woolen Mills, 209 F. R., 210.

In a still more recent decision, the Honorable First Assistant Commissioner held:

> "A claim for a machine for wax-treating parts of boots and shoes including a wax applying wheel provided with 'a working face of combustible fabric' is not an aggregation because limited to a 'combustible' fabric, the claim otherwise setting up a good combination."
>
> Ex parte Pease, 202 O. G., 631.

Note the "otherwise" in this citation. The trend of Walker and all these decisions is that a claim for an assembly of elements which is a good combination when broadly stated does not become an aggregation (that is, does not cease to embody invention), even when it is claimed as specifically as possible. With this view, it appears to me that the statute and the entire line of decisions are harmonious.

## SUMMARY.

An aggregation is an assembly of elements which are incapable of coacting to produce a common function and which assembly, therefore, exhibits no invention.

Some claims which are often rejected as aggregations are, in reality, for good combinations which are no longer novel. They may contain novel elements, but the combination, which is the entity considered by the statute, is no longer patentable. The novel element or elements should be made the subject-matter of the claims.

If a combination is new and patentable if claimed broadly, it does not become an aggregation by embodying specific limitations of the elements making up the combination.

Read January 14, 1915.

# COMBINATION vs. AGGREGATION

A paper read January 14, 1915, before the Examining Corps of the United States Patent Office

BY

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U. S. Patent Office.

WASHINGTON, D. C.
1914.

THE LAW REPORTER PRINTING COMPANY, WASHINGTON, D. C.

# Combination vs. Aggregation

By
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Principal Examiner, Division Fourteen,
United States Patent Office.

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The constitution of the United States provides that "Congress shall have power . . . to promote the Progress of Science and Useful Arts by securing for limited times to Authors and Inventors the exclusive right to their respective writings and discoveries."

R. S. 4886 states that a patent may be obtained by "any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, etc."

It is therefore clear that Congress has limited the subject-matter of a patent to an invention, novelty and utility alone being insufficient to justify the grant.

Where a device is composed of but a single element, the question of patentability is simple, depending on whether the element is the result of invention or the product of mere mechanical skill; but, when two or more elements are grouped together, as in combined tools, machines, or the several steps of a process, a new question arises. Are the several elementary parts so related as to produce a legitimate combination and, if so, under what circumstances do they consitute a patentable invention?

The decisions of the Federal Courts, from the beginning of our patent system, have been remarkably uniform in respect to this matter, yet, judged by the nature of the patents granted, the practical distinction between patentable and unpatentable combinations or aggregations seems to be little understood by many. I therefore base the remarks which I shall make on a few of the decisions

which I have found most useful in determining the many cases which have come before me.

These are:

"To make a valid claim for a combination it is not necessary that the several elementary parts of the combination should act simultaneously. If those elementary parts are so arranged that the successive action of each contributes to produce some one practical result, which result, where attained, is the product of the simultaneous or successive action of all the elementary parts, viewed as one entire whole, a valid claim for thus combining those elementary parts may be made."

Furbush et al. *vs.* Cook et al., 10 Mo. L. R., 664, Curtis, 1857.

"Although three elements of a patented combination may all be old and two of them have been combined before, yet he who brings into the combination the third element, and thereby gets a practical advantage, makes a patentable invention."

Ib.

"Although a combination of old devices may be patentable when a new and useful result is produced, no one can, by combining several devices, each of which is old, thereby deprive others of the right to use them separately or the right to use them in new combinations, or the right to use some of them in combinations, omitting others."

Hailes et al. *vs.* Van Wormer et al., 7 Blatchford, 443, Woodruff, 1870.

"The mere addition of an old device, producing a specific result, to another device, producing its own result, in such wise that their combination produces those two same results, and no other, is not invention."

Ib.

"Patents may be granted for combinations in which some of the parts are old and some are new; and whatever in the several parts is new may be separately secured to the inventor; and yet it may be true that only in the combination described or in some similar combination, the new part thus secured to the inventor is of any practical use whatever."

Wheeler, Jr., *vs.* Clipper Mowing and Reaping Co., 10 Blatch., 185, Woodruff, 1872.

"Under the statutes patentee is required to particularly specify what he claims to be new, and if he claims a combination of certain elements or parts, we can not declare that any one of these is immaterial. The patentee makes them all material by the restricted form of his claim."

Union Water Meter Co. *vs.* Desper, 101 U. S., 332, Sup. Ct., 1879.

"A mere aggregation of old things is not patentable, and, in the sense of the patent law, is not a combination. In a combination the elemental parts must be so united that they will dependently co-operate and produce some new and useful result."

Wood et al. *vs.* Packer, 57 Fed. Rep., 651, Nixon, 1883.

"A combination is patentable (1) if it produces new and useful results, though all the constituents of the combination were well known and in common use before the combination was made, provided the results are a product of the combination, and not a mere aggregation of several results, each the produce of one of the combined elements; (2) if it produces a different force, effect, or result in the combined forces or processes from that given by their separate parts and a new result is produced by their union; (3) if it either forms a new machine of distinct

character or formation or produces a result which is not the mere aggregate of separate contributions, but is due to the joint and co-operating action of the elements; (4) when the several elements of which it is composed produce, by their joint action, either a new and useful result, or an old result in a cheaper or otherwise more advantageous way."

Niles Tool Works *vs.* Betts Machine Co., 27 Fed. Rep., 691, Wales, 1886.

"A patent for a combination can not be maintained where nothing is done except to bring well-known devices into juxtaposition, each working its own effect, and the aggregate producing no new and useful result."

Kerosene Lamp Heater Co. *vs.* Littell, 3 Banning and Arden, 312, Nixon, 1878.

"There is no patentable combination, properly so called, in an aggregation of devices which have no common purpose or effect, concurrent or successive."

Tower *vs.* Bemis' & Call Hardware & Tool Co. et al., 19 Fed. Rep., 498, Lowell, 1884.

"A broad claim can not be sustained for merely putting together two old tools for convenience of manipulation in several and wholly distinct uses—the patent must be limited to some patentable improvement, either in the mode of combining the tools or in one or more of the tools themselves."

Ib.

"To combine the parts of two existing machines, leaving the parts in the new union to work as before does not constitute a patentable combination, but merely an aggregation."

Troy Laundry Machinery Co. et al. *vs.* Bunnell, 23 Blatch., 558, Wallace, 1886.

"A patent for a combination is not invalid because all the parts are old. But merely assembling them together, or placing them in juxtaposition does not indicate invention. Some new or peculiar function produced by such a combination must be developed. Unless this follows, the new arrangement is the mere exhibition of mechanical skill."

Scott Mfg. Co. *vs.* Sayre, 26 Fed. Rep., 153, Nixon, 1885.

"The fact that an article is convenient and has commercial advantages does not render it patentable where it is made up of independent devices, each of which is unaffected by the presence or absence of the other."

Ex parte Davenport, C. D., 1904, 110.

From these it is clear that the patentability of a group of elements does not depend on their individual novelty, but upon their unitedly producing a new and improved result, the product of their combined operation, not the mere sum of their several individual effects. This result may be produced by the simultaneous or sequential operation of the elements, each upon the other or their co-operation in groups. If this united participation in the result is not present, then ordinarily no patentable combination exists, but an unpatentable aggregation, an arrangement lacking invention since based alone on mechanical skill.

The patentability of claims which involve several elements can ordinarily be readily determined by applying these tests.

Let A, B, and C represent several grouped elements. If their relation is A + B + C, their function or result being merely additive or the sum of their individual results, they constitute an unpatentable combination, whether new or old.

If their relation is A × B × C, each modifying the other or co operating singly or by groups and all mutually tending to produce a unitary result, they form a legitimate combination and, if the result is new and use-

ful, the device is patentable, but it does not follow that all legitimate combinations are patentable.

A × B × C is old in the art, and $C^1$, a modification or specific form of C, is substituted for that element.

If $C^1$ is an old and well-known equivalent for C, no new result is accomplished and the resultant combination is unpatentable.

If a new and improved result follows the substitution and this is due to the modifying influence of the substituted element on all the others, the combination is new and patentable.

If $C^1$ does not affect the functions of A and B, individually or in group, other than did C, adding only its own peculiar function to the result, the combination is not patentable over A × B × C, the broad combination being exhausted, and $C^1$ should be claimed by itself since in it alone does the invention lie. This is true whether $C^1$ is new or old. It is not a new combination since the only modification of the result rests in the substitute element.

A × B × C being old, if C is omitted while the old result is maintained, a new and patentable combination results.

Richards *vs.* Chase Elevator Co., 73 O. G., 1710.

In special art tools it may be that each element accomplishes only its own result, but, if the several elements contribute by their operation to the production of a unitary improved result, unattainable in the absence of either, there is a legitimate combination. Such an instance is seen in the ordinary glass cutter, in which the scoring roll of the cutter combines with the breaking notch to produce the complete severance of the glass.

Lying close to, yet apart from this clearly defined field of combination and aggregation, is a twilight zone in which there appears to be no well settled practice either in the courts or Patent Office. This resides in that class of cases in which old elements are so positioned with respect to each other that, while each performs its own function, the ultimate effect of grouping the parts is the production of a better, more advantageous or cheaper result. Such cases are discussed in Burdett-Rountree Mfg. Co. *vs.* Standard Plunger Elevator Co., 196 Fed.

Rep., 43; Standard Plunger Elevator Co. *vs.* Burdett-Roumbree Mfg. Co., 197 Fed. Rep., 743; and Krell Auto Grand Piano Co. of America *vs.* Story & Clark Co. et al., 207 Fed. Rep., 946, in the last of which it was held that a patent for a mechanism consisting of two or more elements is not necessarily invalid as an aggregation because there is no direct co-action between the elements, where such co-action comes to produce a unitary result through the mediation of the operative or the operating force, but without the court laying down any hard and fast rule of general application.

Perhaps a few concrete illustrations of this type of invention will in part clear the practice. It is old to form a flexible metal tube of small diameter and to form a web or braided cover about such tube by separate machines, also to feed tubes through their forming mechanism by drawing rolls. So positioning these devices as to have a pair of rolls for forming a small flexible walled tube, a means in direct alinement with the delivery outlet of the forming rolls to form a web or casing about the tube, and drawing rolls for feeding the product through the forming and casing mechanism, forms a patentable combination, as the direct line delivery insures the perfection of the tube at the point where the web is placed about it and the feed rolls maintain the direct alinement of the material while being worked upon. The parts work as before, but synchronism of operation is maintained by the tube as drawn through the machine and the perfected product is due to the consecutive operation of the several elementary machines without any deformation of the tube due to intermediate handling.

It is mere aggregation to place an oil can in the handle of a wrench so as to have a handy supply of lubricant in case a nut is rusted on its bolt. Change the position of the oiler, by recessing the inner face of the wrench jaw, fitting the oil can therein with its elastic wall projecting into the space between the jaws and place its jet orifice near the outside of the jaw face, and a new and advantageous result is produced. The first motion of the wrench handle forces the nut against the can, ejecting the oil upon the rusted parts, while continued motion in the same direction loosens the lubricated nut. This

is a clear combination due to the exercise of invention in so arranging or constructing the parts, each old in itself, that an improved result is produced. Thatcher Heating Co. *vs.* Burtis, 121 U. S., 286, justifies the grant of a claim for such a device.

To place a can opener on the handle end of a bottle decapping tool is an aggregation, since each produces its own result and no more.

Change the position of the knife edge to the inner curve of the fulcrum arm of the decapper, where it is protected, by the overhang of the decapper claw and fulcrum point, while the cam shaped back of the fulcrum arm serves as a rolling fulcrum for the can opening blade, and we again have a clear case of patentable combination due to change of position.

In the Tower *vs.* Bemis et al., decision, above noted, it is stated that there is no patentable invention in broadly combining two forms of wrench in a single tool. So position them that their joint operation is due to a single element and a patentable combination may result. Class 81-77 is made up of just such cases.

The same result follows where an intermediate jaw is placed between the jaws of an ordinary pair of pliers, doubling the efficiency of the tool by its co-operation with each.

While in cases like the above legitimacy of the combination must be admitted, care must be exercised that this positioning is not too freely treated as a ground for allowing claims.

Though the Constitution gives to Congress power to pass enabling legislation, I find neither in the Revised Statutes, nor in the decisions of the Federal Courts any authority for granting patents for structures which possess convenient and commercial advantages, but are made up of independent parts each of which is unaffected by the presence or absence of the other. I refer to aggregated tools or other parts in so-called articles of manufacture. "The beneficiary must be an inventor and he must have made a discovery. The statute has always carried out this idea. . . . So it is not enough that a thing shall be new, in the sense that in the shape or form in which it is produced it shall not have been before known,

and that it shall be useful, but it must under the Constitution and the statutes, amount to an invention or discovery."

Thompson et al. *vs.* Boisellier et al., 31 O. G., 377.

I will mention one more example, illustrating an extreme type, which yet has its advocates.

A ring having an inward extension on which is pivoted a screw-driver, adjacent lugs on the face of the ring with which the ends of the screw-driver may engage to hold the parts in fixed relation, when the screw-driver is not in use, and a twine cutter blade projecting from the exterior of the ring.

Herein is no community of operation, but rather a negation of results. The ring with its lugs protects the pocket of the carrier from being torn by the screw-driver blade, while the projecting blade of the twine cutter insures the opposite result. Graphically stated +1—1=0, and assuredly in such a case is neither invention nor utility. Each element may be patentable by itself, but where the result of their sequential use is the obliteration of any practical joint result, there can be no justification under the present law for the issue of a patent. For this reason I can find no justification for the theory that were the Reckendorfer *vs.* Faber (92 U. S., 347, Sup. Ct., 1875), case to be retried now, the Supreme Court would reverse its judgment, for there, as in the above illustration, we have as the only result of the alleged combination +1—1=0, means for making a mark, means for erasing the mark, conjointly producing nothing.

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# Processes, as a Subject of Invention

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# Processes, as a Subject of Invention

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The statutory provision making processes one of the subjects of patent protection is not as definite or clear as that relating to machines, composition of matter, and articles of manufacture. The word "art" was used in the statute, and its meaning, or rather its exact scope in this relation, has caused much doubt and confusion of court decisions during the history of patent litigation. Even as late as 1895, we find in the Supreme Court decision Risdon Iron and Locomotive Works *vs.* Medart *et al.*, 158 U. S., 68; 71 O. G., 751, ground for doubt on one phase of the question, that is, the question of the patentability of purely mechanical processes.

Also in former times, there was much doubt as to where to draw the limit in another direction, that is, between a proper process and a monopoly of the use, even for a particular purpose, of any one of the principles of nature, and likewise, between a proper process and a statement of general notion or idea of some result to be accomplished but without specific way or steps of doing it, claims for which are sometimes called functional.

Patentably, a process has been defined by the Supreme Court as a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing (Cochrane *vs.* Deener, 11 O. G., 687, 94 U. S., 780), and—a process is an act, or mode of acting (Tilgman *vs.* Procter, 102 U. S., 707).

The second part of the first definition and the second one as a whole especially set forth the vital elements

of a proper process, as being one or more acts, commonly called steps, which are performed. These steps are the actual positive things to be done by the operator in executing the process. They do not necessarily, and, in fact, in chemical processes seldom, if ever, represent all the numerous or secondary actions or reactions that take place as a result of the actual or primary steps performed. For instance, a claim for preparing a bleaching liquor might include only the single positive step of passing an electric current through an aqueous solution of sodium chloride. It would be entirely proper as a process claim though some half dozen chemical reactions would take place in the solution while the current passed. In chemical processes, it would be entirely impracticable to name as steps all that happens in the process as secondary actions.

In chemical processes the materials treated may be considered to enter into or patentably modify the steps. The process consisting of heating to 2,000° C. a mixture of calcium oxide and carbon would be a different process from that of heating to 2,000° C. a mixture of silicia and carbon; in one case, the result would be calcium carbide and in the other silicon carbide, two different products. And likewise, the step of mixing nitric acid and glycerine would constitute a very different process from that of mixing nitric acid and sodium hydroxide. These would constitute patentably different processes because a different chemical reaction results in each of the two cases which produce products widely different in their properties. This, however, is not considered to be true in the case of broadly mixing or otherwise treating inert materials. Thus, the step broadly of mixing gravel and tar to make a paving compound, while perhaps a proper process, is not patentably different from that of mixing granulated coal and tar to make fuel briquettes. Any patentability in the case of these latter examples would reside in the mixture and not in the mixing. This does not mean that in case some special result is derived from a particular way of mixing two or more ingredients even in non-chemical cases, there might not be patentability in the process.

On account of the indefinite scope of the word "art"

in the statute, it has remained for the federal courts, the tribunals of the Patent Office, and text writers to lay out such bounds as we have for this subject of invention.

One question though it now seems elementary and only of historical interest, caused much controversy in the early history of patent litigation; viz., should a person when he had discovered that a natural fact or principle of nature was capable of use for some purpose be entitled to claim the exclusive use of that agency for that purpose, or should he be limited to some specific way or mode of applying it; that is, to some steps to be performed by which the fact or principle was utilized and embodied in a working process or by constructing a machine depending upon the fact. It was finally decided that neither the facts themselves, nor the use thereof, were subjects of patents, since to allow such patents would obstruct instead of promote the advance of the different arts, many of which depend upon these very principles of nature for their existence.

The terms "elemental force," "scientific fact," "principle of nature," and even "principle" have all been used synonymously in this relation to designate these various facts or principles of nature. Careful distinction must be made, however, where the term "principle" is used not to confuse it with its use in a more general sense in patent law, that is, where it is used to refer to the plan according to which a process or machine operates, a mode of action, otherwise denoted the principle of the process or machine. In this sense it might include any number of primary or elementary facts. Whichever of these terms, and perhaps of other similar ones, is used in this relation, that is, as being something different from a patentable process, it means any of the facts relative to the properties of matter or actions of the various forces of nature, including in its scope all of the manifestations by results of the various physical and chemical forces such as mere mechanical energy, heat, light, electricity, magnetism, chemical affinity, gravity, and the energy involved in the various forms of cathode, radium, and similar rays or emanations.

The subjects of physics and chemistry and combinations of the two are made up of, and have for an object,

the classification of the many directly apparent properties of matter and characteristics of the above-named forces in order that theories and laws may be formulated leading to others not so apparent. All these facts relating to actions and reactions in the material world around us, are available as foundations for processes, but in themselves they are not subjects of patents. They are as building stones or structural units with which inventors may construct the purely artificial creations designated processes.

A process, then, may be said to be something artificial, while a principle or scientific fact is a thing of nature. For devising the former, a person may be given a patent; for discovering the latter, he may be given a doctor's degree or other reward, but there can be no patent for a mere principle or scientific fact.

The inventor may or may not be the discoverer of the chemical or physical facts or laws which he utilizes in devising his process. If the particular step or combination of steps which he employes in applying and utilizing the one or more facts be new, that is sufficient.

It would seem that the word "art" might be broad enough in scope to permit the granting of a patent for the exclusive use of one of these principles of nature for a particular purpose, that is, for the creation of a new art to the first discoverer thereof, as, for instance, the exclusive use of the electric current for writing intelligible characters at a distance, or transmitting sound or generating light, or for the exclusive use of high frequency electromagnetic waves for conveying intelligence, as in the wireless telegraph art, or for the exclusive use of the fact that hydrogen is lighter than air for the purpose of aerial navigation. These could properly be called new arts. This view was expressed in a very logical dissenting opinion in O'Riley *vs.* Morse. It was decided in that case, however, that the term art in the statute could not be allowed such broad scope, the court placing the reason therefor on the above-mentioned ground that to do so and thus close such large fields to invention would hinder rather than promote the advancement of the useful arts.

In the case of O'Riley *vs.* Morse, 15 How., 62, the Supreme Court announced the rule that the exclusive use of a principle of nature or scientific fact for a particular

purpose broadly was not a proper subject of a patent, that the most that could be recognized by the patent laws was some specific process or apparatus embodying or depending upon the fact.

This case involved the patent to Morse on the electric telegraph. In connection with the question, it is of interest to note that the mechanism of the original telegraph was very complicated compared to one of today for merely sending a single message at a time. It was not recognized at that time that messages might be sent by the now familiar hand key and received by ear alone, although transmission of mere signals was known; and, therefore, Morse devised an automatic machine employing devices similar to type which had to be set up in a holder adapted to be moved past a contact for making and breaking the current according to requirements of spelling out the words of the message and likewise an automatic machine for moving a tape past a marker worked by an electromagnet at the receiving end.

One of Morse's claims was considered of such scope as to be for the use of an electric current for marking intelligible signs at any distance. It is claim 8 of Reissue No. 117, June 13, 1848, worded as follows:

> "Eight, I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims; the essence of my invention being the use of the motive power of the electric or galvanic current, which I call "electro-magnetism" however developed for marking or printing intelligible characters, signs, or letters at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer."

The court said as to this claim:

> "It is impossible to understand the extent of this claim. He claims the exclusive right to every improvement where the motive power is the electric or galvanic current, and the result is the marking or printing intelligible characters, signs, or letters at a distance."

"If this claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we now know, some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric and galvanic current, without using any part of the process or combination set forth in the plaintiff's specification. His invention may be less complicated—less liable to get out of order—less expensive in construction and in its operation. But yet, if it is covered by this patent, the inventor could not use it, nor the public have the benefit of it without the permission of this patentee."

"Nor is this all: while he shuts the door against inventions of other persons, the patentee would be able to avail himself of new discoveries in the properties and powers of electro-magnetism which scientific men might bring to light. For he says he does not confine his claims to the machinery or parts of machinery which he specifies, but claims for himself a monopoly in its use however developed for the purpose of printing at a distance. New discoveries in physical science may enable him to combine with it new agents and new elements, and in that manner attain the object in a manner superior to the present process, and altogether different from it. If he can secure the exclusive use by his present patent, he may vary it with every new discovery and development of the science, and need place no description of the new manner, process, or machinery upon the records of the Patent Office. And when his patent expires, the public must apply to him to learn what it is. In fine, he claims a manner and process which he has not described, and indeed had not invented, and, therefore, could not describe when he obtained his patent. The court is of opinion that the claim is too broad and not warranted by law."

"No one, we suppose, will maintain that Fulton could have taken out a patent for his invention of

propelling vessels by steam, describing the process and machinery he used, and claimed under it the exclusive right to the use of the motive power of steam, however developed, for the purpose of propelling vessels. It can hardly be supposed that under such a patent he could have prevented the use of the improved machinery which science has since introduced, although the motive power is steam and the result is the propulsion of vessels."

"Neither could the man who first discovered that steam might, by a proper arrangement of machinery, be used as a motive power to grind corn or spin cotton, claim the right to the exclusive use of steam as a motive power for the purpose of producing such effects."

"Again, the use of steam as a motive power in printing presses is comparatively a modern discovery. Was the first inventor of a machine or process of this kind entitled to a patent, giving him the exclusive right to use steam as a motive power, however developed, for the purpose of making or printing intelligible characters? Could he have prevented the use of any other press subsequently invented where steam was used? Yet, so far as patentable rights are concerned, both improvements must stand on the same principles. Both use a known motive power to print intelligible marks or letters; and it can make no difference in their legal rights under the patent laws, whether the printing is done near at hand or at a distance. Both depend for success, not merely upon the motive power, but upon the machinery with which it is combined. And it has never, we believe, been supposed by any one that the first inventor of a steam printing press was entitled to the exclusive use of steam as a motive power, however developed, for marking or printing intelligible characters."

"Indeed, the acts of the patentee himself are inconsistent with the claim in his behalf for in 1846 he took out a patent for his new improvement of local circuits by means of which intelli-

gence could be printed at intermediate places along the main line of the telegraph and he obtained a reissued patent for this invention in 1848. Yet in this new invention the electric or galvanic current was the motive power and writing at a distance the effect. The power was undoubtedly developed by new machinery and new combinations. But if his eighth claim could be sustained, this improvement would be embraced in his first patent. And if it was so embraced, his patent for the local circuits would be illegal and void; for he could not take out a subsequent patent for a portion of his first invention, and thereby extend his monopoly beyond the period limited by law."

Attorneys for Morse had cited several cases alleged to support their contention that a claim of this scope should be sustained. Among these cases was a British case, Neilson *et al. vs.* Harford *et al.*, decided by the English Court of Exchequer. Neilson was the inventor of the process of supplying hot air blast to furnaces where before cold air had been used. He accomplished this by interposing between the blowing device and the furnace a receptacle or passageway through which the air passed on its way to the furnace and which could be heated by heat applied externally to the walls. This was found to be a very valuable way of operating furnaces of various sorts because the hot air resulted in the production of a much higher temperature in the furnace and reduced the ore much faster.

The Court of Exchequer had said that it had had much doubt whether the Neilson patent was not for the principle that heated air would produce better combustion than cold and intimating that, if so, the patent would be void, but stated that after much consideration it had concluded that it was not for a principle but for an apparatus embodying a principle. They said:

"After full consideration, we think that the plaintiff does not merely claim a principle, but a machine embodying a principle and a very valuable one. We think the case must be con-

sidered as if the principle being well known, the plaintiff had first invented a mode of applying it by a mechanical apparatus to furnaces and his invention then consists in this by interposing a receptacle for heated air between the blowing apparatus and the furnace. In this receptacle he directs the air to be heated by the application of heat externally to the receptacle; and thus he accomplishes the object of applying the blast which was before cold air in a heated state to the furnace."

The Supreme Court said as to this citation that instead of supporting the contention that a principle might be claimed, it rather denied it, since the Court of Exchequer specifically said that Neilson's invention would be considered not for a principle but for a machine embodying a principle; a mode of applying a known principle to furnaces by interposing a receptacle for heating air between the blowing apparatus and the furnace and further making it clear that if the patent had been construed as one for the exclusive use of a principle or fundamental law of nature, that is, the exclusive use of the fact that hot air resulted in higher temperatures than cold air, that the patent would not have been sustained. The court, therefore, denied that this citation in any way afforded any ground for sustaining such style of claim, citing with approval the case of Le Roy *et al. vs.* Tatham, 14 Howard, 156.

This case of Le Roy *et al. vs.* Tatham had been decided by the Supreme Court the year previous, that is, 1852, and is interesting, not so much on account of any direct decision by the court on the question of claiming a newly discovered natural phenomenon or principle, but on account of the variation of opinion and discussion of the question, both as between the lower court, which, in this case, was the Circuit Court of the Southern District of New York, and the Supreme Court, and between the members of the Supreme Court itself, since three of the members dissented.

The facts involved in this case were that John and Charles Hanson, the inventors and assignors to Tatham, had discovered an unknown property of certain soft metals, such as lead, that if a solidified or unmolten body of it be divided under non-oxidizing conditions and at certain temperature, and the parts be pressed together, they will reunite or weld perfectly to form an integral piece. This property of the metal was very useful in making lead pipe, since all that was necessary was a cylinder with a plunger at one end, and an opening with a mandrel or core, centered therein at the other. The core, however, had to be supported rigidly enough to avoid being moved out of center with respect to the opening. It was, therefore, supported by a bridge piece extending across the inner end of the die or outlet opening and this required that the lead in being extruded should divide to pass around the obstructing bridge member, and reunite to form the annular wall of the tube. This was where the newly discovered property of the lead came into use, since before that time the mandrel or core had as was thought necessary been supported from the plunger at the other end of the cylinder, or even beyond the plunger and extended through a hole in the plunger and thence on through the die opening, thereby not being rigid or stable enough laterally in the die to make uniform or concentrically walled tubing. The invention was of great practical value; the extruded lead being in better physical state than cast lead and the mandrel, being very rigidly and accurately held directly in the die by the bridge piece, made the pipe of mechanically perfect dimensions and uniformity. But it all depended upon the newly found principle or physical fact that solid lead would thus flow around a bridge piece, and again unite into a homogeneous mass to form a tube. This being true, we have a peculiar set of circumstances, for the same style of machine had been used before and in the same way for forming macaroni and in making clay pipe, and the claim was worded in a peculiar way as:

"We do not claim as our invention and improvement any of the parts of the above described machinery, independently of its arrangement and

combination above set forth. What we do claim as our invention, and desire to secure, is the combination of the following parts above described, to wit, the core and bridge, or guide die, when used to form pipes of metal, under heat and pressure in the manner set forth, or in any other manner substantially the same."

The judge in the Circuit Court had instructed the jury in respect to patentability over the publications cited, showing the application of like machines in other arts, that:

> "The result is a new manufacture, and even if the mere combination of machinery in the abstract is not new, still, if used and applied in connection with the practical development of a principle newly discovered, producing a new and useful result, the subject is patentable. In this view, the improvement of the plaintiff is the application of a combination of machinery to a new end—to the development and application of a new principle, resulting in a new and useful manufacture. That the discovery of a new principle is not patentable but it must be embodied and brought into operation by machinery, so as to produce a new and useful result. Upon this view of the patent it is an important question for the jury to determine, from the evidence, whether the fact is established, on which the alleged improvement is founded, that lead in a set or semi-solid state can thus be reunited or welded, after separation," and further—
>
> "That in the view taken by the court in the construction of the patent, it was not material whether the mere combinations of machinery referred to were similar to the combinations used by the Hansons, because the originality did not consist of the novelty of the machinery, but in bringing a newly discovered principle into practical application, by which a useful article of manufacture is produced, and wrought pipe made as distinguished from cast pipe."

A verdict and judgment sustaining the claim was rendered.

It, therefore, appears that the lower court based the validity of this claim entirely on the newly found principle of nature, the physical fact that solid lead would thus divide and homogeneously unite under pressure, and the wording of the instructions seems very similar to the expression of opinion in the English case, Neilson *et al. vs.* Harford *et al.*, above referred to, and another on the same patent, Household Company *vs.* Neilson. But we have the distinction between this case and the English cases that English patents do not to such extent depend on the exact construction of the claims, and, second, that the apparatus described in Neilson's patent was not old, as in the present case. The English court could, therefore, say in considering Neilson's patent that it was not for a principle, but for apparatus or process embodying a principle, and, therefore, as the apparatus and corresponding operation or function were novel, the patent was held valid. But no such latitude is allowable in American practice. Therefore when the present case was appealed to the Supreme Court on the ground that the above quoted instructions to the jury were erroneous, a majority of the court held that in view of the form of the claim, as being for the combination of the several mechanical elements when used to produce lead pipe, that the novelty of the machine alone was material to patentability, and that the principle of nature or physical fact involved in the behavior of lead could not be held to affect the question, that it was merely a case of double use. The court stated, however, in discussing the erroneous idea of the Circuit Court, that there was much confusion both in court decisions and in the text books about the distinctions between principles and processes, and as to patentability of the exclusive use of the latter. But the court stated positively that principles, fundamental truths, or facts of nature were not included in the scope of the term art of the patent statutes, and this would apply either to the appropriation for exclusive use and for a particular purpose of a known fact or principle or to the exclusive use in general of a newly found or discovered fact or principle. Mere discovery

of a natural fact or scientific truth which necessarily existed before as well as after being found, is not invention, but any step or steps directed to the application of one or more of these facts or principles is a subject of invention.

In Tilgman *vs.* Proctor, U. S. Reports, 102, page 707, 1880, we have another Supreme Court decision which discusses the subject of processes patentably considered.

Tilgman, on October 3, 1854, secured a patent, No. 11,766, for a process of separating vegetable or animal fats into their components, glycerine and fatty acid, by subjecting an emulsion of the fat in water to a temperature between 440° F. to 660° F., depending upon the particular fat treated and speed of reaction desired, under a pressure of 2,000 pounds per square inch. This resulted in a reaction of water with the fat to split it into glycerine and fatty acid, which separated when allowed to stand and cool into two layers which could be drawn off separately.

The single claim was worded as follows:

> "The manufacture of fat acid and glycerine from fatty bodies by the action of water at a high temperature and pressure."

This claim does not clearly set forth any positive steps performed, but merely refers to the action of water at high temperature and pressure.

The court construed it to mean subjecting to a high degree of heat, a mixture of fat and water, which construction involves the substitution of the words *subjecting to* for the expression *by the action of*, thereby making the claim more positive in terms of steps. After thus construing it, the court held that it was not for a principle or chemical fact—the fact that water at high temperature and pressure would decompose fat—but for a proper process. It said:

> "In the first place, the claim of the patent is not for a mere principle. The chemical principle, or scientific fact upon which it is founded is, that the elements of neutral fat require to be severally united with an atomic equivalent of water in order to separate from each other and become free."

Thus indicating that if the claim had been considered to be for a mere chemical fact, it would not have been valid.

The third important case along this line is the decision of the Supreme Court in the so-called Telephone Cases, 126 U. S., 1. The court rendered a single decision on five appeals from five separate circuit court cases, involving the two patents to Alexander Graham Bell, No. 174,465, March 7, 1876, and No. 186,787, January 30, 1877. One of these patents was based on the principle that if an iron diaphragm is vibrated in the neighborhood of an electro-magnet through which a current is flowing, undulations will be set up in the electric circuit which correspond exactly to the vibrations of the air which accompany vocal or other sounds. This patent also disclosed other ways of producing the undulating current, one of which consisted of a wire dipping into a bath of mercury to a greater or less extent according to the sound waves, which varied the resistance of the circuit to a current flowing through the wire and bath. The other patent involved the same general idea except in place of an electro-magnet, a permanent magnet surrounded by a coil was used and an undulatory current was generated by the nagneto effect of the vibrating diaphragm in the neighborhood of the coil and permanent magnet. Any one of these species of device could be used as the transmitter or sending instrument and either the first or third forms of instrument was used at the receiving end of the line where the undulatory current flowing through the coil vibrated the diaphragm to create corresponding sound waves.

The important question in this case was the scope of claim 5 of Patent No. 174,465, worded as follows:

> "The method of, and apparatus for, transmitting vocal or other sounds telegraphically, as herein described, by causing electrical undulations similar in form to the vibrations of the air accompanying the said vocal or other sounds, substantially as set forth."

This claim is of very queer form according to our present practice. It seems intended to cover both process

and apparatus by the expression "method of and apparatus for" and it is very indefinite or incomplete as to what steps are included when considered as a process. It merely states, in substance, the method of transmitting sound by causing electrical undulations similar in form to the vibrations of the air accompanying the sound. The only step set forth is—causing electrical undulations, which obviously would not by itself transmit sound; perhaps the words "as herein described" used in the claim, were considered sufficient to involve other necessary steps. However, the court held that this was a valid claim to cover each of the above species of processes, and accompanying device. The court said:

> "In this art—or what is the same thing under the patent law, this process, this way of transmitting speech—electricity, one of the forces of nature, is employed; but electricity left to itself will not do what is wanted. The art consists in so controlling the force as to make it accomplish the purpose."

> "It had long been believed that if the vibrations of air caused by the voice in speaking could be reproduced at a distance by means of electricity the speech itself would be reproduced and understood. How to do it was the question. Bell discovered that it could be done by gradually changing the intensity of a continuous electric current so as to make it correspond exactly to the changes in the density of the air caused by the sound of the voice. This was his art. He then devised a way in which these changes of intensity could be made and speech actually transmitted. Thus his art was put in condition for practical use."

It seems, therefore, that the court did not regard Bell's patent as being for a mere principle, but for a process, although the claim is of rather vague form.

Even considering the indefinite form of claim in each of the three patents of Morse, Tilgman and Bell, there seems to be a difference in the intent or fundamental

idea between the claim of Morse and those of Tilgman and Bell.

Morse's claim is, in effect—

> ". . . the essence of my invention being the use of the motive power of the electric or galvanic current which I call electromagnetism however developed, for marking or printing intelligible characters, signs, or letters at any distances."

Tilgman claimed, in effect –

> ". . . decomposing fats by the action of water at a high temperature and pressure."

While Bell claimed in effect as to the process:

> "The method of transmitting sound as herein described by causing electrical undulations, similar in form to the vibrations of the air accompanying the said sound."

There is less difference between Morse's and Tilgman's claim than between Bell's and the other two. Bell's claim seems merely to be open to the fault of being for an incomplete process for transmitting sound. The only positive step included in his claim is, causing electrical undulations corresponding to sound waves, whereas a second important step would be necessary, that of causing sound waves corresponding to the electrical undulations produced. The claim could not be held to be for the exclusive use of any scientific fact or principle as such. It is not so stated. It is stated in the form of a step or act to be performed, while Morse's claim, on the other hand, is of different form, as boldly for the use of electromagnetism for marking characters at a distance. This is not stated in the form of some specific step or way of using the force or principle of nature, but for any or all ways of using it for that purpose; that is, for the exclusive use of a principle of nature.

Tilgman's claim, if transposed so as to be stated in the same order, would read, "I claim the action of water at high temperature and pressure for decomposing fats."

This brings the difference down to the mere difference

between Morse's expression, "the use of electromagnetism," and Tilgman's, "by the action of water at high temperature and pressure." The court, however, construed Tilgman's claim to mean, subjecting fat to the action of water at high temperature and pressure, which clearly makes a process out of it, and removes any doubt that one of the chemical facts of nature is being claimed; that is, the fact that hot water under pressure decomposes fats.

## MECHANICAL PROCESSES.

Another question that has involved much controversy is whether processes may consist entirely of mechanical steps and actions as distinguished from involving some chemical reaction.

A series of cases along this line are Corning *vs.* Burden, 15 How., 267, 1853; Risdon *vs.* Medart, 1895, C. D., 330; Westinghouse *vs.* Boyden, 170 U. S., 537, and Expanded Metal Co. *vs.* Bradford, 214 U. S., 366.

The case of Corning *vs.* Burden, 15 How., 267, 1853, involved an alleged method of preparing puddler's balls for rolling according to patent to Burden, 1,890, Dec. 10, 1840. Two species of the machine were illustrated and described in the patent; one was formed of a revolvable drum and a stationary member extending about half way around the drum spaced somewhat eccentrically therefrom to give a gradually narrowing space between the drum and member from one end of the member to the other, so that when a puddler's ball was placed at the wider or mouth end of the space, it would be seized by the rotation of the cylinder and rolled between itself and the member to the narrow end of the space and be discharged as a consolidated and kneaded cylinder ready for the subsequent rolling operation. Another species involving a reciprocating wedge-shaped piece working adjacent a stationary surface accomplished the same result. The claim was worded as follows:

> Having thus fully made known the nature of my said improvements, and explained and exemplified the manner in which I construct the

machinery for carrying the same into operation, what I claim as constituting my invention, and desire to secure by letters patent, is the preparing of the puddler's balls as they are delivered from the puddling furnace, or of other similar masses of iron, by causing them to pass between a revolving cylinder, and a curved segmental trough adapted thereto, and constructed and operating substantially in the manner of that herein described and represented in Figs. 2 and 3, of the accompanying drawings; or by causing the said balls to pass between vibrating or reciprocating tables, surfaces, or plates of iron, in the manner exemplified in Fig. 1, in the accompanying drawing, or between vibrating or reciprocating curved surfaces operating upon the same principle, and producing like result by analogous means.

The fact that two entirely different styles of apparatus were described, and others suggested, for carrying out the process indicates that there was a proper process involved, but expressions used in the case seem to indicate that the novelty was thought to be in the machine. In the preamble we find:

> "Be it known that I, etc., have invented an improvement in the process of manufacturing iron, which improvement consists in the employment of a new and useful machine for the rolling of puddler's balls, or balls prepared in the puddling furnace, and of other similar masses of iron."

and in the oath—

> "that he does verily believe that he is the original and first inventor or discoverer of the said machine."

The claim, however, is indefinite as to whether process or machine is claimed, but seems to incline to a process rather than to a machine in the statement that what he claimed as constituting his invention and desired to be secured by letters patent, was the preparing of the puddler's balls as they are delivered from the puddling

furnace, or of other similar masses of iron, by causing them to pass between wedging surfaces operating as described to produce the desired result. The court was in doubt whether the claim was for a process or machine and their discussion of the question was in such terms as to raise doubts as to patentability of mechanical processes.

The court decided that the patent should be held to be for the machine and not for a process. This conclusion seems to have been reached as a result of three reasons or circumstances; first, because Burden in his specification refers several times to his invention as being for a new and useful machine; likewise, in the oath, that he believed himself to be the inventor of the machine; and second, to what seems to have been an opinion that purely mechanical processes were not subjects of patents, that only those involving chemical or other elemental forces were; and, third, that processes were usually discovered rather than deliberately devised.

That part of the decision relating to the second and third reasons reads as follows:

> "Is the plaintiff's patent for a process or a machine?
>
> "A process, *eo nomine*, is not made the subject of a patent in our act of Congress. It is included under the general term 'useful art.' An art may require one or more processes or machines in order to produce a certain result or manufacture. The term machine includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result. But where the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another, such modes, methods, or operations are called processes."
>
> "A new process is usually the result of discovery; a machine of invention."
>
> "The arts of tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores, and numerous others are usually carried

on by processes, as distinguished from machines. One may discover a new and useful improvement in the process of tanning, dyeing, etc., irrespective of any particular form of machinery or mechanical device, and another may invent a labor saving machine by which this operation or process may be performed, and each may be entitled to his patent. As, for instance, A has discovered that by exposing India rubber to a certain degree of heat, in mixture, or connection with certain metallic salts, he can produce a valuable product or manufacture. He is entitled to a patent for his discovery, as a process or improvement in the art, irrespective of any machine or mechanical device. B, on the contrary, may invent a new furnace, or stove, or steam apparatus by which this process may be carried on with much saving of labor and expense of fuel, and he will be entitled to a patent for his machine, as an improvement in the art. Yet A could not have a patent for a machine or B for a process, but each would have a patent for the means or method of producing a certain result or effect, and not for the result or effect produced. It is for the discovery or invention of some practicable method or means of producing a beneficial result or effect that a patent is granted, and not for the result or effect itself. It is when the term process is used to represent the means or method of producing a result, that it is patentable, and it will include all methods or means which are not effected by mechanism or mechanical combinations."

"But the term process is often used in a more vague sense, in which it can not be the subject of a patent. Thus, we say that a board is undergoing the process of being planed, grain of being ground, iron of being hammered or rolled. Here the term is used subjectively or passively as applied to the material operated on, and not to the method or mode of producing that operation, which is by mechanical means, or the use of a machine as distinguished from a process."

"In this use of the term, it represents the function of a machine, or the effect produced by it on the material subjected to the action of the machine. But it is well settled that a man can not have a patent for the function or abstract effect of a machine, but only for the machine which produces it."

"It is by not distinguishing between the primary and secondary sense of the term 'process' that the learned judge below appears to have fallen into an error. It is clear that Burden does not pretend to have discovered any new process by which cast iron is converted into malleable iron; but a new machine or combination of mechanical devices, by which the slag or impurities of the cast iron may be expelled or pressed out of the metal when reduced to the shape of puddler's balls. The machines used before to effect this compression were tilt hammers and alligator jaws, acting by percussion and pressure, and nobbling rolls with eccentric grooves, which compress the metal by use of the inclined plane, in the shape of a cyclovolute or snail-cam."

"In subjecting the metal to this operation, by the action of these machines, more time and manual labor is required than when the same function is performed by the machine of Burden. He saved labor, and thus produced the result in a cheaper, if not a better, manner, and was therefore the proper subject of a patent."

"In either case, the iron may be said, in the secondary sense of the term, to undergo a process in order to change its qualities, by pressing out its impurities; but the agent which effects the pressure is a machine or combination of mechanical devices."

This decision is interesting as showing the different views that have been taken of this subject of invention, although it is apparently overruled by the decision in Expanded Metal Co. *vs.* Bradford, 214 U. S., 366, since it is there held that purely mechanical processes may be

patentable; and it is not apparent but that an inventor might set to work to devise a process rather than to discover one. It would seem that such intentional development would usually be the case where the process involved the utilization in turn of several chemical or physical facts, as the chances of mere accidental performance of the process would be small. Where the process consisted of a single step it might happen that such discovery would take place.

Following this case, Corning *vs.* Burden, we find the case of Risdon *vs.* Medart, 158 U. S., 68, and 1895 C. D., 330, inclining even more to the position that a mechanical process could not be the subject of a patent. This case involved three patents; one for a process of manufacturing belt pulleys, and two for the pulley. The process patent is the only one which is of interest in this relation. It is Patent No. 248,599, of October 25, 1881, to Philip Medart.

This is a patent for a specific process of building up a belt pulley of separate parts instead of casting an integral wheel. It consists of axially boring a portion which constitutes the hub and spokes, that is, an integral spider. Then truing up the outer ends of the spokes in respect to the bore of the hub; then mounting a rim on the spokes and truing up the rim. Apparatus suitable for use in the process is shown and described in the patent. Claim 3 represents the complete process and reads as follows:

> "The herein described improvement in the art of manufacturing belt pulleys, which consists in centering the pulley center or spider, boring the hub thereof, grinding the center or spider concentric with the axis of the pulley, securing the rim concentric with the axis of the pulley, and then grinding or squaring the edges of the rim, substantially as set forth."

After reviewing several of its prior decisions, the court cited with approval Corning *vs.* Burden, 15 How., 252, and apparently concluded that because Medart's process was not a chemical process and did not consist in the use of one of the agencies of nature, it could consequently be

only the function of a machine and not patentable. Whether this process necessariiy depends upon a particular machine and could not be performed by other machines or by hand does not seem to have been considered. No reason is apparent why it could not be so performed, that is, without a specific machine, or why it is not a proper process according to present practice. It may be noted here that the practice of the Patent Office granting these mechanical processes undoubtedly finally settled the law.

Another case often cited in connection with the question of mechanical processes and function of machines is that of Boyden Power Brake Co. *et al. vs.* Westinghouse *et al.*, and Westinghouse et *al. vs.* Boyden Power Brake Co. *et al.*, 170 U. S., 537 and 1898 C. D., 443.

This case involved the question of infringement of claims 1, 2, and 4 of the patent to Westinghouse, 360,070, for a "Fluid Pressure Automatic-Brake Mechanism." The question related to a rather specific feature of the air brake in general and for that reason a careful construction of the claims was necessary. The court took into consideration that the patent was not of the pioneer type. The claims were drawn to apparatus of which claim 2 will serve as illustration.

> "Claim 2. In a brake mechanism, the combination of a main air pipe, an auxiliary reservoir, a brake-cylinder, and a triple valve having a piston whose preliminary traverse admits air from the auxiliary reservoir to the brake-cylinder, and which by a further traverse admits air directly from the main air pipe to the brake cylinder, substantially as described."

It was urged that this claim be construed to be for a process so as to broaden its scope sufficiently to cover the alleged infringing device, but the court held that, if considered to be for a process, there might be doubt of its validity, since it still seemed to be an open question whether processes which did not involve chemical or other similar elemental action were valid, citing Corning *vs.* Burden, 103 U. S., 461, and Risdon *vs.* Medart, 158 U. S., 680, as indication of the negative contention, and Eastern

Paper Bag Co. *vs.* Standard Paper Bag Co., 30 F. R., 63; Union Paper Bag Machine Co. *vs.* Waterbury, 39 F. R., 389; and Travers *vs.* American Cordage Co., 64 F. R., 771, as indication of the affirmative; and further that if it should be attempted to construe the claim in the direction of a process, it would apparently not be such, but merely the function of the apparatus or machine which would be an unpatentable subject. However, the court held that they would not assume or decide either of the above questions since the claim was clearly drawn to a mechanism and could not in any way be construed to be for a process.

This case, therefore, still left the patentability of mechanical processes in doubt so far as the Supreme Court is concerned. Eleven years later, however, we find a decision by this court, which clearly and definitely states that such processes are proper subjects of patents. That case is the case of The Expanded Metal Co. *et al. vs.* Bradford *et al.*, and The General Fireproofing Co. *vs.* The Expanded Metal Co., 214 U. S., 366, and 143 O. G., 863, 1909, C. D., page 521, which involved a patent to John F. Golding, 527,242, for a process of forming expanded sheet metal suitable for use in plastering and cement work. The process claimed is purely mechanical, yet clearly not dependent on any particular machine for performing it. The process is very clearly set forth in a claim of good form as follows:

"The herein described method of making open or reticulated metal work which consists in simultaneously slitting and bending portions of a plate or sheet of metal in such manner as to stretch or elongate the bars connecting the slit portions and body of the sheet or plate, and then similarly slitting and bending in places alternate to the first-mentioned portions, thus producing the finished expanded sheet metal of the same length as that of the original sheet or plate, substantially as described."

Looking at the subject now, there appears to be no logical reason why the propriety of such processes should be questioned; but as has been shown certain decisions

had assumed, although they did not perhaps expressly decide, that they were not patentable.

The court disposed of the question in this case by the statement that—

> "an invention or discovery of a process or method involving mechanical operations and producing a new and useful result may be within the protection of the Federal Statute and entitle the inventor to a patent for his discovery."

This statement by the Supreme Court would seem to settle the question. It may be noted that quite a number of lower court decisions had clearly announced this conclusion of which *In re* Weston, C. D., 1907, 290, by the Court of Appeals of the District of Columbia, and those cited above in the case of Westinghouse *vs.* Boyden are good examples.

Still a different type of alleged process is that involving motors or other apparatus operated by electricity, steam, hydraulic pressure, etc. We have a few decisions along this line which are instructive. One is *In re* Creverling, C. D., 1905, 684, appealed to Court of Appeals of the District of Columbia from the Patent Office, relating to an alleged process of regulating an electric generator or dynamo. The application included description and drawings of the particular apparatus and no description of any process, the mere operation of the device being the alleged process.

Briefly, the invention consisted in varying the field or other circuit of the machine by means of an electric motor device in which an independently determined magnetomotive force is opposed by a magnetomotive force which is a function of the current generated. There is thus produced a resultant magnetic field whose polarity is dependent upon the current generated. Exposed to the action of the resultant magnetic field is a member (a motor armature) which tends to set up an independent magnetic field, producing motion in a positive or negative direction and thereby causing the generator to be regulated in the manner desired. This final regulation was done actually by the movement of a rheostat included in circuit with the field of the

generator and mechanically connected with the motor armature. An example of the claims is

> "The herein described method of regulating the output of a generator which consists in producing mechanical motion by the combined action of a flux which is the resultant effect of a magnetic motive force which is a function of the current generated, and a determined magnetomotive force and another flux substantially as specified."

The court said that since applicant already had a patent on a machine operating on this principle, the alleged process was so associated with the machine that it would be unpatentable thereover. Incidentally, the court also said that the claims, if considered to be proper process claims, were incomplete for the purpose alleged because they omitted one of the essential steps of the process, that of the operation of the rheostat, and that they would be unallowable on that account.

A very recent case, however, seems to be in conflict with the above conclusion as to what constitutes a true process aside from the function of the machine and patentable thereover. This case is Century Electric Co. vs. Westinghouse Electric and Manufacturing Co., 191 Fed. Rep., 350, 207 O. G., 1249. It relates to patentability of a process over apparatus, where the two seem to be very closely associated. The two subjects were allowed to the same patentee in different patents. They were patents 511,915 and 555,190 to Nicola Tesla for an electric motor and process.

Claim 1 of patent 511,915 for the process reads as follows:

> "The method of operating electro-magnetic motors having independent energizing circuits as herein described, which consists in passing an alternating current through one of the energizing circuits and inducing by such current the current in the other energizing circuit of the motor as set forth."

The machine as set forth in claim 1 of patent 555,190 reads as follows:

> "In an electro-magnetic motor, the combination of independent energizing circuits, one adapted to be connected with a source of alternating current, the other arranged in inductive relation to the said first circuit whereby the motor will be operated by the resultant action of the two circuits as set forth."

The court in this case held the above process claim to be a proper one. It seems to me that *In re* Creverling is the more logical of the above two cases, and that the process claim in the second case is entirely useless.

In some cases where an inventor has devised a machine or apparatus, it may be that there is also a proper process involved in connection with it which the device is capable of carrying out. But to entitle him to claim the process, it must be such as not to be dependent exclusively on that particular apparatus and the burden is upon applicant to point out as example another apparatus capable of carrying out the process unless the suggestion of such other apparatus is within the reach of persons skilled in that art. In these cases, unless the Examiner can readily see that other apparatus might be used, such examples should be required, or more directly the claim should be held to be merely the function of the apparatus.

> American Lava Co. *vs.* Stewart, 155 F. R., 731, 1909, C. D., 557.

*In re* Cunningham, 1903, C. D., 524, Court of Appeals of the District of Columbia, related to an alleged process of coaling ships at sea. It consisted of making a flexible connection between two ships to serve as a conveyor from one ship to the other, then creating tension on the cable to hold it in proper stretched condition. This tension was created by propelling one ship from the other. There had already been allowed a claim on the apparatus and the process claim rejected read as follows:

> "The improvement in the art of coaling ships in the open water herein described, the same

consisting in making a flexible connection athwartships, or abeam, between the ship to be supplied and the ship from which the coal is to be taken at sufficient distance apart to permit rolling and pitching of both ships without interference with each other, and creating sufficient lateral pressure between one of the ships and the surrounding water on the side toward the other ship to maintain them at such distance apart."

The court was very positive that there was no patentable process set forth; that the alleged process could not be conceived of independently of the particular apparatus of which it was merely the function or use.

## MISCELLANEOUS FEATURES.

Where a process is an obvious and apparently the only patentable way of producing an article, the invention is said to reside in the article and not in the process. The Examiner may suggest this idea to applicant where the invention seems to be claimed in the wrong form. *Ex parte* Trevette, 1901, C. D., 170, and Mica Insulator Co. *vs* Commercial Mica Co., 157 F. R., 90.

A situation similar to this is that if a patent is taken out for an article defined by a process of producing it, that patent is a bar to the allowance of any subsequent separate patent claiming that process.

> Mosler *vs.* Mosler, 127 U. S., 354, 43 O. G., 1115, 1888, C. D., 420, and Oval Wood Dish Co. *vs.* Sandy Creek Mfg. Co., 1894, C. D., 216.

Another point of importance in treating process claims is the rule that in applying references it is not sufficient that a prior apparatus might have been used to carry out the process, but it must appear that it was actually intended to perform the process, or that such use would have been obvious to a person skilled in the art in which it was used. The mere existence of a piece of apparatus does not necessarily suggest all the possible uses of it, and any process which would be outside the range of those which would obviously suggest themselves

upon use of the apparatus would be patentable over it. This is merely the converse of the rule that the use of an old device in an entirely new and non-analogous art may amount to invention.

The former of these rules was announced in the Supreme Court decision—The Carnegie Steel Co. *vs.* The Cambria Iron Co., 1902, C. D., 592. The patent involved was that to Jones, 404,414, June 4, 1889. It involved the question of anticipation of the process for producing Bessemer steel directly from blast furnace iron without intermediate cooling, involving as the important step the feature of maintaining a large bath of molten metal replenished by successive portions of molten metal direct from one or more blast furnaces and discharged from the bath in small quantities into the converter to be blown. The important thing was the fact that there was maintained at all times in the mixing bath a mass of metal, many times greater than the successive additions and discharges.

The claim involved was:

> "In the art of mixing molten metal to secure uniformity of the same in its constituent parts preparatory to further treatment, the process of introducing into a mixing-receptacle successive portions of molten metal ununiform in their non-metallic constituents (sulfur, silicon, etc.), removing portions only of the composite molten contents of the receptacle without entirely draining or emptying the same, and successively replenishing the receptacle with fresh ununiform additions, substantially as and for the purpose described."

Several prior devices cited might have been operated so as to follow the process, but the court did not find sufficient proof to show that they had been so operated or that their use would have suggested the Jones process; hence the above rule.

This rule was followed also in Loew *vs.* German-American, 164 Fed. Rep., 855.

## AGGREGATION.

In general, the same rules apply to processes as to apparatus in determining whether an alleged process is in fact a single process, that is, a proper combination of steps, or whether it is made up of parts which are independent of each other and consequently an aggregation, and also, if the association of steps forms a proper combination, to determine whether the novelty is in the combination, as a whole or merely in one part of it. If merely in a part, then the claims should be limited to the part that is new.

As in machines and apparatus, the elements making up the process, that is, the steps and any groups of steps which form sub-processes, must cooperate with each other to produce a new result which is different from the mere sum of the results of the steps if performed separately. There must be some degree of direct dependence upon each other.

A very difficult question peculiar to processes arises where several processes which are old and which belong to arts that are distinct are associated with the object of using up by-products. A favorite expression for this style of associated processes is "cyclical processes." They are often very important commercially and the continuance of some chemical industries depends upon such special association. A large number of these alleged processes will be found to sift down to a purely commercial proposition. The several distinct processes involved not mutually affecting the operation each of the other; each would operate in the same way whether associated or not. This condition of affairs seems plainly not to fulfill the established rules as to patentable combinations and constitutes only an aggregation, and this would seem to follow whether the individual processes were new with applicant or old. If, however, as happens in some cases, they do affect each other so as to produce a new result, then they are, of course, patentable as a new process.

Mond *vs.* Duell, decided by Court of Appeals, D. C., 1900, C. D., 298, announces the simple rule that asso-

ciation of two old processes does not constitute invention where no new result is produced.

This case involved the following claim:

> "The herein described improvement in the manufacture of zinc, which consists in lixiviating roasted zinc ores by a solution of caustic soda or potash, electrolyzing the solution of zinc oxide thus obtained with an anode of sodium or potassium amalgam, and causing deposit of zinc on a metallic cathode, as specified."

Both main parts of this alleged process were old; first, that of making a zinc solution by lixiviating roasted zinc ores with caustic soda or potash, and, second, that of electrolyzing the zinc solution in the same way. No new result would be expected from this mere association and apparently applicant could show none.

The rule that each claim should set forth all the steps necessary to make a process or subprocess, which is sufficiently complete to be operative to accomplish some useful purpose, is as important in processes as the analogous rule in machine cases requiring a complete combination or subcombination. As was said in the case of Oxnard & Baur, C. D., 1899, 170, decision by the Commissioner of Patents:

> "An applicant may properly in one case have claims covering the principal or essential steps of his process and other claims including those steps, together with other specific steps which are not absolutely necessary to the performance of the process, but which add to its efficiency or make its operation more perfect. The mere inclusion in one claim of a step not included in another claim does not, therefore, make those claims cover entirely different processes which can not properly be retained in one case."

The invention involved was a process of making sugar, and claim 2 included as an intermediate step in that process "agitating and reducing the temperature of this second masse-cuit," whereas claim 1 omitted that step.

The court held that this step was not so vital to the process that its inclusion or omission would materially affect the principle or operation thereof.

A similar rule was announced in the case of *In re* Creverling, C. D., 1905, 684.

The above remark does not refer to claims related as process and sub-process, but to an integral process not susceptible of division into any distinct sub-processes. It is well established that process and sub-process may stand together where the sub-process is complete for some useful purpose, and where it does not belong to a specific and recognized art of its own.

As to alternate species of process either as complete or sub-processes, there is no reason why the same rules do not apply as in machine cases in accordance with *Ex parte* Eagle, 1870, C. D., 137.

Another situation which often arises in process cases is where, after a series of steps, two or more products may result and two or more processes may be necessary to continue the treatment of these two products. It might be said that the process splits or branches out into a plurality of different lines; these different lines considered separately might or might not form recognized independent subjects of invention; if they do, of course they should be divided; if not, they may stand together.

A system of transacting business is not a subject of a patentable process, though made up of a series of transactions to be performed in sequence.

Hotel *vs.* Lorain, 160 Fed., 467.
Fowler *vs.* City of New York, 121 Fed., 747.

The law requires that an applicant state the necessary steps, whether or not he is able to state the scientific principles upon which the process depends. But it is always desirable, if possible, to discover and state the principle involved, provided it can be correctly determined, because if an alleged invention be made and the case be prepared on purely empirical methods of research the applicant may omit to describe an essential point or step which makes the process operative but which in the course of arbitrary performance of the process had been done unintentionally or merely incidentally to some other

step which was thought important, but which was not. This would not happen if the theory of the process were thoroughly understood; and in that case also claims can be framed in the most direct and broadest terms to protect the important points of the process. This relates to chemical processes principally, since the principles underlying purely mechanical processes are usually obvious from mere description of the process. Wherever principles are set forth as the foundation of a process, the examiner should carefully verify them by comparison with published statements of reliable authorities, if available, and if not available, or if they vary therefrom, then by affidavits stating facts found to be true by tests performed by reliable experts in that line.

The weight put upon the theory or principles on which a process depends is illustrated by the case of Steward *et al. vs.* American Lava Co. *et al.*, C. D., 1909, 557, in which the United States Supreme Court concluded in regard to the patent to Dolan, 589,342, Aug. 31, 1897, Acetylene-Gas Burner, that—where an application as originally filed did not differentiate from the prior art either in construction or theory of operation and an amendment thereto was filed, without verification by the inventor, introducing a new theory of operation and containing process claims covering such theory, such claims are invalid as covering new matter.

The particular amount of detail in the directions for carrying out the steps depends upon the nature of the process; if it is obvious from a mere mention of the general steps necessary to the process how they might be carried out, this is sufficient; if not obvious to one skilled in the art, then the inventor must give specific directions both as to details of steps and apparatus suitable for one way of performing the process. A very convenient kind of drawing to illustrate a chemical process is a diagrammatic one; that is, one in which the minute details of the apparatus are not shown, but in which mere outlines of the elements are used and legends are applied to the different elements to show the reactions or steps taking place in that part.

A patent for a process including steps for the per-

formance of which there is no known means, would be void even where the means could probably be devised, but where devising the means would necessitate invention.

Downtown *vs.* Yeager Milling Co., 17 O. G., 906.

Where a patent clearly shows and describes a machine use of which necessarily involves the performance of the process, it constitutes a bar to the grant of a patent on that process.

New Process Fermentation Co. *vs.* Koch, 28 O. G., 535.

January 21, 1915.