The United States.

To all to whom these Presents shall come—Greeting.

Whereas Francis Bailey of the City of Philadelphia in the State of Pennsylvania, Printer, hath invented certain Methods not before known or used, for forming Punches, by which to impress on the - - - - Matrices of printing Types, whether such Types be for Letters or Devices, as well as to impress on any Metal or other Substance capable of receiving and retaining Impressions various Marks which are difficult to be counterfeited, and the said Invention appears to be useful and important: These are therefore in pursuance of the Act, entituled "An Act to promote the progress of useful Arts", to grant to the said Francis Bailey, his Heirs, Administrators and Assigns, for the Term of fourteen Years, the sole and exclusive Right and Liberty of using and vending to others the said Improvement, according to the true Intent and - - Meaning of the Act aforesaid.—

In Testimony whereof I have caused these Letters to be made patent, and the Seal of the United States to be hereunto affixed. Given under my Hand at the City of Philadelphia this Twenty ninth Day of January in the Year of our Lord one thousand seven hundred and Ninety one and of the Independence of the United States of America the Fifteenth.

City of Philadelphia January 29th 1791.—

I do hereby certify that the foregoing Letters patent were delivered to me in pursuance of the Act, entituled "An Act to promote the progress of useful Arts", that I have examined the same, and find them conformable to the said Act ——— Edm. Randolph
Attorney general
of the
United States

Go. Washington

By the President

Th. Jefferson

Type Patent.—

Delivered to the within named Francis Bailey this thirty first of January 1791.—

Th. Jefferson

FOURTH UNITED STATES PATENT ISSUED 1791
(Signed by George Washington and Thomas Jefferson)

PATENT ESSENTIALS

FOR THE

Executive, Engineer, Lawyer and Inventor

A RUDIMENTARY AND PRACTICAL TREATISE ON THE NATURE OF PATENTS, THE MECHANISM OF THEIR PROCUREMENT, SCIENTIFIC DRAFTING OF PATENT CLAIMS, CONDUCT OF CASES AND SPECIAL PROCEEDINGS, INCLUDING FORMS.

By

JOHN F. ROBB, LL.B., LL.M., M.P.L.

Of the Cleveland and District of Columbia Bars,

WITH

PAPERS BY G. P. TUCKER, L. W. MAXSON, E. C. REYNOLDS, L. A. SADLER, AND EDWARD COLLINS, PATENT EXAMINERS.



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F. W. FITZPATRICK, Esq.,
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INTRODUCTION

SOME twenty-two years spent in the practise of patent law, and certain experience as an inventor, have led me to realize the need of a handy volume tersely covering essentials of the law and practise before the United States Patent Office, including the mechanism of patent procurement, important information regarding infringement, validity and valuation matters, and the treatment of contracts affecting patents.

My personal dealings with business executives, managers of industry, engineers, inventors, and general practising lawyers, have disclosed their requirements along the above lines, and my aim has been to fulfil the same by presenting the subjects in a simple manner readily understandable to the layman.

The scope and usefulness of patents for the protection of the products of industry and commerce are being recognized more fully every day, but the general works upon the abstract law, tho by authors of preeminence, do not meet the real need.

This work is intentionally rudimentary and practical. It contains little or nothing not known to the expert practitioner, and yet many things helpful for him to have at his elbow. In some phases, on the above account, the work has text-book analogy to the advantage of lawyers of general practise, engineers, inexperienced patent attorneys and examiners, and inventors, thereby enabling the quick acquirement of a working knowledge about patents, and things appertaining thereto.

The treatment of the science of drafting patent claims, as to which I have specialized for many years, and the complete illustrative cases, are features wholly new in any

book upon the subject, so far as I am aware, not to mention other matters generally covered in a non-technical manner for the purpose stated.

The cases used are actual ones selected out of many hundreds that I have supervised in my practise. The forms are complete rather than of the skeleton type so often of little assistance. I acknowledge, especially, the helpfulness of the papers of Patent Examiners Tucker, Maxson, Sadler, Reynolds, and Collins. These papers have particularly fitted the objects of this book. Also, I express my obligations and appreciation to Joseph Robinson, Esq., of Montreal; E. H. Lichtenberg, Esq., of Milwaukee; L. Roy Zapf, Esq., of Indianapolis; and my brother H. C. Robb, of Washington, for their kind consideration of my manuscript, and encouragement to complete it.

As a little light out of the heart of a busy experience this book is subscribed in the hope of adding new dignity to work in a very useful profession.

JOHN F. ROBB.

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I

GENERAL MATTERS AND PROCEDURE

Patent Office: Purpose and Personnel.—Patent Office: Jurisdiction and Procedure.—Progress of an Invention through Patent Office (From Application to Patent).—Brief Definitions of Patent Terms.

Patent Office: Purpose and Personnel

In Article I, Section 8, of the United States Constitution, Congress is given power to promote the progress of science and useful arts, by securing for limited times to authors and inventors, the exclusive rights to their respective writings and discoveries.

To carry into effect the foregoing provision of the Constitution is the function of that department of our government known as the United States Patent Office. Practically during the entire period of modern times the Patent Office has been organized on such a basis of high efficiency that it has occupied a unique place amongst the various government departments. It is the only bureau which has been self-sustaining, and more than this, it is the only government office which has realized a surplus from its operation, turning into the United States Treasury annually large amounts over and above the expense of such operation.

As it stands to-day the personnel of the Patent Office includes the Commissioner of Patents, who is the administrative and judicial head of the Office. Upon him depends largely the efficiency of the Office as may result from his executive ability, and the legal condition of the Office as may be determined by his judicial capacity.

A First Assistant Commissioner of Patents, and an Assistant Commissioner of Patents, are the next officials of the Office under the Commissioner, acting in his stead when he is absent and ranking in the order named. Both of the Assistant Commissioners give attention largely to judicial matters, tho they have authority and do cooperate in respect to administrative work. Appeals and petitions are heard and decided by the Commissioner and his Assistant Commissioners in the regular course of the official business.

There is a Chief Clerk for the Office, who has general jurisdiction over the administrative operation of the official work. This official is often promoted from the examining corps tho, generally considered, his work is entirely separate and independent of that of the Examiners.

A lower appellate tribunal composed of certain especially qualified Chief Examiners, known as the Board of Examiners-in-Chief is also provided. Appeals are taken from the Primary and Interference Examiners to this Board which is composed of five examiners all of whom do not sit, however, at one time. From this board of Examiners-in-Chief appeals are taken to the Commissioner of Patents and heard by him personally, or by his Assistant Commissioners. Appeals may then be taken to the Court of Appeals of the District of Columbia from adverse decisions of the Commissioner or his Assistant Commissioners.

At present five Law Examiners give special time and attention to legal questions and work of the Office. For instance, one of them directs actions of the Primary Examiners in respect to "divisional" requirements, besides doing other work. Another of the law examiners attends to the argument of appeals taken from the Commissioner of Patents to the Court of Appeals of the District of Columbia; also this Examiner represents the Commissioner in suits in the Federal Courts brought under Section 4915 of the Revised Statutes, to compel the Commissioner of Patents to issue patents.

Still another law examiner has charge of hearings of motions to dissolve in interference cases. Formerly these motions were heard by the Primary Examiners who instituted the interferences. The new practise is well considered since it brings to bear upon the questions in the interference a fresh and unbiased mind capable of deciding such questions free of all previous commitment of opinion. No doubt there is mentioned above just a small portion of the work of the law examiners, others of whom have charge of supervision of literature of patent solicitors, writing of opinions, etc.

The Office has two Examiners of Interference, one having charge of patent interferences, the other trade-mark interferences and oppositions. These examiners render decisions upon interlocutory motions and final hearings.

There is an Examiner of Trade-Marks and Designs who has supervision of the examinations as to the registrability of trade-marks and the patentability of designs, and decides motions to dissolve in trade-mark interferences; also a Classification Examiner in charge of patent classification.

Approximately forty-eight Primary examiners, who supervise the examinations as to novelty of inventions, are in regular service in the Office. Each of these examiners has under him from six to eight assistant examiners of first, second, third, and fourth grades. These examiners, numbering in all approximately four hundred fifty, are especially qualified technical men to whom are entrusted the determination of the allowability of the patents, the institution of interferences between patent applications, and between applications and patents; their work is largely local and mechanical in so far as decisions as to patentability, novelty, and invention are concerned.

Patent practise, both from the examining and soliciting viewpoint demands the commingling, rather oddly perhaps, of thorough mechanical and legal knowledge, and preferably an understanding of chemistry and electricity.

The general clerical force of the Office is comprised of a financial clerk who handles the moneys; a librarian in charge of the scientific library, which is a highly complete and valuable asset of the Office; approximately eight chiefs of clerical divisions, with assistants for them; certain translators; and a large number of clerks, draftsmen, copyists, messengers, laborers, etc.

Patent Office: Jurisdiction and Procedure

Under the supervision of the Patent Office comes the granting of patents for inventions consisting of mechanical devices, articles of manufacture, processes, compounds or compositions (usually chemical), and designs.

Additionally, the Patent Office has jurisdiction over the registration of trade-marks under the laws known as the Trade-Mark Act of 1905, and the Trade-Mark Act of 1920; also the registration of copyrights for prints and labels. Why the jurisdiction of the Patent Office over a special class of copyrights exists is not apparent. It would seem as if all copyrights should be within the jurisdiction of the Register of Copyrights at the Library of Congress.

The Patent Office procedure aside from the clerical work involved in the financial, filing, assignment for examination, and similar business of the department, has to do primarily with the examination system which may be characterized as an original American institution. In other words, the United States was the first country making provision for examinations of prior art to determine patentable novelty, this being the basis upon which grants of patents are now made.

A general idea of the operation of the examining system in the Patent Office will be had by detailing just how an application for patent progresses from the filing thereof to the issue or refusal to grant the patent, as the case may be. It is worthy of especial note, however, that the efficiency of every

patent system depends primarily upon efficient examination of the prior art to determine the scope of novelty. A patent office handicapped in making thorough examinations as to novelty may in time prove a liability rather than an asset.

Progress of an Invention Through Patent Office

(From Application to Patent)

An application in complete and proper form, when filed at the Patent Office with the first fee of $20.00 payable to the Commissioner of Patents, is first received by the Mail Division, if arriving by mail, or by the Financial Division if filed by person. Thereafter, the financial details having been complied with, the case is transferred to the Application Division where it is entered in the books of filings, and assigned a serial number and filing date. A certificate of filing is made up and forwarded to the applicant, or to his attorney of record if there be an empowered attorney.

The date of filing and serial number are important record data, for upon them may depend the priority and validity of a patent.

Perpetual motion inventions may be detained in this division by special practise outlined under subject entitled "Complete Application—Parts."

The Application Division, after completion of some other details of work of no special interest, assigns the case to the proper Examining Division of the Office; and the papers including the drawings are transferred thereto.

There are some fifty Examining Divisions in the Patent Office. Each division comprises a primary or principal examiner of long experience, and some six to eight assistant examiners of grades known as first, second, third, and fourth, ranging in experience from the first down to the fourth, at which last grade examiners enter the Patent Office.

Patent examiners are men (or occasionally women) of special qualifications for the work. Often they are not only

possessed of unusual technical qualifications, but many have a complete legal education, and certain legal experience. The assistant examiners act under the supervision of their chief, the primary examiner, who has exclusive charge of the work of his division, subject to supervision by the commissioner in person.

As examples, the primary examiners in charge of Divisions 1 and 4 of the Patent Office have the following classes of inventions under their jurisdiction for purposes of examination as to allowability of the applications, and therefore the grant of patents.

DIVISION I Class No.	CLASSES Name
268	Closure Operators
256	Fences
39	Gates
55	Harrows and Diggers
97	Plows
269	Railway Gates
111	Seeders and Planters
47	Trees, Plants, etc.

DIVISION IV Class No.	CLASSES
14	Bridges
193	Conveyers
212	Cranes and Derricks
37	Excavating
57	Hoisting
61	Hydraulic Engineering
214	Loading and Unloading
189	Metallic Building Structures.

When any question arises as to whether an invention should be assigned to a certain class and examiner, the ultimate decision lies with the Examiner of Classification.

With the application duly assigned to the proper division, and ready for examination after being entered upon the books of that division, there are followed the provisions of Rule 63 which reads as follows:

> 63. Applications filed in the Patent Office are classified according to the various arts, and are taken up for examination in regular order of filing, those in the same class of invention being examined and disposed of, so far as practicable, in the order in which the respective applications have been completed.
>
> Applications which have been put into condition for further action by the examiner shall be entitled to precedence over new applications in the same class of invention.
>
> The following cases have preference over all other cases at every period of their examination in the order enumerated:
>
> (a) Applications wherein the inventions are deemed of peculiar importance to some branch of the public service, and when for that reason the head of some department of the Government requests immediate action and the Commissioner so orders; but in this case it shall be the duty of the head of that department to be represented before the Commissioner in order to prevent the improper issue of a patent.
>
> (b) Applications for reissues.
>
> (c) Cases remanded by an appellate tribunal for further action, and statements of grounds of decisions provided for in Rules 135 and 142.
>
> (d) Applications which appear to interfere with other applications previously considered and found to

be allowable, or which it is demanded shall be placed in interference with an unexpired patent or patents.

(e) Applications which have been renewed or revived, but the subject matter not changed.

(f) Applications filed more than twelve months after the filing of an application for the same invention in a foreign country.

Applications will not be advanced for examination excepting upon order of the Commissioner either to expedite the business of the office or upon a verified showing that delay will probably cause the applicant serious and irreparable injury.

Since the procedures of the examination and prosecution are elsewhere separately treated in detail, for the purposes of this chapter they will be passed. It suffices to state that the applicant is entitled to a thorough examination of his case on the merits, if formal, unless he has included and claimed more than one invention. Necessarily, the Patent Office can not be expected to examine claims for several independent inventions embodied in a single application, so that a divisional requirement will be made in such instances. See the subject of Division and note pages 334-363 containing a typical example of the manner in which it is the duty of the applicant and the examiner to act in the course of prosecution of a patent application. The examination usually results in one or more rejections of the application upon reference to prior art patents, or publications, on the ground of lack of patentable invention, or because the claims are not proper combinations or involve aggregations, etc., all requiring laborious effort on the part of the solicitor to overcome.

After the application has passed the examination stage, by which is meant that it has been found formal in all respects, its claims allowable, and no interference necessary, it is trans-

ferred to the issue division where a certificate of allowance is drawn up and issued to the attorney of record, or to the applicant if there is no such attorney. At this stage the case is known as an allowed application.

Upon allowance, an application may no longer be amended except under special conditions indicated in Rules 78, 165, and 166.

> 78. Amendments after the notice of allowance of an application will not be permitted as a matter of right, but may be made, if the specification has not been printed, on the recommendation of the primary examiner, approved by the Commissioner, without withdrawing the case from issue.

Under this rule it is common for the primary examiner to approve amendments to correct obvious informalities and typographical errors; in fact the examiner will usually approve any amendment to cure overlooked informalities. Amendments requiring reexamination of the case as to merits will not usually be allowed at this time. Forfeiture and renewal of the application is the usual method of obtaining such a reexamination.

Under the statutes, an applicant is allowed six months from the date of allowance of his application in which to pay the final government fee of $20.00 required for the sealing and issue of the patent grant. There are no days of grace granted, and the practise is so stringent that a fee arriving a few hours late is not receivable.

A case is known as forfeited if the final fee is not paid within the specified time, and if the last day is Sunday the time expires upon the Saturday just preceding. Forfeited cases may be renewed (see subject of Renewals).

If the final fee is paid in proper time, the Letters Patent will issue upon a day certain, namely, upon the fourth Tues-

day after the first Thursday of or following the day of payment at the Patent Office.

When issued the Letters Patent will be sent to the attorney of record unless the latter directs otherwise. *An attorney has a lien upon the documentary patent in lieu of his fees.* The patent as issued takes the form of a grant of which the insert on page 12 is a facsimile:

Annexed to this grant when issued is a complete printed copy of the specification, including the claims and drawings of the invention. It is to be observed that the grant runs in this language: "Now therefore these Letters Patent are to grant unto the said....., his heirs or assigns, for the term of seventeen years from the.....day of ....., 19...., the exclusive right to make, use, and vend the said invention, etc." As developed in later discussion, the invention can not be made, used, or vended without infringement if there is an unexpired valid patent broadly covering such invention. The grant must therefore be accepted subject to such condition.

After the issue of the Letters Patent the same are susceptible of correction, in the event of mistake incurred through the fault of the Patent Office. For this purpose under the terms of Rule 170 a certificate of correction may be endorsed upon the original Letters Patent, and thereafter the copies printed for the purposes of purchase by the public have a printed copy of the certificate annexed thereto. The certificate is issued primarily in those cases where instructed amendments in the specification or claims have not been made, through inadvertence or mistake of the Patent Office (see Form of Petition for a Certificate of Correction).

The highest degree of care dictates that patents when issued be compared with the solicitor's duplicate of the specification and claims to catch possible errors in the document as finally granted.

A patent once granted is subject to entire reissue on ac-

1357423

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Whereas

[illegible]

of

[illegible]

has presented to the **Commissioner of Patents** a petition praying for the grant of Letters Patent for a certain new and useful improvement in

[illegible]

a description of which invention is contained in the specification of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided, and

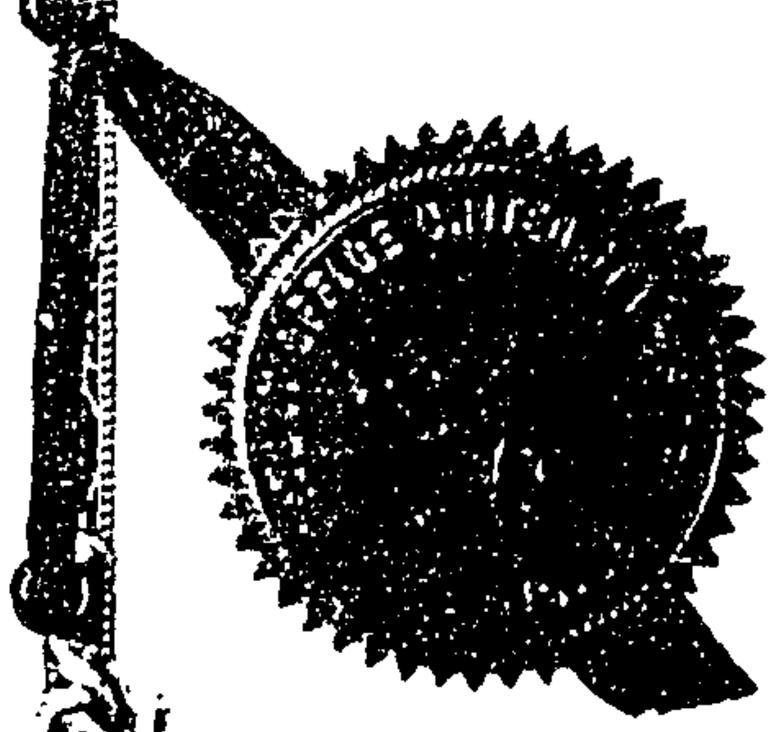
Whereas upon due examination made the said [illegible] is adjudged to be justly entitled to a patent under the law

Now therefore these **Letters Patent** are to grant unto the said

[illegible]

for the term of SEVENTEEN years from the second day of November, one thousand nine hundred and twenty-three,

the exclusive right to make, use and vend the said invention throughout the United States and the Territories thereof.



In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington this second day of November, in the year of our Lord one thousand nine hundred and twenty-three, and of the Independence of the United States the one hundred and forty-eighth.

[illegible]

Commissioner of Patents.

FACSIMILE OF GRANT OF UNITED STATES LETTERS PATENT

count of the invalidity or inoperativeness of the original patent, due to a defective or insufficient specification, inadequate claims, or because of the patentee claiming as his invention that which he had no right to claim as new. It is absolutely elemental to the validity of reissues, however, that the defect in the original patent shall have been due to inadvertence, accident, or mistake, without fraudulent intention or deception. The law of reissues is well established and a typical reissue application will be found herein (see chapter on Reissues).

Brief Definitions of Patent Terms.

INVENTION:

An invention in the contemplation of patent law is a new and useful device, machine, art. article of manufacture, process, composition, or design, evolved as the result of the exercise of the inventive faculty.

PATENTABLE INVENTION:

When an invention is such as to meet the requirements of the law, as to novelty, utility, etc., it may be considered patentable, or in other words, an invention for which a patent may be obtained.

PATENTABILITY:

That quality or condition of an invention by which it is rendered of a patentable nature.

PATENTABLE NOVELTY:

The *newness* of an invention which meets the requirement of the statute warranting the grant of a patent, combined with the prerequisite that it is a result of the exercise of the inventive faculties.

PATENT OR LETTERS PATENT:

The grant or letters defined by one author as representing "the indicia of a governmental effort to reward the inventor for the disclosure of his invention by

giving him, for a fixed period, the right to exclude others from its practise." The documentary letters are issued under seal and suitably engrossed.

MECHANICAL SKILL OR INGENUITY:

That capability resulting from practise in the mechanical or other arts enabling a person to do things, generally previously performed and known, or to extend the application of such previous knowledge in a manner such as would occur to anyone correspondingly informed.

REJECTION:

This is the name of the written action made by the Patent Office on a patent application, when for some reason, or other, on account of form or on merits, a patent is for the time being refused. When the rejection is final recourse may be had only by appeal.

AMENDMENT:

The name of the paper writing filed in response to an action or rejection of an application by the Patent Office, when such writing makes any alteration in the application as originally filed. The amendment is usually accompanied by an argument or explanation of its purpose.

INTERFERENCE:

An interference is a special proceeding instituted by the Patent Commissioner to enable a proper decision upon the question of priority of inventorship, where two or more inventors are claiming an allowable patent upon the same invention, or where one inventor has a patent, and another or others claim the invention of said patent.

INFRINGEMENT:

The making, selling, and using, or doing of any one of these things, in regard to an invention covered by the claims of a valid patent.

VALIDITY:

That quality or condition of a patent which renders it enforceable against infringers to prevent loss of any or all of the benefits intended to be conveyed by the grant.

ASSIGNMENT:

The deed by which a part or whole interest in a patent, or invention, resting in application is transferred for a valuable consideration.

TERRITORIAL ASSIGNMENT:

A deed conveying the rights to an invention for a specified territory, such as a state, county, city, etc.

LICENSE:

A right springing up by implication; or granted constructively or expressly, to make or sell or use an invention of a patent.

SHOP RIGHT:

The right to use an invention, which is automatically created on behalf of the owner of a shop, when the invention is developed in such shop by an employee who uses the time and equipment of the shop. The right is non-assignable and applies alone to inventions pertaining to the employer's business.

PRIOR ART:

Patents, inventions, publications, or the like, known or used before an application for patent, are considered as showing a state of the prior art, or as prior art.

REFERENCES:

Those things in the way of patents, publications, public use, demonstrations, etc., which are citations relied upon by the Patent Office in making actions upon patent applications.

II

UTILITY, INFRINGEMENT, VALIDITY AND INVESTIGATIONS

Utility of Invention.—Patent Infringement.—Validity of Patents.—Infringement and Validity Investigations in General.—Infringement Investigations.—Validity Investigations.—Other Investigations.

Utility of Invention.

The enabling statute controlling the issue of patents for inventions requires that an invention shall be useful as well as novel. The nature of the utility as contemplated by the statute is not infrequently misunderstood.

In soliciting patents, rejections are sometimes met with based on the ground that the alleged improvements claimed by an applicant are not improvements at all, but are a step backward in the art for the reason that others have made better improvements already. A rejection of this sort is based upon a misconception of the spirit of the statute.

Utility as necessary to patentability means, essentially, usefulness of purpose. So long as the object of the invention is worth while, and the purpose not such as would make the grant of the patent against public policy, the patent should issue, if this phase controls the situation.

The clearest explanation of the proper practise is contained in the case of ex parte Cheeseborough, decided May 11, 1869, from which this extract is taken:

> The various modes of treating this application in the different tribunals through which it has passed have involved the subject in unnecessary obscurity. The real issues are few and simple.

The applicant claims to have invented a new and useful mode of preventing canals from freezing. The purpose to be accomplished is certainly new, and the means by which it is to be accomplished are somewhat startling.

They consist briefly in placing steam boilers at stated intervals, and connecting them with iron pipes through which superheated steam is passed, at the bottom of the canal under the water, which is, by this means, to be raised to a temperature above the freezing point. This bold attempt to reverse or arrest the ordinary processes of nature, by providing a summer river in the midst of winter, would, I think, be pronounced by most persons a great novelty, an original as well as striking conception. Yet the examiner finds no difficulty in anticipating it by bathtubs, wash-boilers, and the like, which have been heretofore heated by iron pipes, and by race-ways where hot water has been poured upon the ice to thaw it. The applicant having, like Columbus, put the egg on end there is now no difficulty in suggesting other means, and accordingly he is informed that others might build fires by the side of the canal or put furnaces under it, or in short, heat it in other ways. It is some tribute to the utility of the plan proposed by applicant that none of the means suggested will compare in practicability with that described in his patent.

I have still less difficulty with the second question. Utility, in the eye of the patent law, refers rather to a utility of purpose than a utility of means. If the end which the inventor proposes to accomplish be useless, mischievous, frivolous, or immoral, he can obtain no patent altho the means which he proposes may be ingenious, and for his purpose, of great utility. A burglar's tool may be admirably adapted to break open doors and shutters, and for that purpose, eminently useful, and yet a patent would unquestionably be denied. On the other hand, if the purpose be a good

or useful one, the utility of the means need not be carefully scanned. If the means are inferior to the old way, of doing the same thing, or inferior to other new ways, the invention sinks into obscurity, and is soon forgotten. The best test of utility is use; and in the busy competition of trade this test is soon applied, and the judgment of the inventor is affirmed or reversed by an inexorable tribunal."

When an invention actually is behind the times, as regards improvement in that which has gone before, the theory is that the law contemplates that it may be patented, opportunity for any good resulting not being suppressed. If nothing of profit to the public is effected through the patent, no harm is done and the inventor alone stands the loss.

When the question of possible good or bad to be derived from such patents is considered, the view may be taken that good is more likely to spring from the grant. At least the repetition of the error of judgment in making the invention, and capitalizing it, may be avoided if the inventor's effort becomes of record in a published patent.

Patent Infringement

This is to be a practical discussion, not a technical one, of the subject of patent infringement. A rudimentary knowledge of infringement is desirable for the inventor, and the manufacturer or promoter of patented inventions.

This subject has to do with established patent monopolies, and, as simply expressed as can be, infringement consists in making, using, and selling, or doing any one of these things, respecting the invention covered by the *claims* of a patent. When this definition is understood it becomes evident that unless the claims of a patent are protective of its essential novelty, the patent will fail to sustain the monopoly which was intended to be created by its grant. The patent may be fatally defective owing to the claiming of more than the

patentee had the right to claim, or on account of claiming of less than he was entitled to (see subject of Validity).

The claim or claims constitute the full measure of the protection afforded by the patent, as is later presented in the treatment of the subject of claims proper.

> The claim in a patent is the measure of the invention, and, while the specification may be referred to for the purpose of explaining any ambiguity in the claim, it can not be referred to for the purpose of expanding or changing the claim. National Enameling & Stamping Co. et al. *vs.* New England Enameling Co., 151 F. 19.
>
> Courts will be liberal in so construing a claim as to secure to the patentee his real invention, but in doing so, they can not disregard the form and language in which the inventor has chosen to make his claim. To give him more than he actually claims, would import infinite confusion into the administration of the patent law, as well as contravene the statute itself. Empire Cream Separator Co. *vs.* Electric Candy Mach. Co., 166 F. 764. 766.

Viewed from the standpoint and in the words of a layman, the question frequently arises whether an invention of a patent may infringe upon that of another patent. Strictly, this must be answered in the negative, if we are speaking of the mere existence of one patent as against another. But, dealing with practical conditions, it is often not understood how it is possible for a man to get a patent for his invention granting him the right to make, sell, or use the invention, and find himself confronted with an infringement of another patent. The view seems to be general that a patent once secured gives an exclusive right to the patentee or owner to make, sell, or use the invention thereof. A reading of the grant of the United States letters patent, (facing p. 10) will confirm this belief and involves in the view of the author possibilities of

deception. Rather should the grant of a patent read that the right is vested in the patentee or owner to *prevent others from making, using, or selling* the patented invention as claimed. By excluding others a monopoly is assured the patentee for his particular invention, but, nevertheless, his right may be subject or subordinate to the patent rights of another, or others (see Swindell *vs.* Youngstown Co., 230 Fed. 438).

In explanation, the situation at times arises where a patent is granted for improvements in an invention which is the subject matter of another and earlier patent, or earlier invention. In this circumstance, assuming that the earlier patent contains the broader claims to the main or original invention, the latter invention is dominated thereby. Thus, the patentee of the improvements is not entitled to make, use, or sell his invention, without the consent of the earlier patentee, or owner of such patent, so long as the dominating patent is alive. When the dominating patent expires, the patent for the later invention really becomes a workable monopoly freed of control by the patent for the earlier invention. This controlling patent may be either earlier or later in date so long as the invention is the earlier of the two conflicting.

Thus it is that a patent for a valuable improvement may occasionally be valueless for a period of time, affording no real protection so far as a commercially workable invention is concerned. Experience shows, however, that not infrequently a dominating patent covers an impractical invention, and a dominated patent (as for an improvement) covers the things needed to make the earlier invention useful to the public. When this is the case, the *dominated* patent may be that of greater importance and value. To bring the inventions of two such patents to the market, under the last stated conditions, requires mutual licensing; otherwise, it is not in the power of either party to operate successfully with his invention.

Because there merely exists a preceding patent for a very

similar invention is no reason to maintain that an infringement exists. It is of the essence of infringement that the substance of the claims shall be the basis upon which to decide infringement, and physical acts of making, or selling, or using must absolutely be present; mere similarity of inventions does not create infringement.

As illustrative of the different views which are taken by the Courts and the Patent Office in the practical operation of the Patent Laws, a special phase of the interpretation of patent infringements by the courts is worthy of discussion. The broad assertion may be made that the Patent Office in the granting of a patent does not in any way take cognizance of the question of infringement of any prior patent. In other words, the function of the examination of the Patent Office may be stated to comprise the determination of whether the application for patent is in proper form, and whether the invention of the application possesses patentable novelty sufficient to warrant the grant of a monopoly therefor. If there exist prior patents in an art in which is classified the invention of the application, and these prior patents would be infringed if the applicant made, used, or sold his invention, the condition is entirely ignored by the Patent Office, and properly so, in view of the statutory rights of an inventor to protect his novel invention.

Now let us consider this situation as it is regarded in the courts. It is quite common practise for a Federal Court of Equity, in determining whether a patent is infringed by an alleged infringer, to decide the question of infringement on the basis that *no infringement exists if the infringer has been granted a patent by the Patent Office subsequent to the alleged infringed patent.* In other words, to a certain extent it would seem the view of the courts that the grant of a patent upon an improved construction in a certain art is indicative of a certain condition of the invention of such patent establishing non-infringement, notwithstanding that there may be prior to the

patent another patent which contains claims clearly reading upon the second patented construction. This should be true but it does not work out in practise!

In the case of Imperial *vs.* Crown, 139 F. 312 (4th Cir., 1905) the Court ruled:

> Where defendant is manufacturing in accordance with a patent the presumption is that he does not infringe an earlier patent. The grant of the later patent must be considered as expert evidence, of high and impartial character, of non-identity, and raises a fair presumption of patentable difference in its favor, which requires strong evidence to overcome.

The foregoing illustrates what may be characterized as the use of a non-controlling factor in the determination of a special question. In other words, the fact that there exists a patentable difference between the construction of a later patent and that of an earlier patent, under what must be considered a general fair interpretation of the law, ordinarily affects in no material way a situation of infringement. It is the common experience of most practitioners, to take out a patent from time to time for an invention of considerable novelty, not necessarily basic novelty at that, and owing to the commercial importance and exploitation of the machines of such patent, competitors of the patentee will promptly apply for and procure improvement patents on the construction. This represents no great inventive effort, of course. To hold that because such later patentees obtain protection for improvements on the original patentee's construction, they thus obtain immunity from attack for infringement, is to rule that a man may take advantage of his own wrong. In other words the improver in this way might well and easily protect his piracy.

Therefore, it is believed that too much importance has been attached, in infringement causes, to the fact of the grant of a later patent or patents for the improved subject matter of

an earlier patent covering an alleged infringed construction. Another case in point may be cited:

> Upon suit for infringement and where the defendant is operating under a later patent, the fact that the file-wrapper of the later patent shows that the application when filed was considered in connection with the patent in suit, certain claims were rejected thereon, and the patent was finally issued upon a palpably narrow claim, *amounts to an unusually strong presumption that there* is substantial difference between the patent in suit and that of the defendant, and *prima facie* the grant of the later patent negatives infringement. New Jersey Wire Cloth Co. *vs.* Buffalo Expanded Metal Co., et al., 131 F. 265 (N. Y.).

A thorough knowledge of Patent Office practise must lead only to the opposite conclusion that the conditions stated in the above quoted decision warrant the view that an improvement alone has been made by the later patentee, and not the presumption that the said improvement, which may be merely additive to the earlier patented invention, escapes the protection of the earlier patent. In fact the customary condition is that the improvement patent most frequently embodies nearly everything that the earlier patent contains, or merely slight modifications of the details of the earlier patented construction; otherwise the claim would not be so "palpably narrow," and the prior patent would not be used for rejection purposes.

The practise most favorable to the earlier patentee in the situation under discussion, is developed in the case of Ries *vs.* Barth, 136 F. 850 (7th Cir., 1905):

> Where neither a new result nor a new principle of operation in producing the result has been achieved, and the patentee has merely improved upon the old way of accomplishing the old result, the presumption is that his patent is not infringed by a later patent for an improvement upon the same old way of accomplishing the

old result. But where a complainant patentee has accomplished a new result by a new means, a defendant cannot escape the charge of infringement merely by showing a later patent. Whether the defendant has devised an independent method of arriving at the same result or has merely added supplementary devices or improved some details of the primary patent is to be determined from the proof.

The real point proposed herein is that the question of infringement can not be properly decided in the light of a decision on the ground of mere patentability or novelty, and adjudication of infringement should not be based upon an action of the Patent Office that in no way takes into consideration the question of infringement; if the later patented construction does not infringe, the condition arises from some other cause than the mere grant of a subsequent patent for the alleged infringing thing. The real basis for the judgment of non-infringement should be that the *later patented construction does not show the same invention* as covered by the claims of the earlier patent, something which must not be presumed, in fairness, from the mere fact of the grant.

It is also notable that infringement can not exist with respect to an invalid claim or claims of a patent. The claim or claims must be such as would withstand the test of being sustained in the courts.

Validity of Patents

A patent is *prima facie* evidence of its own validity, which is to say that the courts assume a patent not only to be valid when put up for adjudication, but the rule is to give effect to the patent in the absence of clear and convincing evidence showing the monopoly to have been improperly granted. A patent alone, therefore, possesses inherent strength; so much is this true, that a heavy burden is always upon him who attacks it.

It has often been the dream of students of patent systems to attain the ideal system wherein the patent, once granted, stands unimpeachable as covering the invention purporting to be disclosed thereby. So long as patents depend upon the human factor, as must always be the case, impeachment of their scope and validity will be resorted to.

Wonder may be properly expressed why patents for inventions should be classified by the public as of such a sacred nature that their validity should not be open to attack. Land patent grants, real estate deeds, and personal property transfers have always been susceptible of being set aside as invalid, so it may be somewhat strange that the status of invention patents should be so differently viewed by people. The reason doubtless is because an invention is so personal a thing; it is wholly wrapped up with the idea of individual thought and effort. And yet, to those who deal with inventions as a life work, it is known that a large proportion of patents are secured for improvement effort. Notwithstanding the foregoing, in respect to a majority of improvement inventions, the real work of the inventor has been the evolution of far more than what may be secured by the protection of the ultimate grant; in other words, the whole invention is often devised, tho an improvement alone may ultimately be covered by the patent.

How is a patent invalidated? There are certain statutory provisions upon which the grant is founded. Without attempting to detail all, an important one or two may be treated.

If an invention has been in public use in this country more than two years prior to an application for United States patent therefor, a valid patent can not issue upon such invention. An inventor may have originated the invention as developed by him, but if it was in use two years prior to his application for his patent he obviously was not the first to bring its benefits before the public and a valid patent to him is barred. But the Patent Office may be, and often is, not aware of the public

use that constitutes a bar to the grant. The inventor may thus secure his patent in good faith on the part of all concerned. A court to which such prior public use is shown on pressing the patent for infringement must declare the patent invalid.

In the course of practise it is known that frequently public use evidence is offered in the endeavor to invalidate patents, but the evidence when insufficient, as most often is the case, fails to accomplish the desired result. The courts require such evidence to be convincing beyond a reasonable doubt, and justifiably so.

Again, experience well shows that an invention duly patented may be the original thought of more persons than the patentee. A publication, such as a technical or other magazine, of a date twenty years previous to an application may contain fairly accurate description and drawings, or pictures, if not drawings, of the patented device. This is not at all uncommon. Under such conditions the patent would be invalid. As a rule no fraud, and usually no neglect, is involved in the grant, for it is requiring more than fallible human memory will permit, to hold that an examiner of patents should be charged with knowledge of all that has taken place in an art many times older than he, or a knowledge of even that which is contained in publications affecting that art, having dates of long previous periods. The publication of the invention more than two years previous to applying for the patent invalidates the grant.

The law of public use and publication patent bars is founded upon the idea that if an invention has been in the possession of the public two years, either by way of use or knowledge, it should never be made subject to monopoly, and the questions of whether the bars of public use or publication were the result of negligence, inadvertence. or incapacity of the inventor, are never entered into, nor that of whether the invention was originated earlier than the times said bars arose.

Two years is considered a long enough time for any one desiring a patent to arrange to apply for it.

And so there may be many bars to maintaining the validity of a patent, once secured, including prior use, prior inventorship, prior art which anticipates the invention (shows it to be lacking in novelty), etc.

Where the examination of an application in the Patent Office is faulty, invalid claims of too great breadth may have been secured and they are not sustainable. Often through carelessness or the incapacity of an attorney to recognize the merits and novelty of an invention, a patent fails to grant the deserved protection to the patentee.

Infringement and Validity Investigations in General

Investigations to determine questions of infringement and validity are usually compelled by reason of *fear,* tho experience indicates that they might well be resorted to with larger benefits if directed with the primary object of *safety.* In other words, patent counsel is very quickly sought to ascertain the possible outcome of a threatened suit for infringement, when by a little foresight, all possibility of such a suit might have been avoided, and with a negligible amount of expense in comparison.

Let us go into these matters a little more fully. Manufacturer *A* has excellent factory equipment for sheet metal work, adapted for producing gas stoves, and desires to take on a new line. Understanding that a type of such stove made by manufacturer *B* has met with much success, instructions are issued to the factory of *A* to produce a stove similar to *B's,* but with such improvements or changes (usually they are changes) as can be devised so that the two products are distinguishable. At much expense in designing, production of patterns, etc., *A's* new type of gas stove is marketed, and meets with ready acceptance by the public. After a year of

introduction effort *A* is confronted with a notice of infringement of several gas stove patents owned by *B*, a peremptory request to desist, and to make an accounting of his profits. *A* has just gotten to a point of commencement of profits, however. He is not so much concerned with accounting for profits not yet produced, as with the loss of the time incident to designing his stove, and the production expense and effort, only to be enjoined from further manufacture as a fair possibility. This is a proposition of long litigation, and very likely, an ultimate injunction, all the while under heavy expense always accompanying such litigation. Often *A* has gone so far that he has to go on, and the litigation ensues. The cost under these conditions is frequently fifteen to twenty times greater than that of a preliminary "safety" investigation that would have located the infringement, and steered *A* past such an obstacle. His probable course might have been to wholly sidestep the art of gas-stove manufacture, and engage in that of making sheet metal electric radiators, by the advice of counsel who ascertains that the patents for gas stoves are too broad to avoid or "break," while there is little or no patent conflict confronting a prospective manufacturer in the electric radiator field, and less competition.

The foregoing is a situation which commonly comes before experienced patent practitioners. Time and again manufacturers invest $15,000 to $20,000 in designing and bringing to market a machine, only to have to junk the product, or face the outlays of patent litigation with its doubtful final results. A fraction of the above expense would have enabled a safe course to be pursued after full investigation of the patented arts involved. Frequently, at the early stage of the investigation it is easy to arrange for licenses under patents in conflict, and thus insure absolutely, not only freedom from attack, but immediate protection of the prospective industry. After entering the market the licenses are difficult to negotiate upon fair terms, for obvious reasons.

With the above in mind concerning the usual and proper modes of entering upon new operations in old, or even new, industrial fields, the subject may beneficially be treated somewhat in detail, and viewed from the controlling phases of "safety."

For the most effective exploitation or promotion of inventions, and frequently in order to determine the status of machines, devices, and methods affecting an industry, as when the adoption of new appliances or apparatus is planned, infringement and validity investigations to-day are necessary.

The prime considerations to be weighed most heavily by those interested in the manufacture and marketing of a patented or unpatented invention, are twofold.

In the first place, the question is presented as to whether or not the patent rights obtained, or in process of procurement, will afford such a monopoly as will guarantee reasonable security to those making the investment necessary to introduce the invention to the public. To determine this matter, it is required that investigation be directed to making certain that the invention is possessed of patentable novelty already sufficiently protected, or susceptible of proper protection, to ensure a fair monopoly. Absolute or complete control of all inventions like that under consideration is not necessary to success, however. A fair degree of protection preventing a close simulation of the intended manufacture or process is the minimum desideratum, tho, of course, the better the protection the more safe the venture.

The issue of the patent does not constitute full assurance that its subject matter is new and patentable. Through inadvertence, or error, the patent may not be valid, as has been already pointed out herein. Prior art of an anticipating nature may also exist, and if so, must be located. A poorly contested case in the Patent Office, on account of inadequate examination often makes for great difficulty in the event of a contest in the courts. An easily secured patent is, there-

fore, liable to make less for safety, than otherwise, contrary to the average opinion.

Other statutory bars may affect the grant of the patent but will not be enumerated.

Hence it is essential that a *valid* patent right be available or obtainable as the first prerequisite.

Now it may be that a perfectly valid patent was issued or may be issued, and yet the promotion of the invention would be a hazardous undertaking.

This brings us to the second prime consideration, which is to ascertain whether the monopoly established as valid will be or is subject to another and controlling monopoly, such as that of a broad outstanding patent. If such is the state of affairs, infringement will take place on making, selling, or using the invention.

The existence of a live patent covering an invention the promotion of which is contemplated, and thus giving rise to possible infringement, is obviously a menace that warrants a decision not to introduce the invention to the public. Otherwise there is the hazard of an attack for an injunction, and accounting for profits and damages, a risk which reasonable men ordinarily do not wish to assume. The obstacle consisting of the patent which is liable to be infringed may sometimes be removed by acquirement outright, or license; if not, the venture should preferably be abandoned.

The primary objects of infringement and validity investigations are to advise upon the foregoing propositions, the settlement of title to the rights in prospect of acquisition or promotion being a part of the work.

Infringement Investigations

Infringement investigations may be divided into two classes. There are those which determine *prima facie* infringement, and those upon which conclusions as to *actual infringement* may be based.

To ascertain if a patent is infringed necessitates a study of the claims of the patent, to find out if such claims are broad enough to include the device or other invention which it is contemplated to promote. If, upon a careful perusal of the claims of a patent, interpreted in the light of its specification, a claim or claims are found to comprehend within their scope the invention proposed to be practised, the conclusion is that *prima facie* infringement exists. That is to say, *assuming the validity of the patent,* the newly proposed invention will infringe the granted monopoly as viewed upon its face.

But since a patent is never infringed if it is invalid, any final definite conclusion as to infringement must take into consideration the question of validity. Therefore, once a patent has been ascertained to be *prima facie* infringed, and it is determined that the patent is valid, then a case of actual infringement would exist, incident to making, selling, or using the invention forming the basis of the infringement investigation.

Infringement investigations are arduous proceedings, because they require exhaustive research into direct and related arts, an application of all of the principles of patent law to enable intelligent conclusions to be reached, and, additionally, they require tedious and studious examination of *each and every claim* of all the patents in the particular arts covered, which often run into thousands.

Infringement researches for determining *actual infringement* invariably involve the investigation of validity of patents infringed *prima facie.*

Validity Investigations

In ascertaining the validity of a patent the question of novelty of the invention is uppermost, for, if the claims of the patent are shown to be anticipated by the prior art, prior invention, etc., obviously they can not be sustained as valid if the patent is ever taken into the courts for adjudication.

As has been briefly outlined elsewhere herein, many different things affect the validity of patents. The field of search upon a validity investigation is often broader than that for the infringement research, depending largely upon the nature of the invention.

Investigations of the validity of patents are ordinarily, tho not necessarily, made in connection with those involving infringement of patents. While *actual* infringement of a patent can not be determined without regard to its validity, the validity of a patent may be determined entirely independently of any question of infringement, and may be inquired into by prospective investors, or others interested in one way or another in the particular patent rights.

Patents should never be taken into the courts for adjudication until a validity investigation shows that they may reasonably be expected to be sustained. Otherwise litigation may be created without likelihood of possible termination favorable to the patentee, or patent owner.

In the cases of complicated investigations of this character, it is not uncommon for the research work to require weeks and even months of time. Especially is this true when a strenuous effort is being made to break or invalidate a patent in an infringement suit. An exhaustive validity search requires the investigation of all pertinent foreign patents, both United States and foreign publications, every field of related prior patent art, and all possibly anticipatory prior public uses, information of which can be obtained.

Other Investigations

In the Patent Office, patents are classified in various arts by classes and subclasses. The classification is carried on as a part of the regular work and represents, of course, a tremendous amount of labor.

While certain arts have not been reclassified for many years, it is possible to obtain copies of whole classes of patents, or

special subclasses. Interesting investigations may be made in these classes and subclasses by way of showing to an inventor, manufacturer, or promoter, the art which appertains particularly to a certain invention. The extent of the investigation, when making a state of the art search, depends necessarily upon the nature of the invention, for obviously, the work is very extensive in classifications of complicated inventions, such as electric motors, adding-machines, sewing-machines, etc., as compared with more simple inventions, such as kitchen cabinets, article attaching devices, stationery, wooden receptacles, etc.

Another investigation, which is commonly known by the name of "preliminary search" or "examination" of the records, may be made prior to the filing of an application for patent, to determine primarily whether a patent can be secured. When this search is made by a competent person, it affords a general basis for an opinion as to the novelty of an invention, which basis may be fairly relied upon. As a general thing, copies of several of the most pertinent patents relating to the invention are secured and reported to the inventor, or interested party, when a report is made upon a preliminary search. The difficulty with preliminary searches, however, is that for the small stipend usually charged, it is impracticable to cover the particular art very fully. To make the search thorough would require often more time and involve more expense than is incident to filing a patent application itself. Thus it is that in relation to inventions of many types a preliminary search does not possess very great value so far as reliability of information based thereon is concerned.

III

PATENTS, VALUATION, DEPRECIATION, ETC.

Valuation

UNTIL recent years the factors of valuation, depreciation, and obsolescence of patents have been rather lightly considered by those having the largest interest in intangible property of this nature. That patents have a potential value is a fact too well known to require especial emphasis. One only has to recall that a comparatively few years ago certain interests controlled the basic patent rights to certain types of adding-machines, and, by reason of such control, the businesses of the particular owners were productive of larger profits incident to the monopolies of the patents than would have been true under conditions where competitors were able to operate in such numbers as are now in that special market. The same was true respecting manufacturers of graphophones, for nearly all of us can recall the approximate time when the field of competitive manufacture of this type of machines was *released for operation*, so to speak. It can not be gainsaid that the Victor Talking Machine Company would have the same profits to-day, in the absence of the perhaps fifty competitive manufacturers who have sprung up in recent years, as would be derived in the normal extension of their business with the monopoly of their broader or basic patent rights reserved.

Thus it is that to a certain business its monopoly under its patents may represent a valuation in excess of that of its actual factory and equipment for manufacture, just as is true in respect to the value of a trade-mark universally recognized

as the sign of origin of a commodity of a highly perfected nature.

Conceding, therefore, that in one business a patent valuation may be of exceeding importance, it is known that in respect to another business the corresponding valuation may be negligible.

The valuation of patents enters into a field of importance due to the fact that patents are frequently capitalized to a greater or less degree in the operation of industry. While blue sky laws have prevented much watered capitalizing of patents in later years, this has been due largely to arbitrary rulings upon the subject of valuation, rather than to any well-defined plan for fairly and intelligently computing patent values. Additionally, not only are the valuations of patent rights important for the determination of fair estimates of the value of capital assets, but for purposes of estimating properly the foundation upon which taxation of these values may be based. In the latter connection, perhaps to the greatest degree, have rules been laid down with authority, enabling intelligent surveys of the values of patent rights to be reached.

The Federal Income Tax Law became effective in 1913, and the Internal Revenue Bureau which administers said law has established certain rules for the valuation of intangibles, including patents and copyrights, and these rules comprise largely the legal authority upon the subjects of general valuation and depreciation of this class of property. It is incumbent, therefore, upon executives and managers of businesses, to see that patents for inventions, the cost of development of which represents a very large item of expense in many instances, or a large item of capital investment, are properly carried upon the books of the business, and due allowance made for depreciation, or other factors of accounting that enter into the investment or expenditure of capital for intangible property of this sort.

Record has been made of an instance where a certain cor-

poration valued its patents, trade-marks, and good will, at less than $500,000. This was but a nominal valuation, and to gain the benefits derived by those carrying intangibles at real valuations, a correct appraisal was made and found to aggregate a valuation of $7,000,000. It is clear that figuring properly the depreciation upon the latter valuation, a very material decrease in net income must be estimated. By this process a corresponding lowering in income tax payments upon the tax returns is shown,, thereby producing a worth while saving to the corporation, or owner. In another case patents were not valued at all by the owning company. When properly appraised, a valuation of $200,000 was found appropriate and gave rise to important and advantageous results in respect to capitalization and taxation estimates.

The effort herein will not be to discuss in detail the deep accounting questions affecting valuation, depreciation, and obsolescence, as they pertain to patents. The intent is primarily to draw attention to these things as of great importance to be considered in the operation of any business which is intelligently conducted.

Patents are materially affected by the income tax law because from patents flows a tremendous aggregate of income whiclr is subject to taxation.

Patents are the source of royalties. Royalties constitute income and are taxable.

A patent may be sued upon for the infringement thereof, and upon an accounting, a recovery of profits or damages running into large amounts, sometimes as much as hundreds of thousands of dollars, may be produced. Such a recovery, with proper deductions well known to the accountant, represents income and must be rendered upon and taxes paid thereon.

There are certain businesses devoted to the making of patented articles and the profits derived must be viewed as income.

Again, we have the matter of sale of patents by the inventors obtaining the same, and the sale of patent rights by other owners, including manufacturers. The funds derived are considered income. Of an analogous nature is the income accruing from the licensing of others to operate under patents, either exclusively, or otherwise. There may be produced in this manner returns to a manufacturer, an inventor, or patentee, in the way of sums as royalties referred to above, and cash amounts paid as full consideration for the operation under licenses.

Many concerns receive large sums annually from competitors under licensed patents, and it is notable that frequently in the grant of a license, a settlement in cash is made for past infringement, fully conceded, and future payments in royalties are stipulated. Here we have two different kinds of income to be rendered upon, and growing out of the same contract.

Reverting now more specifically to the matter of patent valuation, there are different methods which must be applied to different businesses. And possibly no method at this time will dispose of the subject fairly. In this connection, it is had in mind that a certain client paid the sum of $200.000 cash for some patent rights some eleven years ago. To-day these patent rights would probably not bring $25,000 or $50,000 if sold. The decrease in valuation is not due to depreciation alone, but arises from other factors which need not be discussed, but which enter into the matter. Nevertheless, under the rules of the income taxing tribunal of the Government, the valuation of these patents might be maintained far above their actual value, upon the books of the corporation, assuming that the cost of the patents and the development of the inventions covered thereby is to be the basic element controlling such valuation.

In another case, a series of patents covering an important invention were secured and the invention developed to a

high degree. For a period, the value of the invention was rendered practically nothing, owing to the existence of another patent infringed by the production of the invention. The first series of patents mentioned and the development work could be estimated with entire accuracy, and yet the valuation was practically destroyed by the existence of an outstanding infringed patent. In a case of this sort obsolescence might be established.

Frequently, a company operating a patent department handling its infringement and patent procurement work, must arrive at a determination of patent valuation by methods different from those applicable to an inventor, or corporation having patent counsel outside the direct administration of the business, and who really constitute its patent department.

So many factors of this sort enter into the situation of patent valuations, and must be borne in mind, that the knowledge and service of expert accountants, as well as the assistance of patent counsel, should be availed of in this connection for obtaining intelligently arrived at valuation appraisals.

Consulting the authorities of the Bureau of Internal Revenue, however, some excellent enlightenment may be given upon the value of a patent or copyright ascertainable from the standpoint of the United States Government officials. These officials are not interested in buying or selling the patent rights before them, but in setting as nearly as practicable a true valuation thereon for the purposes of taxation. Some of the rules which have been provided, therefore, and approved by the Commissioner of Internal Revenue, are of special interest, and certain of these are now quoted:

A. For patents, etc., acquired before March 1, 1913, the fair market value on that date may be determined and entered on the books for purposes of depreciation and to be used in lieu of the cost value for determining profit or loss in case the patent is subsequently sold.

B. For patents, etc., acquired after March 1, 1913,

the cost thereof shall be entered on the books for purposes of determining capital invested, annual depreciation charges, and profit or loss in case of subsequent sale of the patent. This rule is further divided into:

(1) For patents, etc., acquired from the Government, the cost thereof shall be the various Government fees, cost of drawings, experimental models, attorneys' fees, etc., actually paid.

(2) For patents, etc., purchased, the cost thereof shall be the purchase price actually paid; if the purchase price be in stocks, bonds, or like securities, the cost price is the fair market value of such stock or other securities at the time of the purchase.

In the cases where the consideration of purchase, or a part thereof, is represented by stocks, bonds, or other securities, certain of the factors to be considered follow, tho it is recognized that much difficulty must be experienced in arriving at a proper valuation when the consideration is of the nature just specified:

The value of shares of stock as of March 1, 1913 (or any other date), should be determined on the basis of market quotations as at that date, instead of book values. (A. R. R. 33. 9-20-764.)

The appraised value of stock, as at the time of the creation of a trust estate, by appraisal of a State court, creates a presumption only that the stock is of the appraised value; this presumption may be rebutted by competent evidence to the effect that the stock was of another value than that appraised. (A. R. M. 7. 30-19-637.)

The "fair market value" of property is the sale value of property in money as between one who wishes to purchase and one who wishes to sell, and is the price at which a seller willing to sell at a fair price and a buyer willing to buy at a fair price, both having a reasonable knowledge of the facts, will trade. It implies the exist-

ence of a public of possible buyers at a fair price, and recognizes that property has no "fair market value" when market conditions are such that there would be no trading in the property in question at a fair price. (T. B. R. 57. 19-19-494.)

The value of stock which has no market price may be estimated by resort to the value of the assets capitalized and attendant circumstances which may affect the value of such assets. (Goodwin *vs.* Wilbur, 104 Ill. App. 45; Collins *vs.* Denny, 89 N. W. 1012; Virginia *vs.* West Virginia, 238 U. S. 202.) In the case of inventions, their value is dependent upon proven utility or the likelihood of practical usefulness, and, therefore, stock issued thereon will have a corresponding value. If an inventor should sell a recently patented invention to a manufacturer before its use has been tested, but simply upon its apparent usefulness, it may be said that the invention at that time is worth what is paid for it because a price has been offered and paid. The measure of value is the price paid. Stock issued upon such invention would be worth the value of the invention measured by the price which the manufacturer has paid for it.

Again, instances of sale of intangibles require the determination of valuation from this angle and on this acount the Internal Revenue Bureau has drawn up the following suggestions:

> The actual cash value of intangible property paid in for stock or shares must be determined in the light of the facts in each case. Among the factors to be considered are:
>
> (a) The earnings attributable to such intangible assets while in the hands of the predecessor owner;
>
> (b) The earnings of the corporation attributable to the intangible assets after the date of their acquisition;
>
> (c) Representative sales of the stock of the corpora-

tion at or about the date of the acquisition of the intangible assets; and

(d) Any cash offers for the purchase of the business, including the intangible property, at or about the time of its acquisition. A corporation claiming a value for intangible property paid in for stock or shares should file with its return a full statement of the facts relating to such valuation. (Art. 851, Reg. 45 Rev.)

Depreciation

If patents and like property are worthy of valuation, they are likewise deserving of having the depreciation thereof ascertained, a matter which in some phases is easier to accomplish than is the original valuation.

Depreciation is figured customarily on almost all kinds of property, in the regular methods of most businesses. It is strange, therefore, that a large number of business owners, and executives of businesses owning patent rights, still entirely ignore this item respecting patents owned or controlled.

The rules drawn by the Bureau of Internal Revenue, in the administration of the Income Tax laws, upon the subject of depreciation, and modes of determining same, are appropriate to consider in this connection, and certain of them are noted below:

> Intangibles, the use of which in the trade or business is definitely limited in duration, may be the subject of a depreciation allowance. Examples are patents and copyrights, licenses and franchises. . . . If a tangible asset acquired through Capital outlay is known from experience to be of value in the business for only a limited period, the length of which can be estimated from experience with reasonable certainty, such intangible asset may be the subject of a depreciation allowance. (Art. 163, Reg. 45, as amended by Treasurer's Decision 2929. 23-19-545.)

An allowance for depreciation of patents will be made on the following basis:. . . (Art. 137. Reg. 33, Rev.)

Depreciation of intangible property as explained in Art. 163 of Reg. 45 applies to all intangible property, including patents and copyrights, whether acquired for cash, other property, or corporate stock. The term "Capital Outlay" includes corporate stock. (O. D. 344, 30-19-640.)

The capital sum to be replaced should be charged off over the useful life of the property either in equal annual installments or in accordance with any other recognized trade practise, such as the apportionment of the capital sum over units of production. Whatever plan or method of apportionment is adopted must be reasonable, and should be described in the return. (Art. 165, Reg. 45, Rev.)

An allowable deduction for any given year for return of Capital Invested in patents at time of issue will be an amount equal to 1-17th of the actual cost, in cash or its equivalent, of such patents. . . . If the patent was purchased after a part of its life had expired, the cost for the purpose of a deduction for return of Capital will be ratably spread over the remaining years of its life. (Art. 174, Reg. 33, Rev.)

Frye, in his excellent work, "Income Tax As Affected By Patents and Trade-Marks," from which has largely been drawn the selection of the rulings and decisions quoted herein, gives the following commendable suggestions respecting the determination of depreciation of patent rights, as regards a group of patents such as so often comprises the patent list of a large company or business:

The procedure when several patents are owned is substantially the same.

Where several patents are owned by the same individual or corporation and are carried on the books

under the same Capital Asset Account, it is preferable, when possible, to add to this amount the cost of each patent as acquired, or, when this is not possible (see page 75), the amount representing the cost of the patents acquired during the year should be entered in the Capital Asset Account.

Then, preferably, the percentage of depreciation of each patent is separately computed, and the aggregate amount of such individual depreciations either deducted from the book value of the account or credited to the Depreciation Reserve. When this is not feasible, the total number of years the several patents have yet to run is ascertained and then divided by the number of patents to determine the average life of the entire group of patents. The corresponding percentage of the cost of the entire group is then charged off on the books.

Where it happens that a patent owner has not charged off depreciation in preceding years, he is not permitted because of this to charge off the entire cost during the remaining years.

Art. 167, Reg. 45, specifies:

> The fact that depreciation has not been taken in prior years does not entitle the taxpayer to deduct in any taxable year a greater amount for depreciation than would otherwise be allowable.
>
> But he is permitted to go back and reopen his books for the prior years and then charge off the depreciation in the proper years.

The obsolescence of a patent right appears to be something for which allowance has not thus far been permitted by the Internal Revenue officials. It is highly probable that in the comparatively near future rulings affecting obsolescence will be made in recognition of this factor as an important element in the computation of depreciation. This seems to be but a natural line of progress in the development of valuation work relating to intangibles; it should not be ignored any more

than at the present time the value of the service and time of an inventor is ignored in the determination of the true valuation of his patent right, respecting the work done by him in the development of his invention.

In conclusion, it is notable that foreign as well as United States patent rights may have their depreciation written off, upon the basis of the terms of their grant.

IV

MISCELLANEOUS LEGAL SUBJECTS—WITH AUTHORITIES

By Patent Examiners

I. Invention vs. Mechanical Skill, by G. P. Tucker.
II. Combination vs. Aggregation, by L. W. Maxson.
III. Division (Practise Relating to), by L. A. Sadler.
IV. Mechanical Processes and Functional Claims, by E. C. Reynolds.
V. New Matter, by Edward Collins.

There are some subjects of abstract patent law, without an understanding of which it may be difficult to obtain a full appreciation of the purport of certain phases of practise described herein. Recourse might be had with benefit to any of the well-known writers on this law for exhaustive treatments of these subjects, but this makes for complications in that some incompleteness might be ascribed hereto. For instance, it is well to know what constitutes "invention," so called. Moreover, a review of certain legal limitations relating to invention, known under the name of "mechanical skill expedients," is greatly to be desired. For a quick grasp of these and like subjects very terse presentations of the same are needed. The foregoing applies equally to the law of aggregation, rules concerning division, and other elemental propositions affecting patents or their procurement.

With the foregoing in mind the author knows no better elucidation of such subjects, for the purposes of this work, than found in certain of a series of papers written by Patent Examiners, and read before the Examining Corps of the Patent Office during the administration of Commissioner Ewing.

By these papers the practise in the office has been rendered more uniform than ever before, and authorities in point are usually supplied, at least to some brief extent.

Several of such papers have therefore been embodied herein, and are brief but comprehensive explanations of the law or practise involved. Coming as they do from recognized experts of long experience they will be found an invaluable addition to any work on practise. A student of patent procedure can not find a more profitable investment of his time than by studying the entire series of these Patent Office Papers or Lectures.

I. INVENTION *VS.* MECHANICAL SKILL

By George P. Tucker,
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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 text-books on the subject, from Robinson to Rogers, agree on this rule. Robinson, for instance, says in Book I, paragraph 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 practise. . . . 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, artizans, 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 "artizan," "head workman," 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 fulness 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 learn-

ed 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 Kilbourne *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 assembling 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 toward 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); Ex parte 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 formerly. They especially demand that a device which is an improvement upon a preexisting 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 (United States Supreme Court); in re Seabury, C. D., 1904, page 655 (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 (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 similar, namely, to cut up 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 re-

solved 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.

II. COMBINATION VS. AGGREGATION

By Louis W. Maxson,

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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 constitute 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.

Altho 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 cooperate 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 product 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 cooperating 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 and 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 cooperation 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 cooperating 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 useful, 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 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 practise 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-Rountree 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 coaction between the elements, where such coaction 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 practise. 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 cooperation 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.

Tho 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.

III. MECHANICAL PROCESSES AND FUNCTIONAL CLAIMS

By E. C. Reynolds,
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There are few, if any, classes of claims more difficult to deal with than those coming under the above headings, and perhaps none in which the decisions seem more at variance. This lack of apparent uniformity is, of course, largely due to the fact that no two cases present precisely the same state of facts. From this arises the practical difficulty that the citation of a number of decisions by the Examiner is usually met, on the part of the attorney, by an even more formidable list. Decisions are thus chiefly useful in enabling the Examiner to make up his own mind; they are rarely effective in convincing the attorney of the error of his ways; and even where the Examiner is sustained on appeal, the reasons and decisions relied on by the appellate tribunal are frequently quite different from those cited by him in the primary consideration of the case.

It will be of some assistance to the young Examiner if he will bear in mind the order of importance of the various tribunals whose published decisions are supposed to guide him in his work. This order, which is not the same in the Office as in outside legal practise, is believed to be as follows: 1st, the Commissioner then in Office; 2d, the Supreme Court of the United States; 3rd, the Court of Appeals of the District of Columbia, and 4th, the various Circuit Courts of Appeal. The decisions of the Commissioner are placed first in the order of importance because he is the responsible head of the Office and all patents are issued in his name. It is to be presumed that his decisions are made with a due regard for those of the courts and he is entitled to have his interpretation of the law followed by the Office force. The District

Court of Appeals is given preference over the Circuit Courts because it has the final voice in most matters arising within the Office and it would be obviously improper and incongruous to do otherwise than follow such courses of procedure as it may indicate. No attempt will be made in this paper to give an exhaustive list of decisions bearing upon the subjects under consideration. The few cited are mainly those which are believed to be in harmony with the present Office practise.

There never seems to have been any doubt but that inventions which related to the production of a definite product, and involved chemical or other elemental action, were proper subjects for process claims. In the case of articles which involved merely a change in form of the material acted upon, however, the question was long in doubt. In 1895 the Supreme Court in Risdon Iron Works *vs.* Medart, 71 O. G., page 751, said "Processes of manufacture which involve chemical or other similar elemental action are patentable, tho mechanism may be necessary in the application or carrying out of such processes, while those which consist solely in the operation of a machine are not."

The Supreme Court was still in doubt on this subject in 1898; see Boyden *vs.* Westinghouse, 83 O. G., page 1067, wherein the following statement is made: "Risdon *vs.* Medart, and other cases, assume, altho they do not expressly decide, that a process to be patentable must involve a chemical or other similar elemental action, and it may still be regarded as an open question whether the patentability of processes extends beyond this class of inventions."

It should be noted that four justices dissented from this opinion. These statements of the Supreme Court were quite generally taken as precluding process claims in the absence of elemental action. Not all of the courts, however, adopted this construction, and in 1901 the Court of Appeals of the District of Columbia in In re Weston, 94 O. G., page 1786, expressed the opinion that processes involving simply mechan-

ical changes in the material acted upon might be patentable if the processes could be performed by hand or by mechanism other than that shown or preferred. For the sake of comparison with later cases, Weston's claim 1, which was allowed by the court, is here quoted:

> 1. The described method of manufacturing a symmetrical coil for an electrical measuring instrument, consisting in first forming a supporting frame or spool by subjecting a short tube of metal to pressure until the desired conformation and shape is obtained, then winding the coil thereon and finally securing the pivot pins in the axial line of the coil.

In 1909 the Supreme Court set its seal of approval upon this type of claim in the Expanded Metal Case, 143 O. G., page 863, wherein it held valid a process claim for making metal lathing from sheet metal. The process in this instance could be carried out by hand altho for profitable commercial purposes a specially designed machine was required.

It will be noted that in the foregoing instances and in fact in the large majority of cases which have been passed on by the courts, the process produces a definite, tangible article. In certain divisions of the Office, however, cases of alleged mechanical processes are constantly being filed which relate merely to the production of power and perhaps also its application to a driven shaft. These cases have a certain likeness to those of the most approved process type in that they involve an "elemental" action consisting in changes in temperature, pressure, degree of moisture and sometimes in the chemical composition of an expansible fluid. There is, however, no tangible product produced, and the element subject to change usually passes through a definite cycle or cycles at the end of which it is either restored to its original condition or is exhausted as a waste product of some description, usually a gas.

While not strictly analogous, the following claim declared valid by the Circuit Court may be of value:

> The herein described method of changing the speed of an electric motor which consists in maintaining upon each one of three or more conductors a potential difference from that on any other one of the conductors and connecting the armature terminals of the motor with different pairs of said conductors.

See Bullock Electric Mfg. Co. vs. Crocker Wheeler Co., Federal Reporter, Vol. 141, page 101.

In the absence of authoritative decisions upon this class of cases, those Examiners who have frequently to deal with such processes may be interested in the following claims which have been recently passed upon by the Examiners-in-Chief.

The first application discloses a steam turbine and a hot water heating system. Steam is withdrawn from an intermediate stage of the turbine and used to heat the water in the system. The amount of steam so used is regulated by varying the speed at which the water is pumped through the heater.

The claim which was held on appeal to be a proper process claim is as follows:

> The herein described process of variably regulating development of power and heat in a combined power and heating system, which comprises expanding a heated expansible working fluid in a suitable motor, withdrawing a portion of such working fluid from an intermediate expansion point of the motor, and exchanging heat between the working fluid so withdrawn and another fluid to be heated, and variably regulating the rate of absorption of heat by such second fluid with respect to the rate of supply of working fluid to said motor, and thereby variably regulating the proportion of the initial heat energy of such working fluid converted into power to the heat energy imparted to said heating fluid.

In the second application a boiler supplies high pressure steam to a water injector and the combined mass of steam and water is delivered against the blades of a turbine rotor. All of the steam is then condensed and pumped back into the boiler.

The following claim was held on appeal to be a proper process but was not allowed on account of references:

> The method of operating automobile power plants employing low speed steam or gas turbines, which consists in generating an expansive fluid at high pressure, converting the energy thereof into kinetic energy in a fluid of higher density, thereby imparting a low velocity to the denser fluid, delivering the last named fluid to a rotary part of a suitable turbine, and condensing and returning in the system such of the fluid as has become evaporated.

The third application discloses a turbine consisting of a number of thin, closely spaced discs, transversely mounted on a shaft and enclosed in a casing. A nozzle in the casing admits steam against the edges of these discs and tangential to their peripheries. The steam winds around in a spiral path between the discs, causing them to revolve by its adhesive action and is finally exhausted through openings in the discs near the center.

The original application disclosed both apparatus and method claims, but the method claims were later canceled and presented in a divisional case in order to secure a speedy allowance of the parent application, which application became a patent shortly thereafter. It should be noted that division was not required by the Examiner.

The claim presented in this case is as follows:

> The method of deriving energy from a fluid under pressure which consists in causing it to flow through

> unobstructed passages in a runner rotatably mounted in a closed casing so that it is free to follow natural spiral paths from peripheral ports of inlet to central ports of outlet, and thereby propelling the runner by the adhesive and viscous action of the fluid upon the plane surfaces of the passages therein.

The Examiners-in-Chief sustained the rejection of this claim, stating that in spite of its being nominally a process claim it was in reality an apparatus claim, and would have precisely the same scope if written in the following form:

> A machine for deriving energy from a fluid under pressure through the adhesive and viscous action thereof upon plane surfaces which comprises a runner rotatably mounted in a closed casing, a peripheral port of inlet, a central port of outlet, and an unobstructed passage through the runner such that the fluid is free to follow natural spiral paths in its passage through the machine.

The appellate tribunal further held that such a claim as the foregoing could have been presented in the original application or in a reissue thereof, and that to allow the claim or a substantial equivalent thereof in another case would result in extending the monopoly conferred by the first patent. They called attention to such decisions as Century *vs.* Westinghouse, 191 F. R., page 350; Thomson *vs.* Hoosic, 80 O. G., page 967, and Miller *vs.* Eagle, 66 O. G., page 845. The purport of these decisions is that while a patent for a process may issue after the grant of one for the apparatus, a second patent which merely covers the same invention in somewhat broader terms is ordinarily invalid.

The case just considered sets forth a unitary structure through which the steam passes steadily in a path absolutely determined by the construction of the engine, and which no change in size or proportions would affect except in degree.

It would seem, therefore, that the action of the steam is just as much a function of the machine as is the action of a train of gears in a clock mechanism.

The first two applications set forth groups of devices which might be combined in various ways and in which differences in proportion or in manipulation of the various parts will produce widely different results.

In the first case all of the apparatus assembled in the same relation was shown in a single reference, yet the claim was held to be for a valid process because a certain pump was manipulated in a way not contemplated by the patentee.

While in no sense conclusive, the following considerations may be found useful in dealing with alleged process claims involving the production of power by the use of an expansible fluid, and possibly in certain other cases where no tangible product is produced.

First: A process is not anticipated by an apparatus which might be used to carry out the process, but was not, in fact, intended to do so.

Second: There is probably no patentable process in a single machine using an expansible fluid, where the cycle of change in the fluid is uniform and definitely fixed by the construction of the machine.

Third: There is a presumption of a patentable process in the arrangement of a group of devices to produce a novel result, particularly where matters of proportion and relative position are important. This presumption is considerably strengthened if the process necessitates the manipulation of one or more of the devices involved.

If applications of the kind under consideration are not patentable, it is usually because the alleged process is in reality merely the function of the machine, and this leads naturally to the consideration of functional claims.

It is so well recognized that direct claims for a function are not patentable, that such claims are never presented except by

an occasional applicant who is quite unfamiliar with patent practise.

The greatest difficulties arise in connection with claims containing one or more clauses beginning with "means," "mechanism," or some similar expression, and followed by a statement of the function performed thereby. There has been considerable variation in the liberality with which such claims have been regarded.

The Supreme Court has several times set its seal of approval on claims involving sets of mechanism defined by the result produced; see, for instance, Morley vs. Lancaster, 47 O. G., page 267, in which the following claim was held valid:

> The combination, in a machine for sewing shank-buttons to fabrics, of button-feeding mechanism, appliances for passing a thread through the eye of the buttons and locking the loop to the fabric, and feeding mechanism, substantially as set forth.

The ideas expressed by the court in these decisions were elaborated, and possibly carried further than the court intended, in a series of Commissioner's decisions extending over the next ten years; see, for instance, Ex parte Pacholder, 51 O. G., page 295; Ex parte Halfpenny, 73 O. G., page 1135; and Ex parte Knudsen, 72 O. G., page 589.

This last decision has become almost a classic and for years no examination for promotion was considered complete in which it was not involved. It divides functional claims into four classes, of which only the third is of interest here.

This class defines the construction as "means," "mechanism" or "devices" for effecting certain results or it defines certain named elements by statements of function instead of structure. The decision further states:

> The use of the above noted phraseology does not of necessity render a claim objectionable, for where

the idea is clearly stated and the combination or relation of parts to produce a desired end is plainly expressed, the breadth of statement of the claim is no reason for objecting to it. . . . When indefinite, such claims should be objected to; but they can only be rejected on references when these disclose both the complete combination and the functional qualifications covered by the claim.

The result of this decision, and others of like nature, was that the attorneys, and to some extent the Examiners, came to consider that a claim was patentable over the art if it contained a clause prefaced by the word "means" followed by a statement of a novel function. There was a gradual reaction from this extreme view, the present practise being more nearly that indicated by the District Court of Appeals in In re Gardner, 140 O. G., page 258.

In this decision the court ruled adversely on the following claim:

> In a vapor register, in combination with the suitably inscribed dial, a device for automatically indicating thereon simultaneous pressures and heat characteristics for superheated vapor.

In spite of the use of the word "device" this claim was held to be substantially a claim for a function since it apparently covered all means by which the function could be carried out. The court also called attention to the Supreme Court decision of O'Reilly *vs.* Morse, 15 Howard, page 62, the bearing of which on this class of cases had been largely lost sight of. In this case, altho the court held that Morse was the first to convey intelligence by electricity, it denied him a claim covering broadly "means" for so conveying intelligence while allowing him a claim for "electro magnetic means" for the purpose.

It is not believed that there is any conflict between the de-

cisions just considered and those of the Supreme Court which sustain certain claims for sets of mechanism. A claim for "means" for performing a particular function is certainly indistinguishable in scope from a claim for the function itself; while a claim involving sets of mechanism, even tho each clause be for "means, etc.," is not a claim for a result but rather for a series of steps for obtaining it, and the field is still left open for others who attain the same end by the use of more or fewer or different elements.

The essence of the Gardner decision would appear to be that an inventor is not entitled to a claim in which the whole novelty consists in a single statement of function, even if the clause is headed by the word "means" or some similar expression. There must be some hint as to the nature of the means, some suggestion of structure which will aid other inventors or the courts in applying the doctrine of equivalents.

Claims of this type are sometimes rejected as being "broader than the invention." The fundamental difficulty appears to rise from the fact that the patent law makes no provision for the patenting of a function or result, but only of the means whereby it is accomplished. Furthermore, an inventor is only entitled to protect the means which he actually discloses for the purpose *and substantial equivalents thereof*. He should not, therefore, be allowed a claim which appears to cover *all* means whereby the result may be accomplished, since to do so gives the public the impression that the whole field of invention in that particular line is closed, and also imposes an unnecessary burden on the courts by forcing them to read into the claim limitations which are not apparent on its face.

It would certainly be to the advantage of inventors of machines, and would perhaps result in more even justice, if our laws, like those of Germany, permitted functional claims. A discoverer of a new function often makes quite as valuable an invention as the discoverer of a new process, and it

would seem as though he was entitled to equally broad protection.

At present he must steer between the Scylla of a process claim, which the Examiner will probably reject as being for the function of the machine, and the Charybdis of an apparatus claim which, if as broad as the other, is likely to be opposed by such decisions as Gardner and O'Reilly *vs.* Morse.

The Supreme Court in Steinmetz *vs.* Allen, 109 O. G., page 549, called attention to the fact that process and apparatus may approach each other so nearly that it would be difficult to distinguish the process from the function of the machine and indicated that in such cases of close relationship both kinds of claims might be joined in a single application, altho the court did not go so far as to state that either set would be invalidated if applicant elected to patent them separately.

In doubtful cases of this kind it is probably best to allow the applicant both process and apparatus claims, providing they are presented in a single case. It would be manifestly improper to hold that the alleged method set forth merely the function of the machine and at the same time to require division, for the mere presence of the doubt is sufficient to show that but one invention is involved and that the sole question at issue is the manner in which it shall be expressed. If the applicant takes out a patent containing simply apparatus claims, there is considerable danger that he will not secure the measure of protection to which he is entitled, while if it contains only process claims he is liable to have the court invalidate them as being functional. If the two sets of claims are presented in separate patents, there is danger that one patent or the other will be invalidated as unlawfully extending the monopoly unless both patents issue on the same date. It would appear proper in copending applications of this kind for the Office to require a consolidation of the claims in a single case and, in the event of a failure to comply, to reject

one of them or the other as soon as that other was passed to allowance.

NOTE:—Near the end of his paper Examiner Reynolds treats interestingly the proposition of claims such as may cover "all means whereby the result may be accomplished." These are indicated as inhibited because the public may be given "the impression that the whole field of invention in that particular line is closed."

Much has been said upon the foregoing phase of our patent claims status, both by book writers and the courts. It is not clear from my view point what the *impressions of the public* have to do with the matter. The inventor is to be thought of at this stage, both in the Patent Office, and by the Court adjudicating his issued patent. The situation is not one where the first thought must be, how can we limit the inventor so he will disclose his whole invention, and yet fix his protection so that the public may, *after the disclosure*, achieve all that is accomplished by the inventor, but by modified means or methods. My view always has been that under our Constitution the "exclusive right" to the invention means what it says; i.e., *exclusive.* It is not in accord with the true spirit of the foregoing terminology to begin to place such restrictions upon the Constitutional wording as will make exclusive mean non-exclusive! Yet this is what has been and is now frequently attempted.

Of course, in the connection discussed, I am referring to broadly new inventions and patents therefor. The invention being totally new, certainly the inventor is privileged to claim it as broadly as the English language permits, by all sorts of "means" and "means claims," if desirable. And if this is done, who may fairly gainsay him by suggesting the limitation of *his protection* to *his particular means or their reasonable equivalents,* merely because to do otherwise would *close the particular line of invention.* The Constitution does not

say anything about so limiting the inventor; to the contrary, it expressly uses the term *exclusive*.

Everything should be done by the Patent Office and the courts to give effect to this term "exclusive." Whether the public is shut off for seventeen years is not material; that is the consideration, by way of deprivation, emanating from the public, for what the inventor gives up to the public after the period expires. Therefore, where the broad invention exists, is it not the true spirit of the law that no terms can be too broad to characterize that invention. For this reason it behooves the solicitor to exercise care and make his claims broad for the protection of the inventor. This done, no apologies for the accomplishment are necessary, either to the Patent Office or to a court to which the patent is taken to be sustained. A patent for an invention may and often does temporarily retard the working art; this is inherent to this class of monopoly. And the courts have been possessed of practical wisdom in giving recognition to this patent fact.

IV. PRACTISE RELATING TO DIVISION AS INDICATED BY DECISIONS OF THE BOARD OF EXAMINERS-IN-CHIEF

By Loren A. Sadler,
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The purpose of this paper is to outline briefly the principles which underlie the practise 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 practise, 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 action 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 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 practising 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 practise 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, require that arts, machines, manufactures, and compositions of matter should be made 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 practise 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 practise 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 tho 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 Wilcox 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 practise 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 practise 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 practise 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, tho 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 altho 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 subclass. 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 indubitably 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. Tho, 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 machines.

COMBINATIONS AND SUBCOMBINATIONS

(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. Altho 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 for 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 move-

ment 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. Altho 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 subcombinations 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 was commensurate in scope with patents in a certain subclass. Other claims, by including the mechanism more specifically, were commensurate in scope with patents in another subclass. 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 Sprotte, 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 sulfuric anhydrid 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 Strohlhaecker, 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 sulfid 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 Monnot, 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 tho the process might possibly be carried out by other apparatus, the field of search was the same.

Ex parte Pierce, 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 subclasses 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 electrical 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 necessarily 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

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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 subclasses 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. Subcombinations 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 subclasses exist for the reception of subcombinations 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 practise followed by the Examiner-in-Chief, would not constitute a valid ground for thereafter requiring every applicant to divide out claims to similar subcombinations. 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.

V. NEW MATTER

By Edward Collins,
Examiner, U. S. Patent Office

It was found very early in the development of the Patent System that provision must be made for the admission of amendments to applications for patents. The admission of amendments straightway involves the question how far such amendments should be allowed to change the application as originally filed.

On one hand, it is obvious that a meritorious invention may be made, but the application for patent may be prepared by persons not expert in such matters, and therefore filed in condition not fully complying with the technical requirements of the Patent Office. This consideration is of far greater importance at present than in the early history of the Patent Office, when applications were much fewer, and (in general) less complex in subject-matter.

On the other hand, it is equally obvious that limits must be put upon the right to amend. This would be true even if no rights of any sort were acquired until the actual issue of the patent, for otherwise an unlimited number of inventions might be successively introduced and patented on one application.

According to our present Patent Law, however, the applicant for patent *does* acquire an important right upon the date of his completed application, for he is given this date as that of constructive reduction to practise of the invention. Hence, in justice to the public and to other applicants, he should not be permitted, after filing, to change the application in any way such as to affect the nature of the invention, or as it is called, to introduce new matter.

In the Rules of Practise of the Patent Office, No. 32, Edition of 1870, it is stated that:

> All amendments of the model, drawings, or specifica-

> tion, in the case of original applications, must conform to at least one of them as they were at the time of filing of the application.

This was repeated in the edition of the following year, with the further statement that:

> Further changes than this can only be made by filing a new application. If the invention does not admit of illustration by drawing, amendment to the specification may be made upon proof satisfactory to the Commissioner, that the proposed amendment is part of the original invention.

In the edition of 1877 this rule was substantially repeated, except that the term "further changes than this" is amplified by "involving a departure from the original invention."

In 1879 this rule, now Rule 69, further states that "the affidavits prescribed in Rule 47 may or may not be sufficient" to prove that the proposed amendment was part of the original invention.

In the present Rules of Practise, of 1916, the rule, now No. 70, is as follows:

> In original applications all amendments of the drawings or specifications, and all additions thereto, must conform to at least one of them as it was at the time of filing of the application. Matter not found in either, involving a departure from the original invention, can not be added to the application even tho supported by a supplemental oath, and can be shown or claimed only in a separate application.

In the case of Ex parte Snyder, C. D., 1882, p. 22, the contention was made by applicant that amendments should be allowed at will before the application is taken up for examination. This was denied by the Commissioner, who said:

This rule, then (Rule 69), attaches upon the filing of the application, which occurs when the applicant has completed his application, as provided in Rule 31. The application then receives its serial number, and is placed upon the files for examination. It is then an application in full standing, and thereafter amendments must conform with the rules governing the amendment of applications. The time when an application is taken up for examination is a variable and arbitrary date, and depends solely upon the state of business.

The reasons for the prohibition of new matter in an application were considered in decision of the Supreme Court of the United States in Railway Co. *vs.* Sayles C. D., 1879, p. 349. It was there stated:

> It will be observed that we have given particular attention to the original application, drawings and models filed in the Patent Office by Thompson and Bachelder. We have deemed it proper to do this, because, if the amended application and model filed by Tanner five years later embodied any material addition to, or variation from, the original—anything new that was not comprised in that—such addition or variance can not be sustained on the original application. The law does not permit such enlargement of an original specification, which would interfere with other inventors who have entered the field in the meantime, any more than it does in the case of reissues of patents previously granted. Courts should regard with jealousy and disfavor any attempts to enlarge the scope of an application once filed, or of a patent once granted, the effect of which would be to enable the patentee to appropriate other inventions made prior to such alteration, or to appropriate that which has in the meantime gone into public use.

The subject of permissible changes to the application is treated in decision of the Court of Appeals of the District of

Columbia, Hulett *vs.* Long, C. D., 1899, p. 446. It is there stated:

> It is a well-settled and long-established practise in the Patent Office to allow amendments to be made under proper circumstances to supply omissions and defects in the original specification and claims as filed, which have occurred by mistake, oversight, or inadvertence, or even the want of requisite skill in the preparation and presentation of the case to the Office, and the making of such amendments should not be allowed to operate to the prejudice of the claim or claims of the applicant if made in due and reasonable time and in good faith. In many cases, the necessity for amendments to supply omissions and defects is not discovered until the application and specification have been subjected to the critical examinations of the experts of the Office, and both the statute law and the Rules of Practise contemplate the making of all necessary amendments and alterations to supply defects and omissions in the presentation of the case, and where amendments have been allowed it should be presumed that they were properly allowed and upon satisfactory showing to the Office that it was by mistake, oversight, or inadvertence, or want of sufficient skill in the preparation of the application that the omission or defects had occurred and not by design to present a new and essentially different claim to invention from that described in the original application made for the purpose of overreaching and defeating a rival invention.

In this decision reference was made to decision of Mr. Commissioner Marble in Ex parte Snyder, C. D., 1882, p. 22:

> He (the applicant) may be permitted, upon proper occasion, to supply suitable connections, to add a spring to a pawl, a handle to a crank, a belt to a pulley, teeth to a wheel, an outlet to a closed receptacle, or other manifest defects or omissions in features essential to the op-

> eration of the invention or to the completeness of the disclosure, and which were caused by a clerical error of the draftsman, or the unfamiliarity of the inventor with official forms. These amendments, supplemental in their nature, may be made as completing the invention imperfectly shown and described. They add to the invention disclosed some part or feature which agrees with the construction and operation already presented.

This naturally leads to the question as to how far an applicant may be permitted to amend in order to remedy an inoperative disclosure. In practise, perhaps, this is the most perplexing and embarrassing question that is presented to the Examiner. Applications for really valuable inventions are sometimes filed in a very defective shape. On one hand, the inventor should, if possible, be allowed the benefit of his filing date. In many cases a new application would be barred by public use or foreign patent, and in other cases the inventor dies soon after the filing. Hence the whole invention is lost unless it can be predicated on the original disclosure. On the other hand, if the application clearly fails to show a reduction to practise of the invention, the inventor must take the consequences. He is clearly not entitled to complete his invention after filing, and yet have the benefit of the filing date.

This subject is treated in the decision of Mr. Commissioner Allen, Ex parte Willits, C. D., 1905, p. 107. In this case applicant wished to add to the disclosure "a small port or opening" in order to make the device operative. It was stated:

> There is nothing in Ex parte Snyder which warrants the conclusion that new matter may be inserted in a case whenever it is done for the purpose of making operative a supposedly inoperative device. New matter is no more admissible for that purpose than for any other purpose. It seems perfectly clear that if new matter

were admitted for that purpose, applicants could come to this Office with their applications before perfecting their inventions and before having a well-defined conception of an operative device, and by subsequent experiments and amendments based thereon so change their applications as to cover inventions made after the applications were filed. The law is well settled that the patent should include only the invention as disclosed in the application as filed. Subsequent discoveries and improvements can not be included therein, whether those improvements are intended to make the device operative or merely to make it perform its functions better.

Mere clerical or draftsman's errors may be corrected where the errors are clear from the application itself; but changes can not be made in the application based on allegations of fact not shown by the record.

In the present case it is by no means certain that the "small port or opening" referred to in the objectionable amendment is necessary to make the device operative. If that device is now inoperative, it could be made operative in other ways. The applicant should not be permitted to describe at this late date that specific construction, since if it would be perfectly obvious to one reading the original description there is no necessity for the specific description, and if it would not be obvious it clearly includes matter not suggested originally.

A test for new matter was given by the Board of Examiners-in-Chief in Interference No. 38,322, Alger *vs.* Bailey, July 6, 1915. Like all tests of legal questions, this test is more in the nature of a *statement* of the problem than a *solution* of it in any particular case. It is always a matter for individual judgment to determine how an abstract principle bears upon the concrete facts at hand. The quotation is as follows:

> The real test of new matter is believed to be whether those skilled in the art, reading the original application and drawing with reasonable care and attempting to give

> effect thereto would naturally make the device in the manner in question.

So far it has been assumed that the change to be made is that of addition or of substitution, which is, in fact, usually the case. It may happen, however, that even the *omission* of elements may involve a departure from the original invention. In Ex parte Cook, C. D., 1901, p. 19, claims were rejected on references and the Commissioner held that, by reason of a certain pipe shown, the operation of the device was not different from that of prior devices, and that it did not operate in the manner set forth in argument of the appellant. It was further said that if this pipe were not present, there might be force in applicant's contention as to difference in operation.

Applicant then sought to erase from the specification and drawing all reference to the pipe in question. It was held, however, that applicant had not shown a device omitting the pipe, and consequently had not shown a device which would operate in the manner set forth. To quote from the decision:

> That pipe completely neutralizes the tendency of the other parts and arrangement of parts to produce the operation and result now described. The omission of the pipe A4 from the device, therefore, would change entirely the function and operation of the other parts, and virtually produce a new device. In other words, the omission of that pipe from the case would produce a different invention and involve a departure from the original disclosure.

A contrary decision was reached in the case of Ex parte Smith and Hoyland, C. D., 1900, p. 176, when certain flanges were omitted in a substitute drawing. It was held:

> No claim is now made to these flanges, and they are not included as an element of any of the claims. The illustration of them is unnecessary since the device is

obviously operative without them. No useful purpose would be served by illustrating and describing them, and their omission does not change in any way the function and operation of the other parts of the device. They are merely additional and unnecessary elements which may or may not be used, and therefore their omission does not involve new matter.

An important consideration is the bearing of a supplemental oath on the subject of new matter. In decision Ex parte McDougal, C. D., 1882, p. 7, it was held:

> Under Rule 47 an applicant may introduce into his application by amendment a part of the invention originally made which was not incorporated into the application either as part of the specification or claim, if he swears that the matter which he desires to introduce into his application and make a part thereof was a part of his original invention. Under this practise, however, the Examiner will enter the date of the new oath on the face of the file wrapper and change the date of the completion of the filing of the application to agree therewith.

The practise above indicated is now obsolete. The tendency has been to restrict more and more the function of a supplemental oath, and it may in the future be abolished altogether. If admitted or required, it has no effect on the effective date of filing, and according to present Rule 70, it affords no ground for the introduction of new matter.

Hitherto it has been assumed that the disclosure is that of the description, drawing, and model, if any. It must further be considered what basis for disclosure is furnished by the *claims*. Judicial decisions upon both sides of the question may be found, as in the following instances:

In the case of Ex parte Gugler, O. G., 160, p. 775, an original claim was not objected to by the Examiner as indefinite, but was objected to on the ground that it suggested

a variation not disclosed in the original specification and drawings. It was held:

> Either the objection is unfounded or the claim is sufficient basis for an amendment to the showing to make it correspond with the modification suggested in the claim.

A different conclusion was expressed in decision of the Commissioner In re Heany, O. G., 171, p. 983. In that case the entire original specification was removed, except two claims and part of a third. It was held:

> A claim alone, disconnected from its specification, is a most uncertain thing, and can not constitute a just criterion for a specification or written description, and can not, therefore, be rightly used as a foundation upon which a specification can be erected.

Everything relating to new matter in an original application is equally applicable to a divisional application thereof, which depends upon the disclosure of the original, and has the benefit of the original filing date. This was formerly held to be true of continuing applications also, which were held to lose their right to be so considered if they contained anything technically involving new matter. A change of procedure in this respect was occasioned by decision of U. S. Court of Appeals, D. C., Field *vs.* Colman, O. G., 193, p. 221, where it was held:

> The right of an applicant, by substituted application, to relate back to the date of filing the first application for reduction to practise broadly depends upon whether the substituted application is for the same invention as that disclosed in the original application, not that the specific disclosure of the first and second applications may be different or even patentably different if generically they relate to the same invention.

The Office practise in regard to new matter differs according to whether it is sought to be introduced in the descrip-

tion, drawing, or claims. At one time it was common to refuse to admit such changes, or to suspend action on the case until they were cancelled. The present practise is based on decisions of the Commissioner in Ex parte Soley, O. G. 91, p. 1616, and in Ex parte Furness, O. G., 104, p. 1655. In the *description,* an amendment presenting new matter is entered, but applicant is required to cancel it. All claims whose interpretation is affected by the changed description should be rejected on this ground. In the drawing, the changes should *not* be made at first. The affected claims should be rejected, as in the previous case, subject to appeal. If applicant prevails upon appeal to any tribunal, then the changes may be made upon the drawing. If the desired change is in the *claims* it should be entered, but the claims rejected. Appeal may be taken as from rejection on other grounds.

It should be noted that new matter may not affect the claims already in the application, and yet may be made the basis of future claims in the application or in a division thereof. This is well brought out in the case of Brill and Brill *vs.* Hunter, O. G., 96, p. 641, decided by the Commissioner. In this case Hunter originally showed a single plate spring for a motor, and stated that a coil or other form of spring could be substituted for it. In a new application filed as a division, Hunter showed a special arrangement of coil springs. This was refused by the Examiner, but admitted by the Examiners-in-Chief on appeal, apparently on the ground that no claims were made to this feature, but that it was introduced only for purposes of illustration. Nevertheless, claims were afterwards made to this feature for interference with Brill and Brill, and Hunter sought the benefit of his original application as fixing the burden of proof of priority. The Commissioner held that the decision of the Examiners-in-Chief no longer applied to the changed conditions, now that the admissibility of the new showing had become of vital importance to the rights of the other party.

V

APPLICATION, PROCEDURE AND PARTS

Preparation of Application—Preliminaries: Complete Application. Parts: First Government Fee; Petition of Application; Discussion of Patent Specification: 1. The Preamble. 2. Preparation: General Suggestions. 3. The Statement of Invention. 4. General Description of Invention. 5. The Claim or Claims. 6. Oath. 7. Drawings: Correction of Drawings: Miscellaneous Matters.

Preparation of Application—Preliminaries

Inventorship

There are certain things which must be done before a proper and efficient drafting of the papers of the application may be performed.

It is highly advisable to exercise great care in arriving at conclusions regarding the matter of inventorship, for instance, as between employer and employee. Usually inventions are the result of sole effort, but occasionally the proposition of joint inventorship comes up and must be conclusively decided. It is not proposed herein to deal with the legal phases of sole or joint inventorship, for these are treated exhaustively in the text-books. When there is doubt as to whether parties shall be joined as inventors in the application, it is well to fall back upon the apparently sole inventor as the applicant. Joint inventorship always makes for complications not only for preparation and execution of papers, but in the event an issue of priority is raised difficulties frequently arise in regard to the joint inventorship proofs. In one case in the author's experience one of two joint inventors claimed to have performed all of the inventive acts leading from conception to completion of the invention, excluding only the filing of the applica-

tion. The Patent Office does not scrutinize the matter very closely, apparently giving much force to the inventors' joint oath. However, the validity of a patent may clearly depend on the decision as to sole or joint inventorship being involved. if this issue is raised and improper naming of the inventor or inventors proved.

If a mistake is made in this matter and an application wrongly filed, the effect heretofore has been to create an entire loss of the priority date of the misfiled application. But recently this condition has been rectified by the decision of the Court of Appeals of the District of Columbia in re Roberts, 273, O. G., 410. In this case the court held that:

> Where an application is filed by two parties as joint inventors, but during its pendency one of the joint applicants admitted that he had no part in the act of invention, and it appears that he was joined as a co-inventor through inadvertence and mistake and without fraudulent intent, a sole application afterward filed by the other joint applicant for the same subject matter is entitled to the benefit of the filing date of the joint application.

The foregoing is certainly the common sense viewpoint, for the reason that one application is deserving of credit for the priority date of another is based upon identity of subject matter and disclosure as of the prior date.

Careful consideration should be given, in the drawing of the application, to questions of division that may be involved. Are the claims to cover different mechanisms known to be separately classified and divisible according to established practise? Is the line of division unclear and therefore divisible claims possibly warranted to gain a decision on this point? Is it desirable to claim several inventions and obtain a general showing of the art to which the applicant is en-

titled? Is a complete filing, required to promptly obtain record dates, to be supplemented by later filings?

These matters must be determined by the solicitor and largely depend upon particular conditions.

Where the invention is of a certain nature, care must be exercised to ascertain whether the claims shall be drawn in terms of an apparatus or machine, or a method. Again, it is difficult occasionally to decide whether the real invention is a machine or a mechanical method, wherefore very close study, to enable the arrival at correct conclusions, must be given.

Frequently a showing of the prior art is desirable prior to electing which species of an invention to claim. This matter necessitates a decision to claim two or more species, for the time being, or the election according to circumstances.

Complete Application: Parts—First Government Fee

This fee is $20 and should accompany the complete application when filed at the Patent Office. An application unaccompanied by the fee is informal and incomplete and will not be given a filing date. In the event of rejection of an application after examination there is no refund of the filing fee.

Only under one condition of the practise is this filing fee returned to an applicant. This refund has to do with the filing of what are known as "perpetual motion" cases. It has never been the attitude of the Patent Office to encourage the filing of applications of this class. But it is recognized that there is a human nature element involved in these filings, namely, the desire for secretiveness and protection by the inventor during the period of building his invention.

In the view of the Patent Office, the building of the perpetual motor will convince the prospective applicant that the filing of an application would be worthless expenditure. So to deal with this peculiar situation the Commissioner has adopted the

practise of *receiving for filing* a perpetual motion application, along with the Government fee of $20. The application is held without assignment to the examining division, for one year during which the applicant may do either of three things. He may attempt to build a working motor and determine the inoperativeness of his machine, whereupon at his request the $20 Government fee will be refunded. Secondly, he may build a demonstrating working machine and prove its operativeness to the Patent Office. Thirdly, he may ask for an examination of his application and a regular rejection thereof, something to which he is entitled by law. Once examined, however, no refund of the first fee is obtainable. On examination the invariable requirement is a demonstrating working machine.

It is advisable, on the filing of a "perpetual motion" application, to present to the Commissioner a communication substantially as follows:

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

The complete application of ....., for Motor, is filed herewith accompanied by remittance of $20.

Attention is directed to the fact that the invention of this case purports to be perpetual motion; and it is requested that the examination be reserved for possible refund of the first Government fee.

Respectfully,

.....,
Attorney for Applicant.

Within the year allowed for the completion of the filing of the application the fee of $20 will be returned upon request. Otherwise the case goes into the abandoned incomplete files.

Petition of Application

In effect the petition which forms the opening formal paper of a patent application is largely a letter of request to the Commissioner of Patents soliciting the grant of patent protection to the applicant for the invention which is set forth in the specification, claims, and drawings, which, with the petition, usually form the complete application papers.

Petitions include the name (with full first name), and address of the inventor, or inventors, if there is a plural number filing as joint applicants. Nicknames or abbreviated names can not be used unless they are the only true names available; in the latter event the fact must be averred in the oath.

Where an application is to be prosecuted by an attorney, by almost universal tho not invariable custom, the power of attorney is incorporated at the end of the petition. A common form of petition including the power is found upon page 334.

As comment upon the power it is notable that legally a power signed in blank is invalid. Likewise, a power in proper form gives to the maker thereof full rights of revocation so that at any time he may withdraw the power given one attorney, in favor of another. The power of attorney usually includes the right of substitution to the duly constituted attorney, whereby he may within his discretion, or upon direction, substitute for himself another attorney without an actual revocation.

A petition may be signed by an executor or administrator of the estate of the inventor, where the latter is deceased, or by the guardian or legal representative of an inventor who is insane.

The petition is possibly the least important of the papers forming a part of the patent application, its form not being one necessarily fixed. The form used in practise is followed as most complete and consistent.

Where an applicant files his application in his own name the portion of the petition constituting the power of attorney should be omitted.

Discussion of the Patent Specification

The efficient preparation of a patent specification, addressed as it is to those versed in the art to which the invention relates, requires no small attainment. In the ordinary course of practise cases of widely diversified character are a matter of course, and require skilled knowledge of an endless number of different arts. Practical knowledge of mechanics, electricity, and chemistry, is highly desirable on the part of the attorney, and especially in respect to mechanics must he have a specialist's qualifications.

The practitioner who has had experience in the Federal Courts in sustaining and defeating patents, finds it well to prepare, or supervise the preparation of, specifications and claims for this particular class of monopoly, in the light of his learning regarding the interpretations which are placed upon these instruments by various adjudicating tribunals. Unfortunately, experience shows that the courts and the Patent Office view patents from angles of considerable variance; a condition which it is hoped will be rectified in time. This condition is not due to any lack of desire on the part of the courts to interpret patents equitably, for more conscientious effort to this end could not be desired; the difference is the result of little knowledge by the courts of many phases of the Patent Office practise, and the fact that those who examine patents are so out of touch with the court procedure and information.

In evidencing the recognition by the courts of the difficulties incident to specification work under discussion the following passage is quoted from Litle *vs.* Armstrong, 232, O. G., 935:

> The late Mr. Justice Brown, of the Supreme Court

of the United States, once called attention to the difficulty of drafting an application in the following words:

> The specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy, and in view of the fact that valuable inventions are often placed in the hands of inexperienced persons to prepare such specifications and claims, it is no matter of surprize that the latter frequently fail to describe with requisite certainty the exact invention of the patentee and err either in claiming that which the patentee had not in fact invented, or in omitting some element which was a valuable or essential part of his actual invention.

In the preparation of the specification the statutory requirement must be borne in mind that in order for the inventor or discoverer to receive a patent, he shall file in the Patent Office *a written description of his invention and of the manner and process of making, constructing, compounding and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which it appertains to make, construct, compound and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions.* Revised statutes, U. S., Sec. 4888.

There are different methods of construing the foregoing requirement, which is general in its nature, but the result of a practise established by over three-quarters of a century of active operation of the Patent Office is that the specification should preferably comprise these essential parts, namely, a preamble, a statement of invention including primarily its objects and scope, a brief description of the figures of the drawings (customarily annexed where the invention is of a mechanical nature), a complete description of the invention and

its operation, concluding claims, and the inventor's signature.

The claims of the patent specification are supplied in order to comply with the section of the statute requiring that the applicant for a patent shall particularly *point out and distinctly claim* the part, improvement, or combination, which he claims as his invention or discovery.

1. The Preamble

This portion of the specification is purely formal, consisting as it does in the mere recitation of the name of the applicant including his full first name, his citizenship, and place of residence. As a matter of fact, the preamble is an introduction to the specification and includes in addition to the above mentioned matter the name of the invention of the applicant. (See preamble of form specification on page 335.)

When the application is a division of another application, a statement to this effect should be embodied in the preamble, or in the body of the specification. The parent application should be identified by serial number and the date of filing. This method also should be followed where an application is a continuation of one copending.

2. Preparation: General Suggestions

It is appropriate to premise the discussion of the proper preparation of the patent specification by a few suggestions.

Intelligent preparation work requires complete understanding of the invention involved. It is safest to forego entirely the preparation of papers in the absence of adequate data and information. But once these are in hand the next step is to master the invention as regards those things which are claimed by the inventor as novel, and those which the draftsman proposes to claim according to his best understanding. An outline of the statement of invention and claims may well be devised for the same reason that an eminent practitioner and instructor in patent law always advised the preparation

of a brief, i.e., the outlining or briefing is the most effective mode of logically and intelligently preparing to present an invention or argument.

Without thorough planning, therefore, hodgepodge results are often obtained, and the records of the Patent Office are to-day filled with evidence of the ability of some solicitors to hide inventions in specifications and claims, rather than to disclose them. It must be evident that, like all things else, specifications of inventions improve with care, and the greater the preliminary study the better the final draft of this most important document.

The factor of novelty usually controls the method and form of preparation of the whole specification, not to mention the claims. To elucidate, with any degree of detail, features of an invention which affect little or not at all the essential novelty, is needless. This is waste of time and effort and makes for difficulty in presenting that which is the invention itself. In many instances, however, it is necessary to explain what has gone before in order clearly to show the nature of the improvement, to satisfactorily present the body on which to hang the limbs as to which alone the improvement may exist. Unless this be the situation it is a splendid rule, which the Patent Office approves in the interest of making the examining work less arduous, to stick closely to the presentation of only that essential to an intelligent disclosure of the points of inventive novelty.

When the prior art is before the solicitor, fair effort should be exerted to differentiate therefrom. At this stage of the proceedings, however, the major time should be devoted to submitting the inventive features, for it is seldom that the full state of the art is in front of the one drafting the specification. It is axiomatic that where doubt exists as to whether a part or feature of the invention is new, the same should be resolved in favor of the inventor, and novelty assumed, for the purposes of the specification and claims.

The preliminary study, therefore, stands in good stead to enable a determination of the scope of the claims, and upon this depends the whole framing of the specification, and especially the important statement of invention, which every specification should preferably include. The terms of the specification *for the purposes of proper claims* are thus predetermined. The author sometimes prepares his general line of claims before attempting to draw his specification, and the practise has some advantages in that the proper terms may readily be used in the specification to afford a fitting basis for those of the claims. Again, there is less likelihood of superfluous description. The opposite method is the more logical and effective in the general run of cases, however.

3. The Statement of Invention

The statement of invention in the patent specification is of importance and great care should therefore be exercised by the patent prosecutor in drafting this outline of the objects or purposes of the invention, and its scope. The reason is that it is customary for the courts in determining the scope of a patent, something ordinarily measured by careful reference to the claims forming the concluding part of the specification, to construe the terms of such claims in accordance with the patentee's own assertions relative to the scope of his invention, as found in the general description.

The methods of drawing up the statement referred to above are not entirely uniform, doubtless owing to the fact that patent prosecutors are not wholly in agreement as to the advantages and disadvantages incidental to a more or less complete development, in or at the outstart of the specification, of the objects and the scope of the invention. While originally the statement of invention of a patent specification was confined mainly to a mention of the art in which the invention purported to represent an improvement, and subsequently to mere presentation of the objects intended to be accomplished

by the invention, in later years this portion of the specification has been utilized by prosecutors also to prescribe the metes and bounds of the invention in so far as its claimable subject matter is concerned. This practise largely prevails to-day, and, if the approval of a large majority of patent experts is significant, the course of definitely reciting in the opening statements of the patent specification not only the object of the invention, but just how broadly new the inventor conceives his invention or certain features thereof to be, may wisely be pursued.

It is well invariably to draft the statement of invention having in view the prior art when the latter is available, and to state as clearly as possible at the time the differentiating breadth of the applicant's invention. But, as stated before, when the prior art is not in hand it is advisable to make all assumptions favorable to the inventor and state the invention's scope very broadly.

Apparently, the view of some patent practitioners, men of highest skill in the profession furthermore, is that the scope of a patent is intended to be determined by reference to the claims alone, and that there is a tendency to confuse when the descriptive portion of the specification, as distinguished from the claiming portion, is utilized after a manner for the purpose of presenting a claim. While there is possibility of conflict between these two portions, nevertheless at the present time the Patent Office is quite strict in its requirements that any descriptive statement of claim indicative of the breadth of invention, and forming a part of the patent specification, shall accord precisely with the scope of the formal concluding claims. In fact, it is a practise closely adhered to that no descriptive statement (virtually a claim) regarding the extent of novelty of the invention shall be broader than the terms of the concluding claims, which are the formal claiming part of the specification proper. Certainly the use of the statement offers a narrative method of measuring that which is new,

helpfully supplementing the precise and formal terms of the claims.

A consideration of thousands of specifications warrants the conclusion that it is helpful to the public, and to the courts, if the scope of the invention covered by a patent may be ascertained not only in view of the formal claims of the specification, but by reference to a clear-cut synopsis embodied in a statement of invention of the patentee, one in which he defines *narratively* the scope or breadth of his invention intended by him to be asserted, and maintained, when his patent is construed in view of the terms and substance of his final definite claims. (See specimen statement of invention, page 335.) Too often claims are so intricate in their terminology as to be almost unintelligible when standing alone, for reasons later treated.

In this connection attention is drawn to an instance of the importance which courts attach to an inventor's claim in his statement of invention when it comes to determining whether a mistake has been made in the formulation of the actual formal claims. See the case of Crown *vs.* Aluminum, 108 Fed. 845; 48 C. C. A. 72, from which the following is quoted:

> The case would be different if Painter had unreasonably delayed to assert his rights to reissue after such notice was brought home to him, and where his silence and inaction had misled other parties to their injury; *and the fact that the original patent contained a statement of his invention which covered the subject matter of the reissued claim,* and that a reissue to fully secure the invention disclosed was authorized by law, was sufficient notice that this patent was subject to such right of reissue, which right was liable to be exercised at any time at least within two years.

Here, had it not been for the saving statement of invention, it is doubtful whether Painter would have been able to establish the validity of his reissue.

4. General Description of Invention.

The description section of a patent specification should be commenced by what is known as the "brief descriptions" of the figures of the drawings, when drawings form a part of such specification. The proper place for this is well established and the preliminary references to the various figures of the drawings are helpful to afford knowledge of the general appearance of the invention as illustrated. It is open to question whether the brief description of figures could not well be dispensed with in favor of more references to the figures throughout the main description. Where sectional views are employed, however, it is almost necessary that the views be described as to the lines on which the sections are taken.

The general description of the invention should be a fairly exhaustive or complete detailing of the novel construction, and any old construction disclosed, to elucidate to best advantage the patentable features, speaking in reference to a mechanical organization of elements. The steps, and the order in which they are to be performed, should be described in detail if the invention be a process, and the ingredients, manner of compounding the same, and an actual typical formula, if the invention is a compound or composition. Offhand it might be considered that this portion of the patent specification requires not a great amount of skill or consideration. It is quite true that one who is gifted with a fairly comprehensive knowledge of mechanics or science is often capable of setting forth the manner and process of making, constructing, compounding and using an invention, in full, clear, concise and exact terms, such that a person skilled in the particular art to which the invention relates, may readily practise the invention. Engineers and persons mechanically inclined, and having a fairly complete vocabulary of mechanical terms, are not infrequently able to prepare admirable descriptions of inventions so far as completeness, clarity, and conciseness, are concerned. The difficulty, however, with such descriptions, re-

sides in a lack of cohesion, so to speak, between the different parts of the description and claims, and their relation to the statement of invention, whereby difficulties arise in construing the specification. It is a fact that patent specifications as viewed by the courts are consulted, having in mind, as in the case of contracts generally, the intention of the patentee. For this reason if for no other, too much care can not be exercised in maintaining a complete correspondence between the *statement of the invention*, which precedes the part of the specification now under discussion, the *main detailed description* of the invention to which we are now referring, and the claims, all formulated without ever losing sight of that which is patentably new. This last the engineer or technician usually does not know.

To maintain the correspondence between the essential parts of the specification, it is requisite in the first place that the prosecutor define the invention in the statement of objects and scope, in terms at least as comprehensive as those to be later used in the claims. In like manner, caution should be exercised in drafting the description of structural details so that terms applied to such details will form a basis for and be consistent with terms to be employed in the claims.

A common method resorted to, especially in regard to the main or descriptive portion of the specification, is to employ alternative terms, one broad, and one specific and particularly applicable, in defining the various parts of the invention. An example may be well cited in this connection. Supposing the invention comprises an organization of elements wherein an arm is mounted on a shaft and is adapted for actuation to operate certain mechanism. It is well in the specification to describe this element of the machine not only as an "arm" but as "an actuating member" or "actuating means" broadly, for it is often the case in respect to certain claims, that the recitation of this arm as an arm may not be necessary to lend patentability, and the broader term should be utilized in couch-

ing the essential or main claims for the general machine in terms of requisite breadth.

The general description of an invention not only should set forth the details of construction, but with the possible exception as to the most simple inventions, this description should by all means embody, preferably as it concludes, an explanation of the whole general operation of the machine and its advantages over prior machines. In the event that the invention is a process or method the complete method should be described as carried out in actual practise.

In relation to the general descriptive part of specifications for more complicated inventions it is a practise somewhat established, but not enforced as it should be, for the prosecutor to divide the description into sections, each directed to the explanation of the structure and operation of a certain mechanism which may be fairly complete of itself, and then the coaction of these mechanisms is given in a description of general operation. It is appropriate that when the above course is pursued headings should be employed to distinguish the particular mechanism described from others, all of which may be exemplified by a reference to the common type of adding machine. When the earlier patents were granted for adding and listing machines the general description of the patent specifications of such machines might well have been divided somewhat as follows:

General Description:

Keyboard Mechanism
Adding Devices or Accumulator
Transfer or Carry-Over Mechanism
Printing or Recording Mechanism
Main Actuator and General Control Devices
Ribbon Feed Mechanism
Platen Feed Devices
General Operation

In the course of the drafting of the specification for such a machine, necessarily as each mechanism is described its operability by parts of an adjacent mechanism, or any coaction between said mechanism and one or more of the other mechanisms, are frequently developed incidentally, to be later fully explained in the general combined operation of the machine. It would be a very proper practise for the Patent Office to make an absolute requirement that lengthy specifications for complicated machines be divided in this manner, and to go even so far as to make necessary the separation under appropriate headings of the sets of claims with which such specifications must conclude.

By the foregoing it is intended to say that the subdividing of patent descriptions of complicated inventions should not as now be left to the whim of the prosecutor but be made compulsory. Those who have pride in logically presenting an invention will observe this suggestion as to the specification at least; the proposition of placing headings to intermediate sets of claims on various really separable mechanisms has never been practised so far as the writer is aware. No reason is seen why the grouping of claims of different series should not be made under appropriate headings. All this makes for ease of comprehension of the invention and its novelty, and would be useful under the present system of claims *ad infinitum*.

In order to make clear all references in the specification, to drawings which invariably form a part of a mechanical patent specification, it is customary to employ reference characters designating the various parts of the invention shown by the drawings. The best reference characters to utilize are numbers preferably ranging from 1 upward. Occasionally it is advantageous to use numbers as reference characters for the details of the machine and capital letters each to denote a certain mechanism comprising many parts. As a general thing, the practise of describing more complicated inventions

by using reference letters should be discouraged if a personal preference might be suggested. In the illustration of complicated machines experience proves it far easier to locate parts by numbers than reference letters. A plan pursued by many prosecutors, however, should be cited, this being to use reference letters wholly, a capital letter designating a main element and lower case letters indicating various parts directly cooperating with such main element. An example of this is that the main lever shall be designated E, while rods, projections, cams, shafts, and similar parts directly associated or coacting with such lever, are indicated by reference characters such as e^1, e^2, e^3, e^4, e^5, etc. The latter plan, however, is believed to be the more confusing as compared with the straight consecutive number system of character designations.

A very helpful idea has been developed by a patent examiner of experience, along the lines of clear-cut disclosure of the subject matter of patent specifications and claims. Deserving as it does the thoughtful consideration of students of patent application procedure, the following extract from the Journal of the Patent Office Society, Vol. 2, No. 4, Page 190, is quoted:

PROPOSED AMENDMENT TO THE RULES OF PRACTISE CONCERNING THE STATEMENT OF INVENTION AND MODE OF OPERATION

It is suggested that the Rules of Practise be amended to the effect that the second paragraph of the specification shall comprise a concise statement of the nature of the invention and the mode of operation. This statement should not include reference characters or in any way depend upon another part of the specification or drawing. It is suggested that this statement be printed in the patent in display type so as to catch the eye. It is further suggested that it shall be the duty of the

Examiner to scrutinize this statement carefully the last thing before passing the case to issue to be certain that it relates to the subject matter then claimed.

Experience has shown that despite the efforts of the Office to enforce clearness and exactness, many of the specifications are either prolix or vague, the views of the drawings are either ill chosen or poorly executed, and the claims are often peculiarly worded. The statement of invention now required is frequently merely a title with a reference to the body of the specification for further information. The description of the mode of operation is often so long and encumbered with reference characters that it is exceedingly difficult to follow. Sometimes no mode of operation is presented, but merely a statement that the operation will be apparent from the description.

It is thought, therefore, that it will be better to have a certain very limited but definite part of the specification to which special consideration should always be given, and which should comprise a concise statement of the matter involved, in such language as will be intelligible to the average searcher and will not be subject to the artificial and arbitrary terms which applicant frequently desires to employ in the claims.

That this statement should be placed at the beginning of the specifications is believed to be important, as the mind of the reader will then be better able to grasp the more detailed and complex description following.

W L. THURBER,
Examiner.

Where an invention comprises an improvement upon an existing machine, device, process, or article of manufacture, already covered by U. S. Letters Patent, it is proper to confine as much as possible both illustration and description to the improvements. Under these conditions a reference is usually inserted at the beginning of the description to the particular patent or patents relied upon to disclose the general

features of the invention upon which the new application is based. Only so much of the patented disclosure as is necessary to make a full and logical disclosure of the improvements, should be given. This applies both to description and drawings.

It is notable that the Patent Office does not permit specifications to be wholly rewritten by way of amendment, save when a requirement to that effect is made by the Examiner. This rule is to prevent the considerable work of comparing original and rewritten specifications to as great a degree as practicable. Occasionally an original specification is in very bad condition indeed, and must be redrafted entirely. To allow promiscuous substitution of specifications opens the loophole for the insertion of new matter, and the prevention of the practise is commendable to a high degree.

The foregoing summarizes in a general way the salient things to be borne in mind in clearly and logically developing a patent specification. In many ways the prosecutor may be able to greatly improve his work by individual thought and original methods of expression and lay-out. But by following the lines herein specified the resulting patent will disclose, at least clearly and completely, the invention attempted to be covered. In the typical mechanical patent case presented on page 334 herein, the approved form treated above is graphically illustrated.

5. The Claim or Claims.

We now come to what is considered generally as the most important part of the specification. This importance is established for the reason that in construing the breadth of a patent, the claims submitted by the patentee in terms which he considers set forth properly the novelty and the breadth of his invention, are depended upon primarily for determining the protection to which he is entitled. In other words, it is es-

tablished conclusively by the authorities that the claims of a patent are the measure of protection afforded thereby. In the final analysis, however, it is questionable whether under practical conditions of construing patents the above idea that the claims alone determine the amount of protection to be given the invention is completely warranted. There are so many factors that must control a final adjudication by the courts of the breadth of a patent claim that it is difficult to concede that the claim must stand or fall absolutely on its own legs, so to speak.

The subject of patent claiming is so intricate that it deserves a treatise by itself. By and large, the claim or claims are the means of making or unmaking a patent when it reaches the test of the judiciary. The court may properly consult the specification and drawings in arriving at conclusions as to whether a patent is valid or invalid, but certainly it is hopeless to assume that where the claim is lacking, the patent will be construed to cover matter unclaimed, or where the claim is for more than the invention the court may be relied upon to change it to reduce its scope or contents and save it. Only in rare cases will the latter interpretation occur, as when the question is doubtful and there is a fair basis to make allowances for a doubtful error.

To preserve to the patentee the reasonable fruits of his inventive genius is happily always the objective of our Federal Courts, but no one can fairly ask that something which he himself delimits in his patent claim, shall be construed in a manner inconsistent with his own definite statement, for so to do would destroy the object of the patent system. Our patent law presumes to protect the public as well as patentees in the requirement for precise and definite setting forth of the invention in the claim or claims.

It should be added that a patent is *prima facie* evidence of its own validity, is given full weight as such by the courts, and that its claims are possessed of such strength on the face

thereof that proof of a preponderant nature is necessary to establish invalidity. Naturally, courts do not take kindly to the invalidating of a patent and this is as it should be. But inadequate and careless prosecution of patent applications, and latterly, careless allowances, are responsible for more patent invalidations, probably, than any other causes.

Invariably where doubt exists as to validity the doubt is resolved in favor of the patentee by the judiciary.

What is the basis for the claim of a patent in law? Reference is again made to Section 4888 of the U. S. Revised Statutes. Here we find the requirement that the applicant for a patent "*shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery.*" No mode of claiming is specified, but in the absence thereof the Commissioner of Patents is within the general powers given him by statutory authority when he requires certain forms to be followed in the interest of efficient administration of his office. It is in this way that the general forms of claims discussed herein have become those commonly required as proper and best practise.

The patent claim irrespective of other considerations, and referring to a previous comparison, is also somewhat in the same category with an ordinary contract in that it is as complete a disclosure as it is practicable to obtain of the intention of the patentee in defining the breadth of his invention. As to whether such intention is open to be construed in different ways is perhaps extraneous to the subject. Experience shows if a court wants to sustain a claim it may sometimes go a long way to do it; if the conclusion reached is that the claim should be invalidated similar effort is frequently present. But no one would reasonably contend that it is unwise to give a court the clearest possible idea of what the patentee wishes to claim, as the only safe mode of procedure.

The scientific drafting of patent claims is conducive to the elimination of doubt or confusion as to the intention of the

patentee in prescribing the breadth of his invention. If the claim or claims are couched in definite terms and afford a clean-cut, precise presentation of those features asserted to constitute the invention, the only other elements necessary to be considered in construing the measure of protection, are entirely apart from the claim or claims and would usually consist mainly of a consideration of the main description, and the bearing of the prior art upon the invention; also any concessions made by the patentee by way of disclaimer during the process of procurement of the patent. Even the description might be ignored in interpreting such claims.

Probably no better definition of the object and purpose of the claim is to be found than that given almost at the inception of patent decisions, in Evans *vs.* Eaton, 7 Wheat. 356.

> The specification has two objects: One is to make known the manner of construction so as to enable the artizans to make and use it, and thus to give the public the full benefit of the discovery after the expiration of the patent. The other is to put the public in possession of what the party claims as his invention, so as to ascertain if he claim anything that is in common use, or is already known, and to guard against prejudice or injury from the use of an invention, which the party may otherwise innocently suppose not to be patented. It is therefore, for the purpose of warning an innocent purchaser, or other persons using a machine, of his infringement of the patent; and at the same time taking from the inventor the means for practising upon the credulity, or the fears of other persons by pretending that his invention is for more than what it really is, or different from its ostensible objects.

(See general subject of THE SCIENCE OF DRAFTING PATENT CLAIMS.)

Oath.

The oath to a patent application is the final formal document thereof. It furnishes a sworn statement of the inventor from which the statutory requirements particularly recited in Section 4886 of the Revised Statutes may be seen to be complied with. As one instance alone, we might note that if an invention has been in public use more than two years prior to filing of the application a valid patent cannot be secured therefor. Thus the oath embodies a sworn statement to the effect that the invention has not been publicly used or on sale for a period of more than two years prior to the application. Other statements are made to show that other statutory requirements do not stand as a bar against the grant of protection under the statute within the knowledge of the inventor.

The oath is the most simple and dependable method by which the Commissioner of Patents may advise himself that the conditions affecting the grant of a patent to the particular applicant are probably such as to make the issue of Letters Patent valid.

In practise it is sometimes true that a person makes an oath in good faith, and the statements are not correct for reasons not within his knowledge. Thus a device may have been publicly sold more than two years before the application, unknown to the applicant. In such event the patent is invalid and would be so held upon proof adduced properly to substantiate the sale. (See in this connection chapter on VALIDITY OF PATENTS.)

It is a worth-while precaution to advise an applicant to read carefully the statements of his oath prior to swearing to the same.

The full first name and middle initial of an applicant are usually necessary for all the signatures to different parts of the application except the drawings. This is a rule applicable to the execution of practically all legal papers.

Where an inventor is dead this oath is made by the execu-

tor or administrator of his estate; in a case of insanity, the guardian or other legal representative of the inventor executes the oath.

The oath should be sworn to, preferably before a Notary Public or some official having a seal. If such official has no seal his official character has to be established by competent evidence, such as a certificate of a clerk of some court of record, or by another officer who has a seal.

Care must be taken in respect to applications the oaths of which are executed abroad. In such instances, the oath may be taken before a notary, judge, or magistrate, and the authority of the latter proved by a certificate of some diplomatic or consular officer of the United States. Where possible, the most simple method of accomplishing the execution abroad is to have the applicant appear in person and swear to the oath before the diplomatic officer, an ambassador or consul, and thus save the red tape and expense of the intermediate certificate.

All oaths make provision for the recitation of foreign patents when such have been applied for, and the inclusion of this feature is essential.

Ordinarily, in respect to patent applications executed in the United States, the oath becomes known as "*stale*" if the application is not filed within five weeks after its execution. The Commissioner requires in such cases a *fresh* oath. It would seem as if the original oath could not be held invalid in these circumstances, but the practise discourages undue withholding of filings after execution. Ex parte Branna, 97 O. G. 2533, ex parte Heinze, 756 O. G. 145. The term is three months in the case of applications executed abroad.

It is required that a venue be supplied on every oath in order to show the place where the oath is administered. Caution should be exercised, when a notary's seal indicates his place of authority, that the latter corresponds with the venue. If the two do not correspond, it is obvious that the oath is defective as showing on its face a lack of authority of the

authenticating officer to act in the particular jurisdiction set forth by the venue.

An oath which is administered by the attorney for the applicant is invalid and without legal effect for the purposes of a patent application. See case of Riegger *vs.* Beierl, 150 O. G., 826.

Where an oath, declaration, or affidavit, as subscribed by an applicant for patent used in connection with his application, is falsely made, the offense is perjury under the terms of Section 4392 R. S. As in respect to any ordinary case of perjury it must be shown, of course, that the applicant at the time of making his oath did not believe that the same set forth the truth as regards material matters stated therein. See the case of United States of America *vs.* Patterson 174 O. G. 287.

Necessarily an oath, as filed with an original patent application, affects the invention in respect to the particulars stated in the oath according to the disclosure of the invention in the application papers at the time of filing. Consistent with the terms and spirit of Section 4886 R. S., the practise has become universal in Patent Office procedure to allow an inventor to amend his application in respect to his disclosure of his invention whereby to conform with the requirement of the statute that the description shall be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains to make and use the invention. This exacting requirement is not always complied with at the filing of the application by reason either of informality or incompleteness of the description, or inexactness of the claims.

Very material amendments may be made in the original disclosure of an invention in an application and therefore care should be exercised to see whether the original oath covers the invention substantially as presented in the amended application. If not, the Patent Office rules make provision for filing a supplemental oath. (See Chapter on SUPPLE-

MENTAL OATHS.) An issued patent may become invalidated for failure to file such additional oath under circumstances where it is really necessary. In the case of Nathan Anklet Support Co. *vs.* Cammeyer, 256 F. R., page 970, the court held as follows:

> The entire description and claims of Nathan were canceled on October 19, 1906. The original description detailed the uses of the inner soles with their variously located pockets in which wedges were to be seated to increase the thickness of the sole. The new description described the insole as adapted for use without any insert, and the layers of the insole as being of approximately the same size, so as to lie smoothly upon each other when the inserts or filling members were removed. These characteristics were not developed in the original description. The idea of "means" by which this is accomplished is new, and was not contained in the original description. The original description provided for means whereby inequalities in the sole may be provided when needed. No new oath accompanies the new description, and for want of it a patent has been held to be void. Steward *vs.* American Lava Co., 215 U. S., 161, 30 Sup. Ct. 46, 54 L. Ed. 139.

Drawings.

Where an invention is susceptible of illustration, a drawing must always be supplied as an essential part of a complete application. When possible, the drawing should contain in a single figure or view the complete invention.

The number of sheets of drawings must be held down to the minimum necessary for complete illustration. This is desirable obviously to reduce the work of examination and multiplication of papers in an application, and also to reduce as much as practicable the work and expense of reproduction of the patent to supply copies for public sale.

A Patent Office drawing must comply with certain definite requirements as to size, mode of placing figures, and character of material used.

The regulation size is 10″ x 15″, and Bristol Board with glazed surface is the prescribed kind of paper that must be used. The figures must preferably be disposed vertically of the sheet of drawing. Where the illustration is especially long it may be placed lengthwise of the sheet. This makes the turning of the sheet necessary to read the figure, so the arrangement is prohibited except in the exigency stated. A blank space of one and one-fourth inches must be left at the top of the sheet to facilitate printing of the headings of the final patent.

The drawings should have the figures thereof consecutively numbered, and the parts should be designated in correspondence with the reference characters of the description in the specification; and reference is here made to the discussion of certain matters affecting the drawings as found on page 128.

No statement of dimensions or reference thereto is required or desired, in patent specifications, and hence the drawings are not made to scale if not convenient to so draft them. In fact, good draftsmen often much exaggerate details of construction for purposes of clearness. Shading is to be omitted except where very desirable to show rounded surfaces and other features to best advantage. Features extraneous to the invention itself should find no place on the drawings, unless necessary to a proper understanding of the invention.

The drawings must illustrate everything described in the specification, or claimed in the claims under the rules. A feature not worth illustrating is not worth describing, and *vice versa*.

Signatures are placed at the lower right-hand corner of each sheet, and witnesses on drawings are no longer necessary, tho not prohibited.

If the signature on the drawing is that of the applicant the

same alone is sufficient and an attorney's signature improper. The only purpose of the attorney's signature is to show that the inventor's name is signed by him, wherefore the following is the acceptable form:

INVENTOR
JOHN DOE
By
RICHARD ROE
His Attorney

The other special requirements for formal drawings are well given in the Rules of Practise of the Patent Office. Special modes of lining for showing materials such as glass, rubber, etc., are supplied; also peculiar signs or emblems are given for illustrating electrical parts, or the like. These should invariably be consulted.

The drawings of an application perform a most important function in assisting to fix definitely the extent of the disclosure of an invention in its original presentation in the application. In explanation of this it is notable that, in the course of procurement of a patent, the proposition frequently arises as to whether everything is illustrated in the drawings which is described in the specification or claimed in the claims. Additions to the drawings are often made under these conditions and in some instances questions arise as to whether additional illustration when presented is within the purview of the specification as originally filed in the Patent Office. Any attempt to inject into the drawings something not originally described or claimed would be an infraction of Rule 70 which reads as follows:

> 70. In original applications all amendments of the drawings or specifications, and all additions thereto, must conform to at least one of them as it was at the time of the filing of the application. Matter not found in either, involving a departure from the original in-

> vention, can not be added to the application even tho supported by a supplemental oath, and can be shown or claimed only in a separate application.

Under the foregoing rule it is evident that matter not presented either in the original drawings or specifications may not be inserted by amendment in either one of these parts of the application.

Owing to the provisions of this rule it becomes impossible to modify a specification or the drawings of an application so as to include something therein constituting new matter (according to the legal expression used in this connection), and such as might form a basis for claims that could not be made upon the foundation of the original disclosure. The question of new matter is a difficult one at times to determine, especially where there is any looseness in the description in the specification. The proposition being largely one of fact, common sense may ordinarily be relied upon to determine that which is new matter and that which is not. The following authorities are cited in connection with this phase of amendments to drawings and descriptions:

> New matter can not be introduced, whether or not the party had knowledge of it and intended to include it, where there was no obvious error and the device was operative as shown.
>
> Taylor, 13 Gour. 22-17 (Mar., 1901).

Where an application as filed discloses several specific forms of the same generic invention, Held, that an amendment can not properly be made disclosing another specific form altho it embodies the generic invention.

> Hoegh, 100 O. G. 453; 1902 C. D. 254.

Where the parts described will not operate as stated and it appears from the whole case that through a

clerical error the parts were misnamed, Held, that an amendment correcting the error does not involve new matter and that an additional view may be added to the drawing showing the construction more clearly.

Ex parte Larson, 101 O. G. 2568; 1902 C. D. 452.

Where an amendment is presented containing a new description and claims or descriptive matter affecting the claims which is regarded as a departure from the invention originally disclosed, Held, that the amendment should be entered in the application and the claims rejected on the ground of new matter.

Ex parte Furness, 104 O. G. 1655 (1903).

Where the original specification describing a process did not indicate the use of any reducing agent, an amendment describing as a part of the process "heating —— with a slight excess of coal, —— or other reducing agent" involves new matter.

Garibaldi, 19 Gour., 21-16 (Mar., 1907).

When an application was abandoned in favor of a later application, Held, that thereafter matter not originally shown in the second application cannot be entered therein by amendment, altho shown in the prior application.

Hagey, 173 O. G. 1081 (1911).

(C. C. Pa., 1911.) A claim for a patent is not invalid because its language was changed to meet the views of the examiner in the Patent Office, where the invention covered is the same described and claimed in the application.

(For other cases, see Patents, Cent. Dig. 244; Dec. Dig. 168). Phoenix Knitting Works et al., vs. Hygienic Fleeced Underwear Co., 194 F. 717, 720.

(C. C. A. 2nd Cir., 1917.) Where an applicant for

patent amended his claim, so as to include an element not theretofore stated therein, such amendment is valid, if the element was always a part of his invention; but, if it was a departure from the original invention, it was invalid, unless supported by the statutory oath.

(For other cases, see Patents, Cent. Dig. 152. Decree 230 F. 829 affirmed.) Kintner et al. vs. Atlantic Communication Co. et. al., 240 O. G. 339; 240 F. 716.

Amendments attempting to cover up practical devices brought into use after the filing of the application, Held, to be without foundation in the original disclosure.

Smith, 271 O. G. 155 (1918).

Correction of Drawings.

The correction of drawings is permitted under the present practise in accordance with Commissioner's Orders No. 1958 of February 3, 1912, and No. 2112 of March 13, 1914. In brief, the procedure which must be followed is to first supply the record of the file wrapper at the Patent Office with a black line photographic or lithographic copy of the drawings as originally filed. These copies become a permanent part of the record. The corrections which are proposed should be submitted to the Examiner by a black line sketch in permanent ink which also becomes a part of the permanent record. When such sketch is submitted, a request is made of the Examiner to give permission in writing for the making of the correction according to the proposed sketch. If the Examiner objects to the correction he will state his objections, but if the correction is allowable under the rules, he will grant permission in the record.

Thereafter, the applicant or his counsel must authorize the official draftsman of the Patent Office to make the corrections according to the permission extended by the Examiner. The

amount of the draftsman's charge must be advanced, and estimates will be furnished for making corrections on filing a request for the same.

Miscellaneous Matters.

As a general thing, it is customary to illustrate in an application the preferred form of the invention directed to the general combination of elements intended to be claimed. All claims of an application must read upon some single figure of the drawings.

Where differences arise between the Examiner and the applicant as to the permissibility of making an addition to a drawing, the questions may be taken to the Commissioner by a petition. Where new drawings are to be added to a case for purposes of additional illustration, permission must be requested to make the addition, tho it is customary to file the drawings at the time of making the request. Additional drawings cannot be filed at the whim of the applicant and will only be accepted when necessary for purposes of proper illustration of the invention.

It is desirable to make complete and full illustration of the invention in the drawings; inadequate drawings are in some cases the cause of issue of invalid patents. Recourse is best had to a skilled patent draftsman acquainted with the official procedure in the preparation of drawings for Patent Office purposes.

VI

THE SCIENCE OF DRAFTING PATENT CLAIMS

Classes of Patent Claims: Accidental; Abstract; Concrete.—Claims as Word Pictures (How Prepared).—Claims: Differentiating from Prior Art; Avoiding Effects of References Cited; Plural Claims.—Claims: Combination and Aggregation Claims; Subcombination Claims; Genus and Species Claims; Election.—Claim Formalities: Claims Sustained; Claims Held Void; Form of Claims; Classes of Claims in One Application; Testing the Claims When Completed; Repetition of Limitations; Multiplicity in Claims. Breadth-Controlling Phase.

Patent Claims

Previous to a discussion of claims coming within certain classes hereafter named for the purposes of this explanation, it is appropriate to dwell a little more in detail upon a very essential object of the patent claim. Truly, one purpose of the patentee in presenting his claim, and the examiner in allowing it, is to define the novelty of his invention in the broadest possible way. This is the function of a claim looking at the situation from a positive viewpoint. Negatively speaking, however, the object which must be maintained in the mind of the patent prosecutor in the drafting of the claim is that of characterizing the invention in such terms as to cover all like inventions equivalent in breadth or novelty; i.e., all similar or analogous elements if the invention is a mechanical one, steps or operations if the invention be a process, or ingredients and modes of compounding the same if the invention be a composition or product.

There is no question but that the drafting of patent claims is a science in itself, and while the preparation of a claim par-

takes tremendously of the individuality, viewpoint, and mentality of the solicitor, so far as the results are concerned, nevertheless there are definite and prescribable principles that may be followed in drawing such claims. In fact, these principles are so definite that by strict adherence thereto it is within the range of probability that several different solicitors might, and frequently do, draw claims of substantially the same scope and in practically the same terms, predicated on the same invention. On the other hand, experience counts heavily in ensuring a proper scientific preparation of patent claims, and, of greater importance, their procurement by skillful differentiation from the prior art, or logical and appropriate argument, or both, as required. That a knowledge of how courts view claims under the burden of attack, is an exceedingly valuable asset enabling a true comprehension by the solicitor of the approved forms of specifications and claims, is self-evident.

Classes of Patent Claims

There are three classes of patent claims, classes which have come under the observation of every patent solicitor of even inconsiderable experience, tho possibly not named as set forth herein, or in fact named at all.

Seeking some arbitrary but distinguishing classification, the first class might be said to comprise those claims which are accidentally formulated without any distinct idea or recognition of proper breadth, so far as the problems of differentiating the patentable novelty of the invention from the prior art and presenting such patentable novelty in the broadest terms are concerned. Those familiar with patent prosecution have time and again come across claims in this category, claims which constitute mere puzzles regarding possible appreciation or understanding of the reason for the inclusion of limitations therein, or the omission of limitations. Such claims, which are entirely formal and acceptable to the Pat-

ent Office, establish quite properly the cooperative relation of the elements defined thereby, but upon analysis in view of established principles of patent law, and especially in view of priorities bearing on the particular invention, they afford no basis whatever for a conclusion as to why their terms of limitation or nonlimitation were employed, or why the combination or combinations of elements recited therein were defined.

There is this comment to make in reference to claims of the above nature: Such claims are merely the result of the ability of the one drafting them to combine in a formal manner, meeting the terms but not the substance of the statute, novel elements or features of a machine or other invention. There is a total lack of comprehension as to the method of differentiation of the particular invention from the prior art, in terms defining the real invention in its novel and broadest phases. The drawing of claims which come in the class just referred to is equivalent to the production of a result, without a knowledge of how it is attained, and without knowing how such result might be made of greater or less efficiency. This class of claims, therefore, will be styled *accidental.*

Accidental claims are a most dangerous type because they resolve the matter of protection to a question of luck, rather than involve a really scientific and differentiating method of terminology. There is no invention so abstruse, or so complicated, but that its metes and bounds may be properly claimed.

In a recent patent interference cause, upon the decision of a motion for dissolution, a Law Examiner held to the effect that in a case such as at bar, involving certain complicated registering machines, it was difficult to say whether an applicant was entitled to make a claim for a certain combination, shown broadly to be old, or, for only certain details of the combination that were novel; if for the latter alone, the resulting patent would be of little value, etc.

The question of novelty appears secondary to one of value

in this view, when novelty is the primary and essential factor upon which to determine the basis of claims. The patentability of claims has to be settled in the light of protecting the public as well as the inventor. But, more important, there is no such thing as an undefinable invention. The rules of procedure and the law of novelty are such that a claim can be drawn to the essential novelty, if it exists, in terms of a proper combination, subcombination, or other class of claim. There may be doubt as to the novelty or patentability of an invention, but claims of patents would be on a most unscientific basis if there were no definite classes available for all possible forms of invention.

There are two other classes of claims which we shall call *concrete* and *abstract* for want of better appellations, having in view the methods of formulation thereof.

Such classification is based upon a recognition of the fact that in drawing patent claims two different mental attitudes may be assumed. Some draftsmen with an intimate knowledge of science, mechanics, chemistry, etc., deem themselves able to circumscribe by definite limits the exact degree of novelty of invention. What is meant may possibly be presented more clearly by saying that there are those who believe that, upon the study of an invention, it is possible to draw claims of greatest breadth, *having in mind* a certain limited number of modified adaptations (pictures) which the invention may take, all of which are thought out in advance by the claim draftsman. This may be possible, but it is highly improbable as to ninety per cent of all inventions patented, and in reference to the qualifications of perhaps a higher percentage of solicitors.

The tendency of the draftsman having the mental attitude above treated is to draw the broadest or generic claims covering the invention in terms which are concrete, or quite definite, formulating pictures very closely disclosing the invention. These claim pictures are consequently sometimes much more

specific than necessary, being based upon a fairly definite conclusion as to how many variations of the invention may exist, or how much modification may take place, without departing from the broad spirit or its scope of patentable novelty, more properly speaking. The conclusion is too often wrong!

On the other hand, many highly competent men are unwilling to assume a knowledge of all the present or future variations possible in respect to an invention, which variations should be comprehended within the scope or novelty to be covered. If experienced, a man of this type of mentality has had instances demonstrating that his present vision and foresight are unreliable, at times at least, to enable him to correctly diagnose, so to speak, the future possible adaptations an invention may take. At the risk of looseness and too much generalization of terminology, therefore, he proposes to use general, not concrete, terms in characterizing the novelty of the invention for purposes of his broadest patent claims. This course he believes most likely to cover the changes a possible infringer may make in endeavoring to usurp the invention, or its principal features. He will draw a larger number of such claims, too, for fear that, unless graduated pretty closely, his broader claims may fail to hold good for some statutory reason.

By reason of such a viewpoint, claims drawn by this solicitor will be general, or of the abstract class. They are more likely to be invalidated, but if valid, there are ten chances of holding the infringer, to one when the concrete claims are relied upon. Moreover, good abstract claims are usually supported by concrete claims. The point is the solicitor does not make his bed on the concrete claim alone.

Claims as Word Pictures—How Prepared

Having an invention before you with its objects understood and its scope clearly determined, along with a complete comprehension of the details of construction and operation,

the broadest claim which may be drawn to that invention is a word picture of the same which is complete with the recitation of the least number of parts, such parts represented by terms comprehending not only the invention as specifically disclosed in the patent specification, but such inventions as may be equivalent thereto. It is notable that to the mind of the layman the broadest patent claim is the one which contains the most words and embodies the most complete detailed description of the invention. Of course this is the opposite extreme of what is actually true.

Not only is the ideal mode of claiming an invention the creation of a single word picture of the complete invention in terms that are definite tho broad enough to cover equivalents of parts and cooperative relations, but additionally there should be the creation in proper sequence, of supplemental word pictures, each disclosing the invention more in detail than the preceding one, until the final picture may be said to be one replete with details.

But why is it necessary to employ more than one claim? It is not necessary to do so, but it is excellent precaution. In the early days of patent claims the custom was to draw one or two claims for the invention. Frequently a court would adjudicate them invalid. So the solicitor in the interest of precaution began to draw more than a few claims by refining his language and adopting a system of graduated claims, as they are termed in respect to breadth. This method offers the opportunity, on litigating a patent, of having an ample number of claims of varying breadth from which to choose one or more which may be viewed as safely valid, to be pressed on as infringed. This method has been carried to an extreme out of reason, as is fully demonstrated later.

The precautionary phase above presented is not the only basis for graduated claims, however. All of the elements of a structure are often not necessary to its utility. In fact, in most inventions, there exist certain parts essential to an op-

erative structure, to which may be added here and there other parts or detail features whereby to make other more complete operative structures. But the entire invention as a complete structure may not be essential to practical usefulness of the patentable novelty involved, so it would be fatal to depend upon a claim limited to the exact details of a structure when a small part could be omitted and the protection of the claim avoided. The assumption, of course, is that the invention is novel in more ways than the most limited word picture might depict. (See subject of PLURAL CLAIMS.)

Assuming the invention to be mechanical in nature and of broad novelty, the first word picture or claim should be one which is readable upon the largest possible number of different mechanical structures, without being anticipated and without being indefinite. The last or most specific claim is a picture of the invention, covering practically only the particular structure of the said invention as disclosed, and avoiding unnecessary limitations as to detail parts which add no patentable novelty to the claim.

Let us start with a picture, as a mode of illustrating the rudimentary principles of scientific claiming. (Refer to Figure 1.)

In this picture what are the large things which stand out—are seen first—and which constitute a complete operative structure, so to speak? They are a body or torso and a support for the same. These things we see prominently (broadly), when we dim our eyes and look only for the main elements. Examining more closely—opening the eyes a little more—we find the combination of a body of a human being and a seat on which the body is supported. Next, more specific, after closer examination, we find the body to comprise the complete whole of a man including trunk, head, legs, and arms, and a seat comprising a *horizontal member* and *spaced legs*, on which seat the man *sits*. Finally, we see all that is last character-

ized, together with the arrangement of the left hand on the right knee, and the right hand resting on the seat, or in other words, the knee and seat coacting to support the hands.

With the foregoing in mind here are claims properly drawn to this picture structure, assuming it to be a new invention:

1. In a statue, the combination of a figure comprising a body, and a support for said body.

2. In a statue, the combination of a figure comprising a human body, and a seat on which the body rests in a seated posture.

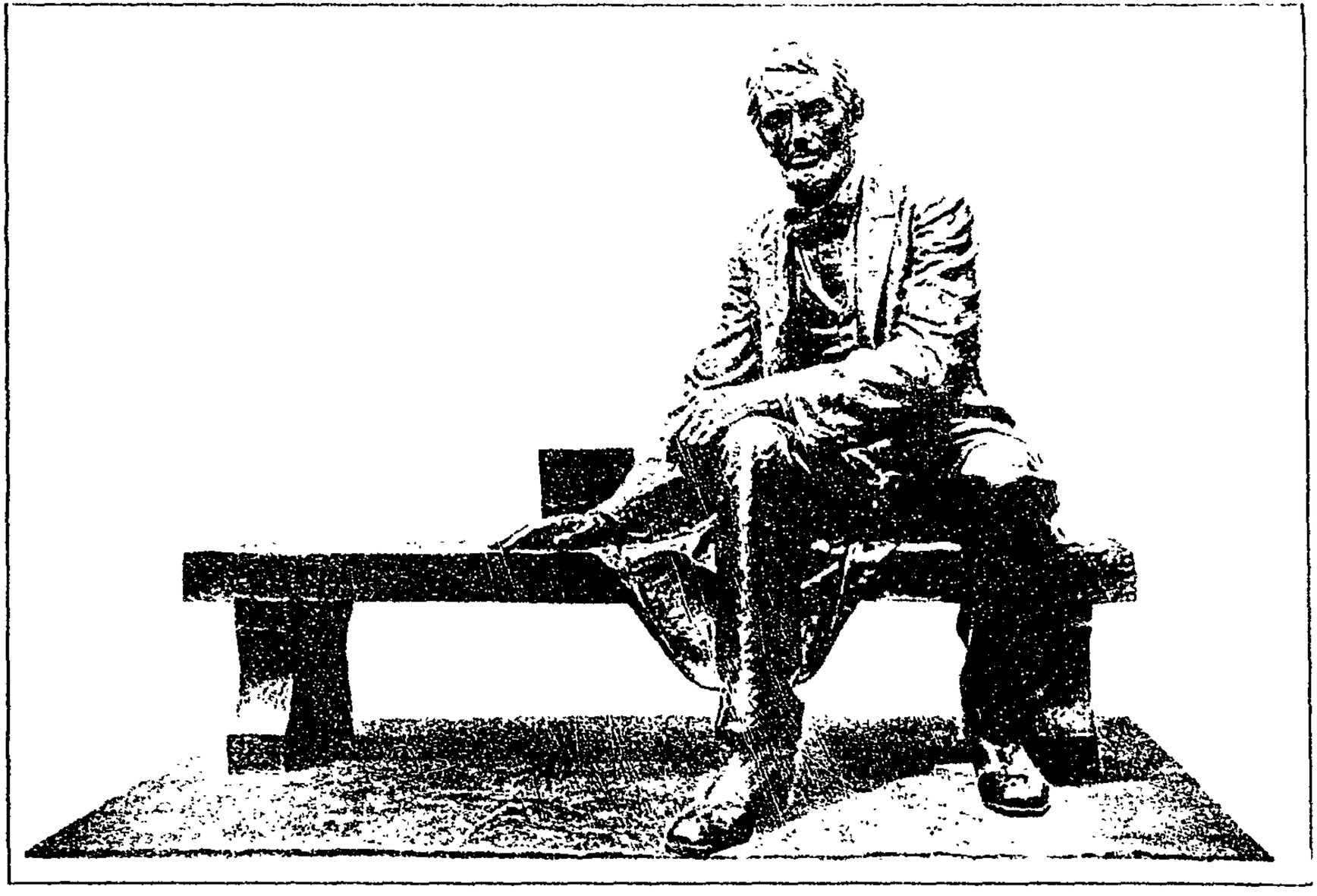
3. In a statue, the combination with a figure comprising a human body including a trunk, arms, legs, and head, of a seat comprising a horizontal member on which the figure is seated, and legs for said seat.

4. A statue substantially as claimed in claim 3, in which the hand of one of the arms rests upon a knee of a leg of the figure and the hand of the other arm upon the horizontal member of the seat.

These claims are couched in the abstract sense at least as to claims 1 and 2, the classifications concrete and abstract, primarily, tho not necessarily, comprehending broad or generic claims. Each claim is for a complete operative structure.

It may not be possible for the claimologist drawing concrete claims to see how the construction would be operative without arms. He would, therefore, be sure to include the arms. Supposing the inventor was the first to combine a body and a support in a statue; obviously a concrete claim including the arms would fail to cover the statue of Venus de Milo which lacks arms. By the same reasoning, the statue of Venus de Milo could be made, and infringement of the said concrete claim avoided owing to the inadequacy of such claim.

For the purposes of the description, the broad term "hu-



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FIG. 1

man being" would also be used to characterize the figure. "Human being or body" includes man, woman, or child, and hence the claim using that term is broad to the human kind and not limited to a particular sex. The term "support" ought also to have proper basis in the description of the specification, for a support is more than a seat, obviously.

Claim 1 above would cover a statue composed of a lion mounted on a hill-like base; also, the claim would cover an inanimate figure of a prairie schooner the wheels of which rest on a base of some sort. Claim 2 covers the statue whether the body is one of a human of any sex or age, but having a seated posture. A head might not be visible or formed for the statue and still the structure would be covered by the first and second claims, tho not by the third and fourth.

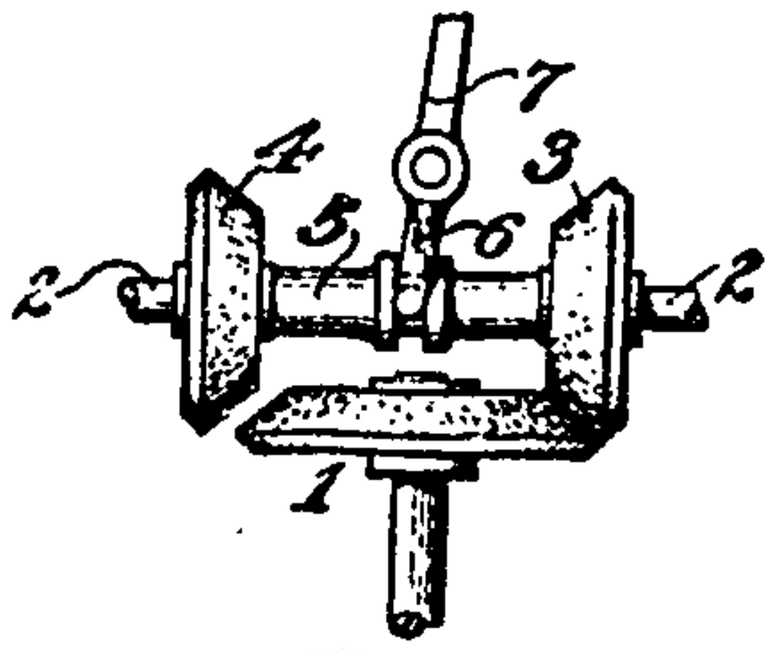


Fig. 2

If these suggestions are borne in mind, the proper approach to the right mental attitude for preparation of patent claims will be had. The same idea of broadly and then specifically developing an invention is useful for claims of mechanical, process, composition, and article of manufacture inventions.

We pass now to practical mechanics for a similar discussion. By way of example we may take the simple gear mechanism of Figure 2 above, and review the several types of claims, accidental, concrete, and abstract, following the form of claims most commonly used to-day.

In this illustration is a friction gearing consisting of a shaft carrying the driving element or gear 1, a second shaft 2 forming a driven element and carrying thereon the driven members or gears 3 and 4. The gears 3 and 4 are fixed on a sleeve 5 keyed to the shaft 2 and having a central grooved portion engaged by the fork 6 of a shifting lever 7. This

gearing is a common form of reverse gearing in which the lever 7, by movement in one direction, causes the gear 3 to engage the gear 1, whereby motion is transmitted from the driving element 1 to the shaft 2, rotating the latter in one direction. A shifting of the lever 7 in an opposite direction will engage the gear 4 with the gear 1 and the motion transmitted to the shaft 2 will be in a reverse direction. It is evident also that if the shaft 2 be the driving member, and the gear 1 the driven element, the motion of the latter may be reversed by cooperation of the gears 3 and 4 therewith. We shall assume that this mechanism is entirely new.

The claims draftsman with sufficient knowledge of the general form that patent claims must take, but without particular knowledge as to the rules governing scope, differentiation from prior art, and other factors controlling the scientific drawing of a claim, would probably cover the gear mechanism above described by a claim of this sort:

> In gear mechanism, in combination, a pair of shafts arranged at right angles to one another, one of the shafts having spaced beveled gears thereon to turn therewith, a third beveled gear intermediate said spaced beveled gears and adapted to engage with the latter, and means to shift the spaced beveled gears comprising a sleeve fitting about the shaft carrying the beveled gears and formed with a groove centrally between said beveled gears to receive a shifting fork, and a pivoted shifting fork extending between the gears and engaged in said groove.

The foregoing claim is a typical claim of the accidental class which does not involve the exercise of certain working rules of claim drafting. The draftsman has ignored the proposition of whether the gears 3 and 4 might be shifted by a lever engaged with the gears at the outer sides thereof. The fact that the groove of the sleeve 5 might not be centrally be-

tween the gears 3 and 4 seems not to have concerned him: likewise, whether the gears are beveled gears or not appears secondary and an unconsidered limitation; and the limitation as to the shafts being at right angles is obviously injected because that is the first thing that appears to be noted on looking at the invention.

Let us now assume the attitude of him by reason of whose mentality the concrete claim is the approved type. He, figuratively, approaches the construction of the mechanism about in this manner: "The gears must be beveled gears or this construction would not be practicable. It seems to me that there would have to be a sleeve connection between the gears 3 and 4, tho of course the gears could be shifted by some other device than the lever 7 engaging the middle of the sleeve 5." So with these and like observations this claim draftsman proceeds to draw up the following claims:

> 1. In transmission gearing, the combination of a driving beveled gear and a shaft for operating the same, driven beveled gears adapted to engage with said driving gear at opposite sides of the axis of the latter, a sleeve surrounding the shaft and connecting the driven beveled gears together, means connecting the sleeve to rotate with the shaft, and means for shifting said driven beveled gears to engage one or the other with the driving beveled gear.
>
> 2. In transmission gearing, the combination of a driving beveled gear and a shaft for operating the same, driven beveled gears adapted to engage with said driving gear at opposite sides of the axis of the latter, a sleeve surrounding the shaft and connecting the driven beveled gears together, and splined on the shaft, and a shifting device for the driven gears engaged with said sleeve.

In the first claim above, the claim draftsman has taken the view that the connection between the two gears 3 and 4 must

be a sleeve. Before he did that, however, he came to the conclusion that both gears 3 and 4 were necessary to the mechanism which we are assuming, of course, is absolutely novel. In the second claim, the same limitations are carried and the actuating lever defined in its specific relation to the sleeve.

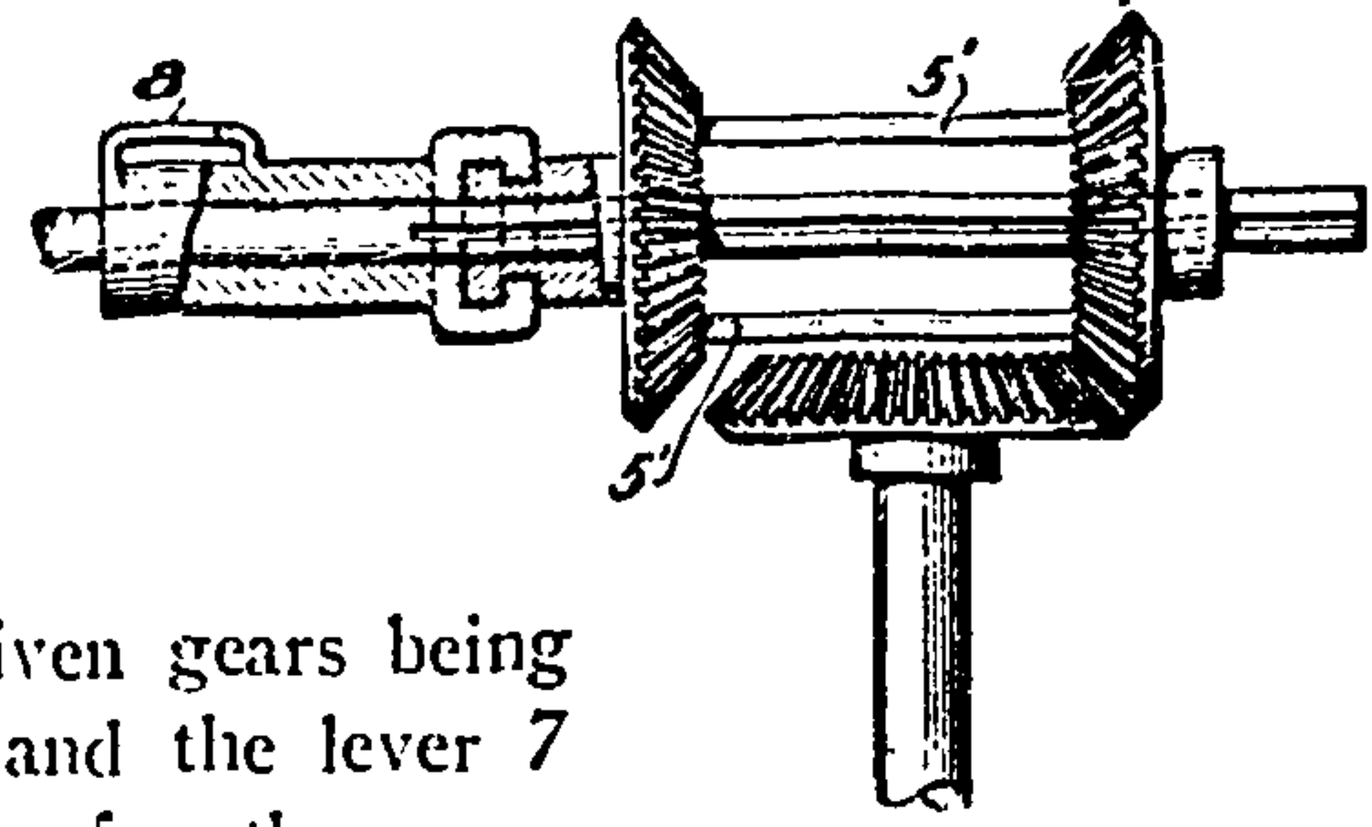


Fig 3

We will assume now that someone builds a gearing like that of the illustration of Figure 2, in principle, but specifically like Figure 3, the driven gears being connected by rods 5 and the lever 7 having substituted therefor the operating sliding handle 8.

It will be quite evident that the claims of the first and second classes above will fail to cover the modified construction which is practically, in principle, the identical device of Figure 1. Nor would they cover a construction omitting the sleeve connection and operating the gears 3 and 4 by separate levers. Under these circumstances, the real invention might be usurped for failure of adequate protection of the originator of the construction in Figure 2.

Now let us adopt the attitude of the draftsman who is inclined to make his claims general, possibly a little indefinite, but primarily broad and comprehensive, as his essential object. He soliloquizes somewhat like this: "While I do not believe it practicable for many purposes, this gearing might be used to advantage even if one of the gears 3 and 4 is not employed. I think, therefore, I must claim this mechanism in my broadest claim comprehending the cooperation of the gear 1 and one of the other gears alone." With this in view, he draws the following claim as his broadest picture of the essential features of the mechanism:

1. In combination, a driving element, a driven element and means cooperating with the said elements to cause the driving element to transmit motion to the driven element.

The above claim covers largely the idea of transmitting motion from one element to the other and, since the construction is wholly new, that is the broadest phase of action and construction involved. It becomes evident on study of the mechanism that certain considerable advantage is derived from the use of gears 1 and 3 between the two shafts to facilitate transmission of movement, so the following is prepared as the second claim:

2. In combination, a driving element, a driven element and gears intermediate said elements, whereby motion may be transmitted from the driving element to the driven element.

But still the draftsman is not satisfied; he feels that there is still a very broad idea which he has not fully covered. This is, that by using the two gears 3 and 4 with their relation to the gear 1 we have the first reversed driving of the devices 3 and 4 which the claim draftsman has ever seen. So, to cover this idea broadly, he draws this as his third, tho it might have been his second claim, because the first two are pretty much the same:

3. In combination, a driving element, a driven element and means for transmitting motion in reverse directions to the driven element from the driving element.

Additional claims of the abstract type might be as follows:

4. In combination, driving and driven shafts, a driving gear on the driving shaft, driven gears on the driven shaft separately cooperable with the driving gear, and

means for establishing cooperation between either of the driven gears and the driving gear to transmit motion from the driving shaft to the driven shaft.

5. Gearing as claimed in claim 4, wherein the last-named means comprises a device for shifting the driven gears simultaneously, enabling one of the gears at a time to coact with the driving gear.

In a way, the terminology of this group of claims is somewhat loose. The broad term "element" is employed instead of "gear" in some instances. The engagement between the gears is defined in terms of "cooperation," not direct engagement. The mental attitude is presented by these words: "It may be that these parts have to engage one another in practise, but I am not sure about this; it might be done in some other way and I will take no chances of a better mechanic than I producing the result by a rearrangement which I cannot myself see at this time."

The foregoing is quite the view of the abstract claim theorist as against him who says, "These gears must mesh or engage one another. I cannot see how this would work otherwise." In this respect the concrete claim theorist may be correct, but it is this very mental attitude that leads him to limit his claim respecting the sleeve 5 when that sleeve is not necessary and, under some conditions, might not be desirable, if the mechanism should be used for certain purposes.

It is notable that when it comes to the construction of Figure 3, the improvement, we will say, on that of Figure 2, the claims of the third group are by no means avoided; they adequately cover the modified adaptation tho abstract in terms.

It is rare, moreover, that he who draws abstract claims fails to fall back on the concrete claims as secondary.

Of course the above examples are rather exaggerated, but they are typical of the schools of thought of the different classes of claim draftsmen. In the final test, the value of the claim depends upon its capability of protecting equivalent structures.

In the practise of prosecuting patent applications it is always best, upon the showing of the prior art, to make claims which are very general, more specific, to definitely cover the particular invention, for original, rather general, or indefinite terminology sometimes leads to conflict with other structures. If the claims comprehend in their scope such other structures, they will be anticipated thereby. In the absence of anticipations the abstract claim should safely afford the claimed protection.

Summarized, therefore, it is desired particularly to convey, by the foregoing references to the abstract type of claim, that as distinguished from the concrete claiming method two phases of claim limitation are avoided. In the first place, the abstract claim defines the relation of elements without reference to specific structures, as a primary phase. In the second place, the abstract claim is intended to eliminate the objectionable practise of too closely defining specific constructions of the elements themselves. These two special phases of claim limitation are those which are all too frequently indulged in, with the result of ultimate claim inadequacy, so far as the protective function of the claim is concerned. The concrete claim exemplifies an infringement of the rules laid down for modeling the abstract claim.

Differentiating From Prior Art

It is hardly necessary to state that thorough knowledge of claim definition for all purposes as well as that of distinguishing from the references in the prior art, depends largely upon thorough knowledge of the laws of novelty and patentability, so well treated by authors such as Walker, Robinson, and Hopkins, and not intended to be covered in this work. But as a rudimentary study in the example before us, some broad principles may be laid down that will assist a student to grasp in a way the method of the development of novelty, to distinguish the claims from prior constructions.

Reverting to the illustrations of Figures 2 and 3, we place these two constructions of gearing side by side and assume that the construction marked Figure 4 is an original development of the gearing in the prior art and that the construction marked Figure 5 is a refinement or improvement, for the purposes of this explanation.

On comparing these two Figures 4 and 5, it must be seen that a claim for the Figure 5 construction which emphasizes

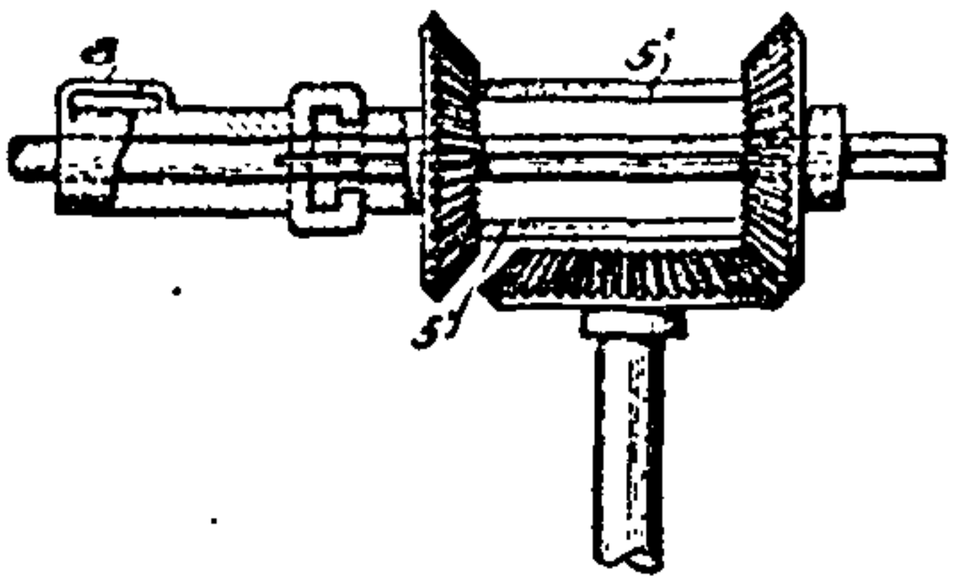


Fig. 4

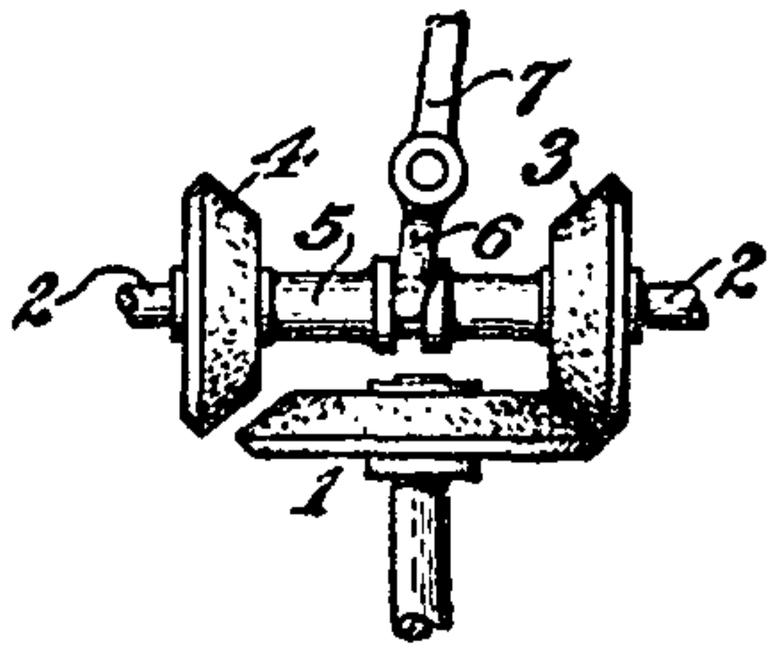


Fig. 5

that two of the gears are used would refer to a feature of construction negligible for the purposes of definition of invention of the construction of Figure 5. That is to say, the two mechanisms are the same as regards the arrangement and form of the gears. The student should, therefore, simply deal with these parts broadly in his claim and pass to some other feature that is really new upon which to lay emphasis. This feature, as a starter, might be the sleeve 5 which decidedly is a better mechanical structure than the rods 5′ of Figure 4. A claim, therefore, might be drafted, broadly defining the gears and their relation and definitely reciting the sleeve 5 and its mounting on the shaft 2, it only as a most convenient connecting means between the gears. Still another claim might be that drawn for the same subject matter, developing the connection of the lever or operating member 7, broadly, with the sleeve 5, because obviously with this construction there are advantages in not requiring an extra part such as the offstanding extension to which the handle 8 of

Figure 4 is attached, and obtaining an easier operating means.

To incorporate in the claims such limitation as the central location of the groove of the sleeve 5 is unnecessary and unduly limits, because there is really no advantage for such feature. To define that the lever or actuator 7 is opposite the shaft supporting the gear 1 is, likewise, wholly unessential and superfluous. Yet, it will be surprizing how many claims draftsmen in handling claim definition, for purposes of defining novelty, will include just such unessential and unimportant limitations, without due thought as to the possible consequences should the claim come to the consideration of a court, which takes the view that what you claim is what you deem essential and novel, and that you must be strictly held to your own delineation of your invention whether the limitations be necessary or not.

There has been given thus far but one very simple exposition of the mental processes by which claims may be outlined with a view of rendering their subject matter distinguished from what has gone before.

The number of methods to which recourse may be had in order to point out the patentable novelty in a claim or claims, depends largely upon the versatility of the claim draftsman, his practical knowledge of the pertinent law, the experience he has had, and last but not least, his knowledge of the way the courts treat patents when brought before them for interpretation. It is a revelation often to hear a competent court elucidate upon those things which impress themselves upon him as covered by claims upon which he passes. Even men of long experience in patent practise often feel much enlightened and broadened by experiences of this nature, not infrequently tending to disarrange their own set ideas of the proper construction of claims in controversy. Often, too, it is surprizing how little acquainted with Patent Office practise, and the examining viewpoint of the Office, are certain Federal judges. In the United States District Courts having extensive patent

litigation to dispose of, the judges are especially competent; their decisions have done much to place the protection of patents upon the dignified plane which it deserves.

There are many ways by which the differentiation of claims from prior art, and avoidance of other grounds of rejection, may be accomplished. Certain of these are noted in the following outlines:

Differentiating From Prior Art
(Summary of Methods)

Method:

1. By adding an element or elements.
2. By limiting the definition of an element or elements.
3. By injecting a limitation of function based on structure.
4. By limiting to a novel species when the genus is anticipated.
5. By the limitation "substantially as described."*
6. By the contention of non-analogous use.

Avoiding Effect of References Cited
(Summary of Methods)

Method:

1. By "swearing back" of filing date under Rule 75.
2. Showing that the invention of a prior patent is inoperative.
3. Obtaining an interference and proving priority.
4. Proving by affidavits the non-success of a prior art invention, and the success of the application invention.
5. Establishing references as irrelevant.

Plural Claims

The purpose and logic of permitting a number of claims to be directed to one invention in terms of greater and less

*Bisight Co. *vs.* Onepiece Bifocal Lens Co. 259 F. 275; 270 O.G. 479.

breadth has already been touched upon, but will be somewhat more apparent with added explanation.

Every invention embodies elements which go to make up a substantially perfected device according to the inventor's conception. It is almost invariably true, also, that in a perfected device there are certain elements or parts which are not absolutely necessary for operative purposes as regards the real or main inventive idea.

Thus, a simple thill-coupling may comprise an operative structure for connecting the shaft or thill, and an additional part, or handle contrivance, not necessary for the real connection, but desirable to enable quick operation to open the coupling. The main invention is the coupling, but there is an ancillary or subsidiary invention in the handle means employed. It is, therefore, proper to permit the inventor to claim the coupling as his main idea, and the coupling plus the parts facilitating opening, as a secondary idea or additional combination. The procedure in this connection is very well set forth in a decision by Commissioner Thatcher, referring to the subject of combinations complete and incomplete:

> It is not necessary that every element entering into the construction of a certain device should be mentioned, even though, as in this instance, the device be mentioned in the claim as a whole. If there are parts which may be optionally omitted in the construction of the device, they may be omitted in the claim. It is only necessary that such elements be named as will constitute an operative whole, unless the novelty of the device depends upon the presence of the additional elements. The part named in the present first claim constitutes an operative thill-coupling, and the said claim is, therefore, in proper form for examination.
>
> Ex parte Farrow, 1872, C. D., 148.

Combination and Aggregation Claims

Claims of the combination class are to some extent what their name implies, but generally, vastly more.

Combination claims are such as may cover the various parts of a complete single mechanism; less than all the said parts where the lesser number may represent a subsidiary but complete inventive thought, in which event the term "subcombination," meaning subordinate combination, is used; a combination of the steps of a method or process, or a subcombination of such steps according to the definition above outlined.

The terms "legitimate," "proper," and "patentable" combinations have sprung up in practise, so it is evident that all combination claims are not patentable. The question of whether a claim is for a *true* combination or not is sometimes the bone of utmost contention between an applicant and the Patent Office, and too much care may not be exercised in arriving at correct conclusions as to the "legitimacy" of a combination claim. In this connection, it is notable that in some cases applicants seeking patents for claimed combinations, have been persuaded by the Patent Office that their inventions do not lie in the combinations expressed. When they adopted a different class of claim, they had their claims invalidated because they failed to claim the combination rather than something else. The converse has likewise been true.*

Hence, upon the decision as to whether an invention resides in a combination of all elements, or in one of the elements, or in certain of said elements alone which coact so as to constitute the real thing invented, may rest the validity of the whole patent.

The basis for correct diagnosis of an invention, as regards the type of claim to adopt, is a thorough understanding of the principles of patent law, and comes from experience in that law and its practise. Largely, the rules of common sense will

*Langan vs. Warren Axe and Tool Co. 166 O.G. 986 (C. C. A.).

enable a proper conclusion as to the class of claims appropriate to be used, when the knowledge of the law is present.

To lay down any theory or set rule of diagnosis in this matter is as futile as to view it possible to intelligently prosecute a patent application after a perusal of this work. Any one of a hundred contingencies affecting the invention may control.

However, it is within range to outline some general principles that will be conducive to a fairly clear idea of what determines the existence of a patentable combination of elements.

A valid combination claim is one directed to a plurality of elements which, when brought together, create an interaction producing a new result, an old result with increased efficiency, or a new interaction by which an old result or increase in efficiency is obtained, the thing accomplished in each instance representing more than might naturally ensue from the exercise of mechanical skill.

This definition inherently implies novelty to exist as to interaction of parts, as to result whether different from that heretofore attained, and having to do with the degree of efficiency.

The elements may be old. The result may be old.

The interaction must be new but may involve only a portion of the elements, or all as the case may be.

To give concrete examples we will take Figure 6 (page 166) and study its construction:

The device is a pump combined with a pneumatic tire and is proposed at a time subsequent to the common use of pumps of the hand type for the customary inflation of such tires. Briefly describing this structure, we have the part *B* representative of the ordinary felly or rim of a wheel, said rim being equipped with a pneumatic tire *C*. Supported by the rim in any suitable way is the pump *A*, comprising a barrel or cylinder having the air inlet *D* controlled by the valve *F*, and the

air outlet communicating with the interior of the tire *C* and controlled by the valve *G*. Any suitable manipulative means such as the piston *H*, piston rod *J*, operating handle *K*, and spring *L*, are supplied for conveniently forcing the air into the tire through the felly or rim *B*. The pump means set forth is to be understood as a conventional type of pump, and likewise the rim and tire are of common construction. The pump construction itself, in other words, is such as is usually connected removably with the tire to inflate the latter, but here having provisions to permanently unite it to the rim *B*.

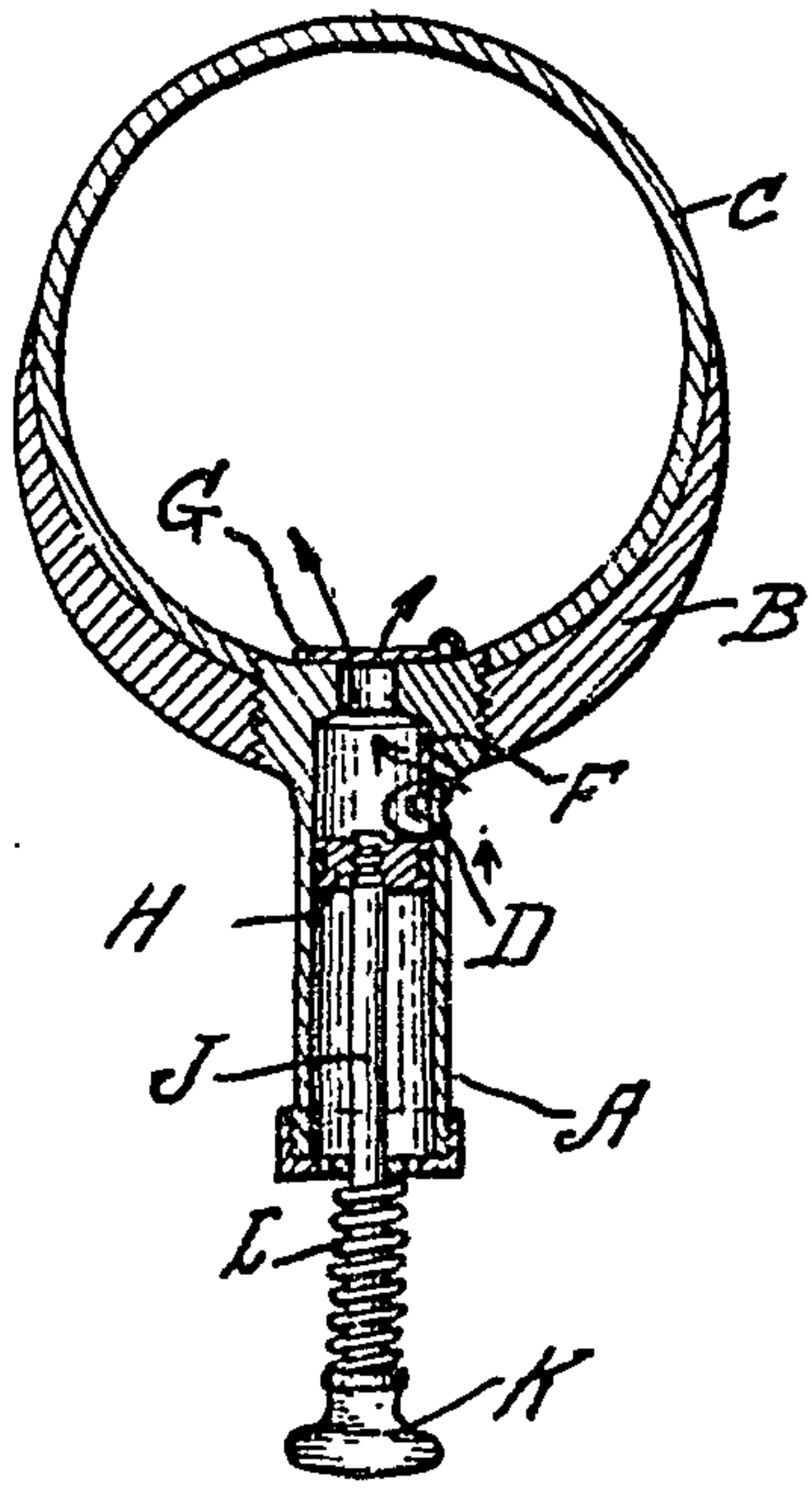


Fig. 6

The pump structure is all old as well as the tire and rim structure. Suppose now that we claim the device thus:

In combination, a rim equipped with an inflatable tire, and a pump permanently mounted on said rim in communication with the tire and comprising a cylinder, a plunger in the cylinder, valve means intermediate the cylinder and tire, and manual means to actuate the plunger.

Here is a simple combination. The elements are old. The result is old, the interaction (inflating function) between the pump and the tire is old. To connect the pump with the tire is old. To support the pump on the rim is new! This brings the situation down to one of invention and here comes into play general knowledge of things in the various arts, and well-recognized principles of patent law, i.e., experience. To mount one thing on another where no new result is attained,

or increased efficiency or new interaction, hardly ever involves more than mere mechanical skill. Often to do this thing is new; also, to unite things permanently that have previously been used together, but are separable, is something commonly done in many arts. The last named kind of effort ordinarily is not patentable, see subject *Invention vs. Mechanical Skill,* page 45.

We, therefore, reach the proper conclusion that this new

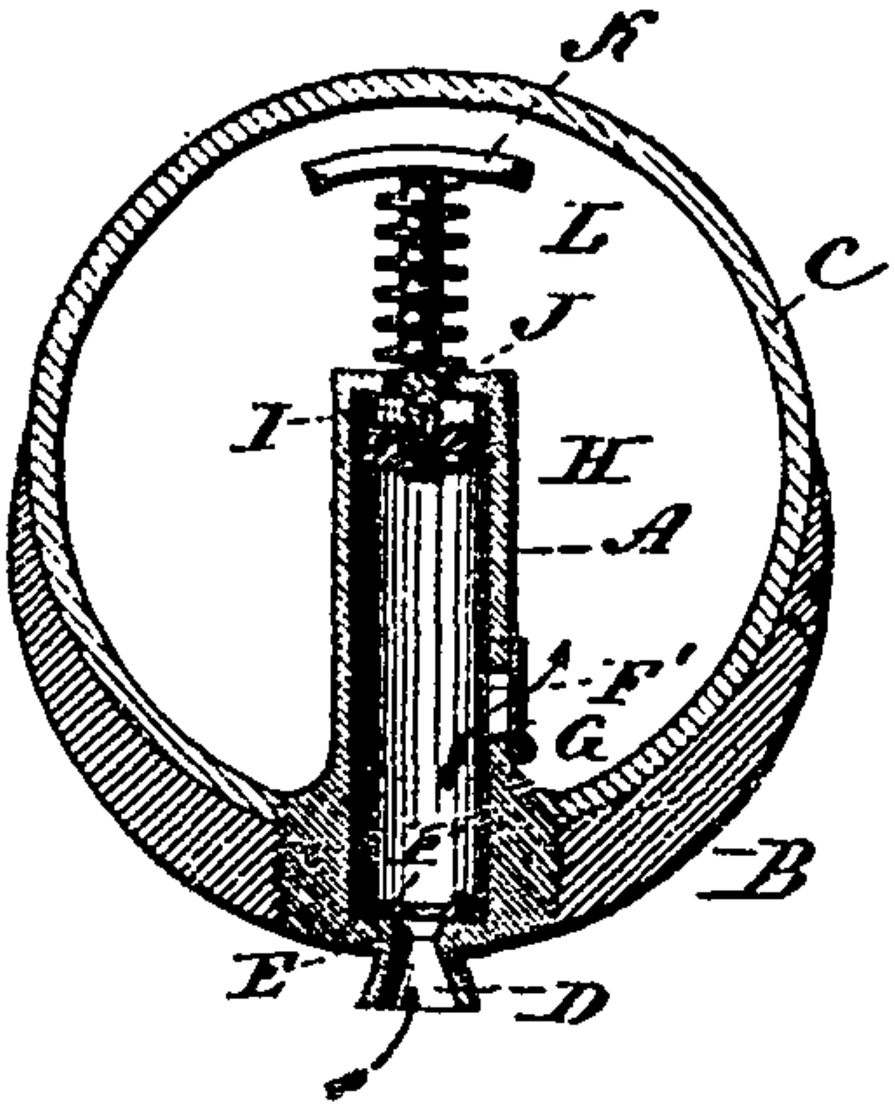


Fig. 7

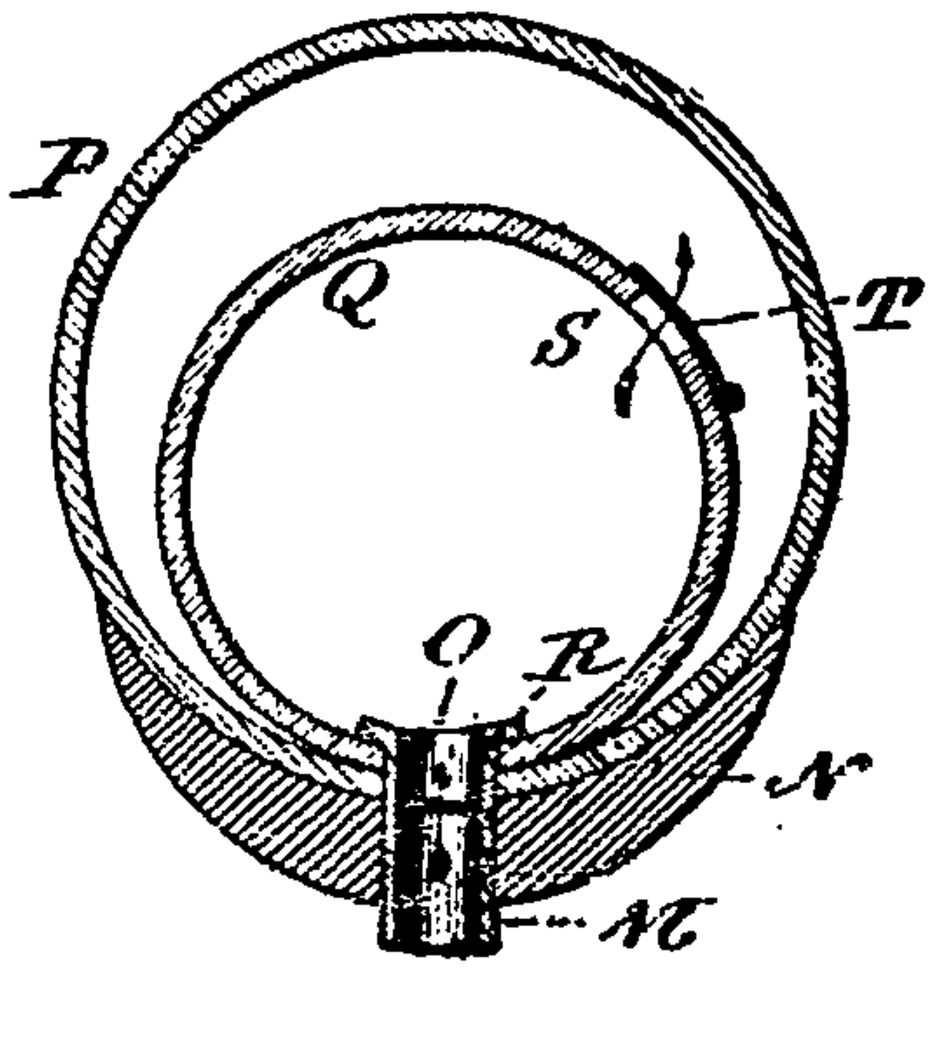


Fig. 8

combination is one of those which is not patentable. It lacks that calling forth the exercise of the inventive faculties.

But let us go further in this line of construction:

Figures 7 and 8 embody still another combination including a pump and inflatable tire. So far as each of the main features shown, namely wheel structure and pump structure are concerned, they comprise substantially the same parts as illustrated in Figure 6, but they have been disposed in a different relation in that the pump instead of projecting from the rim *B* in a direction opposite the tire *C*, extends from the rim into the tire and is so arranged that the operating part *K* is adjacent to the tread or outermost yielding portion of the tire. On account of the rearrangement represented in Figure 7, it is possible to utilize the resiliency of the tire

itself when the pressure therein reaches a predetermined minimum as a means whereby to enable inward displacement of the tread, and the force causing such displacement acts upon the operating member *K* of the pump to operate the pump to pump air into the tire. The piston-rod is made longitudinally adjustable by threading its inner end into the piston. This adjustment is such that the pump may be so set, or regulated, as to maintain the pressure within the tire at a high, or moderate, or even low, degree of inflation, according to the pleasure of the rider.

In Figure 8 the construction utilizes the pump *Q* in the form of a ball in the tire *P*, and valve *T*, valved inlet *O* comprising a hollow member *M* flanged at *R*; also the rim or felly *N*.

Proceeding to analyze the inventive phase of this construction we have, first, elements which are all old; the result attained is of course broadly old. There is, however, a new interaction of the elements. The actuating means *K*, which in Figure 6 could be manually operated, is so arranged that it is actuated by motion derived from inward displacement of the tire under pressure. The tire when pressed in, as when being deflated, permits of actuation of the pump during the rotation of the same with the rim, and thus an automatic operation of the pump to reinflate the tire takes place. The cooperation of the tire and means *K*-*H* is novel, also the peculiar relation of the two. The old result of inflation is attained, but a more specific new result, i.e., automatic inflation, is secured. The relation and cooperation of the parts *C* and *K* constitutes a novel inventive thought, and is therefore patentable broadly and specifically in the following terms as an exemplification:

1. The combination with a yielding hollow tire, of an air pump arranged to be automatically operated by motion derived from the inward displacement of the tire under pressure, substantially as described.

2. The combination with a yielding hollow tire of

> an air pump arranged to be automatically operated by motion derived from the inward displacement of the tire under pressure, and adapted to be regulated in its pumping action, substantially as described.

In Figure 7 we have a complete structure which operates differently from anything theretofore contemplated, as regards coacting pumps and tires. The idea that the turning of the tire would actuate a pump properly placed therein, was a distinctively new conception over any mere putting of a pump and tire into connection with each other, and required inventive genius to evolve.

Thus it is that a series of elements old and well known may in one disposition possess novelty without involving invention, whilst another disposition thereof may create a new functioning of the parts, a new result, or a condition of such increased efficiency as to represent a high degree of invention in the development of the same.

The following decisions upon the subject of combinations will assist the student in appreciating the refinements or distinctions to be made in concluding whether a combination is an "illegitimate" or "improper" one, as shown in the construction of Figure 6, or is what we term a "true" or "proper" or "valid" combination, as when covering a structure such as illustrated in Figure 7, and the equivalent structure of Figure 8.

In Hailes *vs.* Van Wormer, 87 U. S. 353, Mr. Justice Strong said:

> All the devices of which the alleged combination is made are confessedly old. No claim is made for any one of them singly as an independent invention. It must be conceded that a new combination, if it produces new and useful results, is patentable, tho all the constituents of the combination were well known and in common use before the combination was made.

But the results must be a product of the combination and not a mere aggregate of several results each the complete product of one of the combined elements. Combined results are not necessarily a novel result, nor are they an old result obtained in a new and improved manner. Merely bringing old devices into juxtaposition, and then allowing each to work out its own effect without the production of something novel is not invention.

It is true that each one of these missing elements can be found in some one of the prior patents; but this is not enough to negative invention. If the selection of elements from existing machines into a complete combination has, for the first time, produced, from a practical and commercial aspect, a new result, invention may well be predicated thereon; and if producing more of a woven fabric within a stated time was a "new result" within the meaning of this familiar rule (Loom Co. *vs.* Higgins, 105 U. S., 580; 26 L. Ed., 1177), so must be the additional mileage per gallon of gasoline, the saving of wear and the additional ease of riding, all of which the Cadillac Company so strongly attributed to the two-speed axle.

Cadillac Motor Car Co. *vs.* Austin, 225 Fed. Rep., 983.

It has been shown how claims may be framed to comprise combinations which are patentable and not patentable.

Not all unpatentable combinations are such as fall within the sphere of mere mechanical skill. At times, articles or machines are devised which seem rather beyond the scope of such skill; they appear to involve the bringing together of parts which never before were brought together, and yet when combined fail to produce any new result, or even increased ef-

ficiency over their previous independent use. But they may be more handy and of tremendously increased range of usefulness. Still, in most of such instances, they do not constitute patentable structures. No one questions the utility of employing a claw tool on the free end of the handle of a hammer, but who would seriously view that combination as patentable? The claw tool would operate as before and the hammer's use is unchanged. The two are merely aggregated and retain their separate entities, so to speak, without being interdependent in the performance of their respective functions. When a combination is an aggregation, for that is the common appellation of this class of combinations, it is not patentable. The most common example of aggregation is the ordinary lead pencil consisting of the body of wood, the lead enclosed thereby and the rubber tip forming an eraser. (See Figure 9 on page 173.) The specification of the patent covering this simple invention is brief and is also reproduced for clear comprehension of the decision discussed in connection therewith.

UNITED STATES PATENT OFFICE

HYMEN L. LIPMAN, OF PHILADELPHIA, PENNSYLVANIA

Combination of Lead Pencil and Eraser

Specification Forming Part of Letters Patent No. 19,783, Dated March 30, 1858

To all whom it may concern:

Be it known that I, HYMEN L. LIPMAN, of Philadelphia, in the County of Philadelphia, and State of Pennsylvania, have invented a new and useful Lead Pencil and Eraser; and I do hereby declare the following is a full, clear and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

I make a lead pencil in the usual manner, reserving about one-fourth of the length, in which I make a groove

of suitable size, A, and insert in this groove a piece of prepared India rubber (or other erasive substance), secured to said pencil by being glued at one edge. The pencil is then finished in the usual manner, so that on cutting one end thereof you have the lead B, and on cutting at the other end you expose a small piece of India rubber, C, ready for use, and particularly valuable for removing or erasing lines, figures, &c., and not subject to be soiled or mislaid on the table or desk.

In making mathematical, architectural, and many other kinds of drawings in which the lines are very near each other, the eraser is particularly useful, as it may be sharpened to a point to erase any marks between the lines, and should the point of the rubber become soiled or inoperative from any cause, such cause is easily removed by a renewed sharpening, as in the ordinary lead pencil.

I do not claim the use of a lead pencil with a piece of India rubber or other erasing material attached at one end for the purpose of erasing marks; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

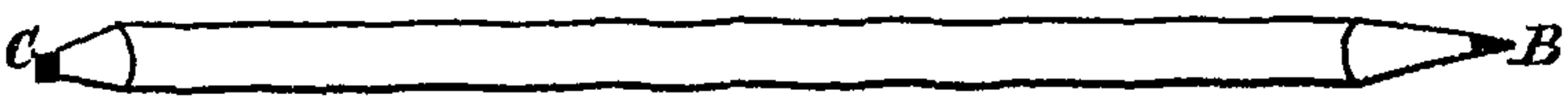
The combination of the lead and India rubber or other erasing substance in the holder of a drawing pencil, the whole being constructed and arranged substantially in the manner and for the purposes set forth.

Witnesses: HYMEN L. LIPMAN.

LEWIS A. LIPMAN,
JOHN P. CHARLTON.

In this structure, the body or wood of the pencil forms merely a carrier for the lead and the rubber tip. In the use of the article the lead is employed for writing, or as a marker, and when so employed is not affected in any way whatsoever by the rubber tip. The converse is true, speaking in regard to the rubber tip, the function of which is wholly separate and inde-

pendent of the lead; the two have no interdependence whatever in their use, notwithstanding that for ordinary purposes it is disadvantageous to use the pencil in the manner of its



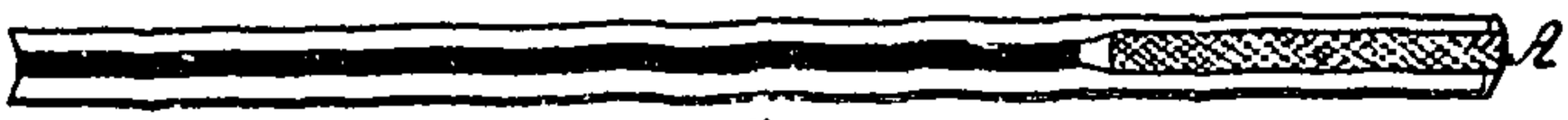


Fig. 9

intended use without the convenient assembly of the lead and rubber tip in a single structure.

The United States Supreme Court, in the celebrated case of Reckendorfer *vs.* Faber held

> that the patent for this pencil as illustrated herein was void for want of invention.*

The ground for the holding was due to the lack of patentable cooperation between the lead and the rubber. With a view to indicating the basis for the practise establishing that an aggregation of elements as understood according to the principles before presented at length is not invention, the following is an epitomized statement of the reasoning involved:

> What statutory basis then has a rejection of the claims on the ground of 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.†

As this work is more or less rudimentary, no attempt will be

*The author has often thought that a patentable claim might have been drawn for this pencil invention.

†See Groesbeck Paper before Examining Corps, U. S. Patent Office.

made to enter too deeply into the refinements of practise involving combination claims. It may be desirable to note, however, that while a most perfect patentable combination, in the true sense, is established as between novel elements which coact in such a way that each functions to modify the action of the other, or to be modified by the other in some active sense, a complete cooperation is susceptible of being established without mutual modifying action of parts. The essential patentability of the combination must needs only be based upon such a relation of the parts of the combination as produces the new and useful result on account of interfunctioning as a whole. The following well illustrates the practise intended to be elucidated:

> From these it is clear that the patentability of a group of elements does not depend upon 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 individual effects.*

So it may be that the intermodifying action of a proper combination of elements may be present more particularly in relation to certain elements only. While they are included legitimately in the combination, they are needed primarily for presenting a complete operative construction, dependent, certainly, upon the action of the other elements, but not necessarily modified in action thereby.

Referring to diagram Fig. 10 we have a series of elements 1, 2, 3, 4 and 5. In this series, 1, 2, and 3 constitute a machine and 4 and 5 represent an auxiliary mechanism. The parts 2 and 3 coact with part 1, but do not modify its action. The part 5 coacts with part 3 to determine its action, and the part 5 in turn is governed by part 4 which in turn governs the part 2. In this combination there is really a modifying action between the parts 2, 3, 4 and 5. There likewise might be said

*See Maxson Paper before the Examining Corps, U. S. Patent Office.

to be a modifying action between the parts 1, 2 and 3, the functioning of these parts being essentially based upon mutual dependence. On the other hand, the part 1, as a legitimate and essential element of the combination, neither modifies the action of the part 4 in any way, nor of the part 5, though the

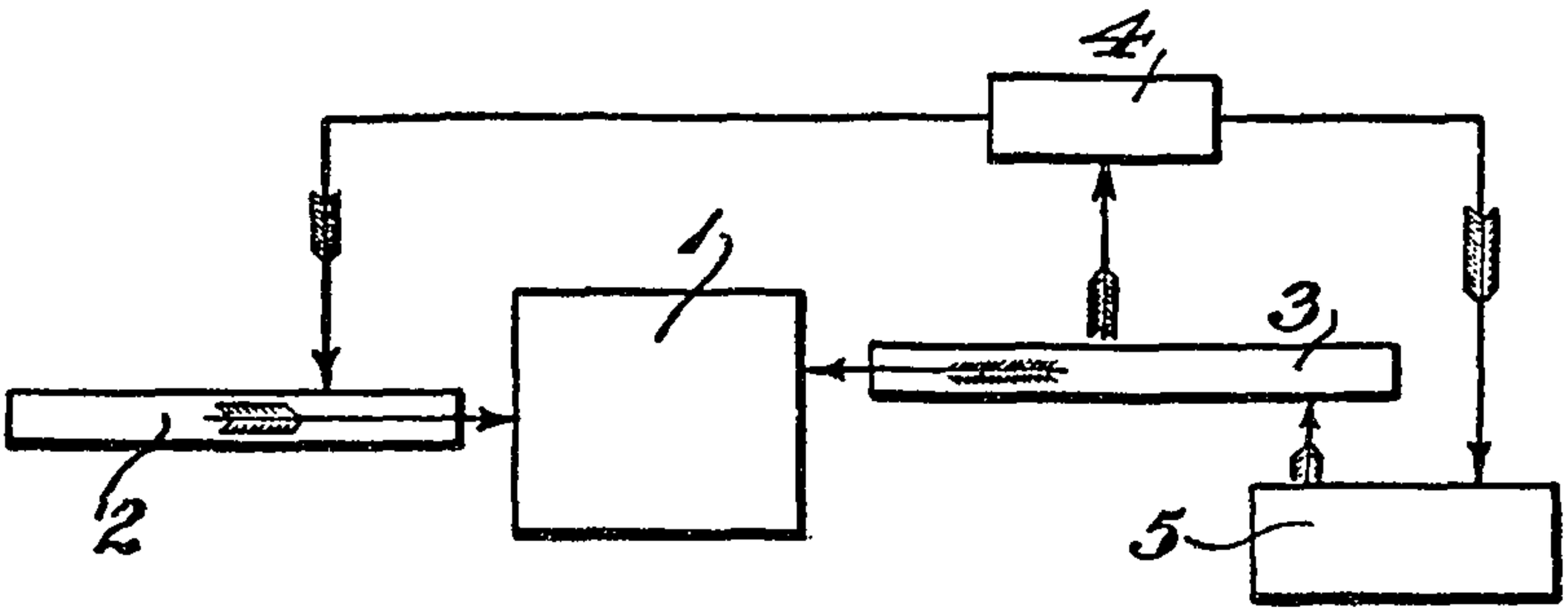


Fig. 10

latter parts may be said to modify the action of the part 1 through the intermediate controlled part 3. Yet this is a true combination.

Subcombination Claims

Claims of this type are nothing more or less than those directed to subordinate combinations of elements instead of to the main combination.

Thus we shall suppose the main combination to comprise elements 1, 2, 3, 4, 5, 6. Elements 4, 5, 6 are a mechanism in themselves, tho, of course, a part of the whole general machine embodying the six elements enumerated.

Under these conditions elements 4, 5 and 6 are claimable, broadly and specifically, separately from the main combination.

Let us pass to a practical example in mechanics. The invention is a milking-machine including a special type of pump, a series of teat-cups, a tube leading from the pump to the teat-

cups, and special connections involving wires embedded in the rubber bodies of the teat-cups and extending into the body of the tube, providing an extremely effective securing means between the parts.

Assuming the broad combination to be novel, the general combination claims would be directed to the whole machine. Claims covering the teat-cups and tube, and intermediate connections, would constitute a subcombination of the general combination. Such a subcombination really represents a subentity, considered as an inventive idea, subordinate to the larger entity consisting of the entire machine.

The teat-cup as an article of manufacture might embody its own detail novelty and as such be claimed by itself so that there might be drawn, in this instance, claims of the combination, subcombination, and article of manufacture classes, all together in a single case.

In the reissue claims found on pages 399 and 400, claim 2 is a general combination claim and claim 1 a subcombination type directed mainly to the boom-actuating contrivance.

This leads us to the natural thought that if these several things are claimable separately they might be improperly placed in a single application, or in other words, should these inventive ideas be divided and covered by independent applications?

The foregoing proposition is largely the question arising under the subject of division, and depends upon the evolution of a particular art. If the art has not become classified so as to render necessary a line of search directed to a connection between a teat-cup and a conveying tube attached thereto, which is distinct from the search for the general machine, the usual rule is for the Patent Office not to insist upon division. As an art develops the lines of division develop. Thus, in using milking-machines, we shall say that the main defect has been found to lie in the connection of teat-cups and the tube leading to the pump. Many inventors apply themselves to

this problem. Improvements for a period largely comprise novel ideas for this connection. Then the patents for the connections lead to classification, or need to classify this feature by itself, and the invention is no longer in the general combination but in the teat-cup connection alone, the tube alone, the connection to the pump, or the pump alone. When this stage is reached, that which was formerly a subcombination is a novel invention in its own entity, and, frequently, is then no longer claimable with the broad invention.

The foregoing was the evolution of the adding machine. Applications now required to be directed each to a keyboard mechanism, a listing or printing mechanism, and a transfer or carry-over mechanism, etc., are simply by process of development in this art, the dividing up into different classes of certain subcombination sets of claims, which once could have been, and were included, in a general application for the whole machine and its subordinate mechanisms.

Early in the experience of the author the lines of division were being greatly developed. The Patent Office was busy with appeals on this subject and the requirements to divide were many and much contested, at that time by petition to the Commissioner. Now, division is contestable only by appeal; and the practise is so clearly defined by the many decided cases that scarcely 3 per cent. of cases prosecuted involve even contention on the point.

Frequently it is expeditious, and less costly, to comply with a ruling of division rather than dispute it, unless a possibility of double patenting arises.

Genus and Species Claims

Claims of these classes are very easy to understand once the reason for the rule governing their use is clearly comprehended.

It is not allowable to claim *specifically* in one patent appli-

cation more than a single form of any invention, as a general rule.

If this rule were not in operation it would be possible to embody in one application an endless number of modifications of an invention, which means in effect an endless number of specifically different inventions, and claim each of them fully. In this way, for a single government fee, one inventor might monopolize examining effort in the Patent Office almost to the exclusion of others.

But early in the practise Commissioner Fisher laid down the rule concerning *Genus* and *Species* claims in a celebrated case, ex parte Eagle C. D. 1870, page 137, and this rule, established half a century ago, was so largely based on common sense and necessity, that it remains as effective today as when promulgated.

Quoting from the Eagle decision we have this outline of what is a proper limit on the claims to be allowed in one application as regards claims (genus) which are general to all of the different forms of the invention disclosed, and claims (species) directed to one form:

> The applicant describes a new genus, to wit, a box provided with a follower. He may fairly describe several species of this genus, and may make any claim that is generic in its character and includes them all. In addition to this, as the genus can only be illustrated by at least one of its species, he may select one of the embodiments of his invention for specific claims but he can not found one claim on one species, and a second on another, a third on another, and so on.

Reverting to the two claims for the tire pump constructions in Figs. 7 and 8 (see page 167), we have claim 1 as a genus claim covering both forms shown. Claim 2, however, may be read only upon Fig. 7 for it covers the adjustable feature involving the specific form of the adjustable piston

rod, and that feature is not found in Fig. 8, so claim 1 is clearly a genus claim including the construction of Figs. 7 and 8, and claim 2 is directed to the species of Fig. 8 only.

Election

The quotation given from the Eagle decision is the basis for the Patent Office practise which is termed "election of species."

When all claims of an application cover all of several forms illustrated and described, they are genus claims and no election of species has been made. If along with the genus claims of the application, or inserted by amendment, there are one or more claims to one form or species disclosed, the applicant is held to have made his election to claim that form. He is estopped thereafter from shifting his species claims to a different form. Once he elects, he must stand or fall to final action or allowance on that election.

When an application is filed with a genus claim, and claims to two species, a requirement for election is in order. If filed with claims to two species of invention, a requirement for division is in order, and one species will have to be eliminated from the case.

To preserve descriptions or drawings, or both, of two species of invention in an application, *a patentable genus claim must be present.* The genus claim, or claims, will cover the different species of subject matter, and a claim or claims to one of the species are allowable at the same time.

Unless the doctrine of election exists, the rule against claiming different specific inventions could not be enforced, for the moment the applicant is advised that one form of his invention is anticipated, he might shift his claims to a different form and thus secure many examinations of his different inventions, and indefinite delay in terminating his application.

In many instances, the experienced attorney will reserve his election of species until the most pertinent prior art is cited by

the Patent Office. Thereupon he may elect intelligently, on behalf of the applicant, so as to avoid anticipation of a particular species.

Claim Formalities

A Patent Claim Should—

a BE DRAWN IN TERMS CORRESPONDING TO OR CONSISTENT WITH THOSE USED IN THE DETAILED DESCRIPTION.

b BE DEFINITE IN PHRASEOLOGY AND MAKE POSITIVE RECITATION OF ALL TANGIBLE ELEMENTS.

c SET FORTH AN INTANGIBLE ELEMENT WITHOUT INCLUDING IT POSITIVELY.

d CONTAIN FUNCTIONAL LIMITATIONS PREFERABLY ONLY WHEN SUCH ARE REQUISITE TO ESTABLISH PATENTABLE NOVELTY OR CLEARNESS.

e BE DIRECTED TO ONE FORM ALONE AND NOT TO ALTERNATIVE FORMS.

f COVER SUBJECT MATTER NOT DUPLICATIVE OF THAT OF OTHER CLAIMS.

g COVER A COMPLETE OPERATIVE CONSTRUCTION.

h COVER A COMPLETELY ILLUSTRATED INVENTION, NOT FEATURES MERELY SUGGESTED OR DESCRIBED ONLY.

i DISTINGUISH IN A SUBSTANTIAL INVENTIVE MANNER FROM THE PRIOR ART.

a A PATENT CLAIM SHOULD BE DRAWN IN TERMS CORRESPONDING OR CONSISTENT WITH THOSE USED IN THE DETAILED DESCRIPTION.

The purpose of this requirement is probably obvious, but, notwithstanding, it is surprizing how frequently infractions of the rule occur. Without doubt, properly drafted claims should embody terminology having a complete basis in the main description of the structure and operation of the invention; otherwise it is most difficult to appreciate truly just what is intended to be covered by the claims. Thus, if the term "lever" is used in the description, to characterize this member by the words "pivoted bar" in the claim or *vice versa,* is liable to lead to confusion or mistaken interpretation. Especially would this be true when other pivoted members happen to be comprised in the matter claimed, as *pivoted rods, pivoted arms,* or the like.

The exact and most limited terms employed in the description need not be used in the claims, however. The prosecutor may not wish to limit his broader claims to the employment of a lever, we shall say, or the obvious equivalent of a lever. Thus, a wedge or similar member might be functionally as effective as the lever, and the careful prosecutor, therefore, rather than have recourse only to the applicability of the *doctrine of equivalents,* will adopt in his description some appropriate term, such as "operating member" or "actuating device," as a broad mode of characterizing his "lever" member, and then utilize such term in the broader claims. Later, in his more specific claims, he may adhere to the distinctive term "lever" and it is well that this should be done, for the limitation established by such term might save the claim (and therefore the patent itself) against being invalidated. An instance of this would be where the lever inherently performs some function, as a lever, that does not inhere to the use of an "actuating device" or "operating member" broadly defined.

Correspondence of terminology as between claims and the

descriptive disclosure is not a fatal defect when lacking. Many a patent, however, has failed to receive the most liberal interpretation to which it has been entitled, owing to such absence of complete consistency.

b A PATENT CLAIM SHOULD BE DEFINITE IN PHRASEOLOGY AND MAKE POSITIVE RECITATION OF ALL TANGIBLE ELEMENTS.

Here again we come to consider a necessary requisite of a properly composed claim, but one from which fatal results can hardly follow. In regard to the approved mode of preparation of claims it must always be borne in mind that the reason for certain formality lies in the fact that the ultimate object is to make quite clear to the public the metes and bounds of the protection afforded. With the foregoing duly appreciated, the definiteness in phraseology and inclusion in a positive manner in the claims, of all the tangible elements, is intended primarily to facilitate a correct understanding of the substance of the claims.

Below are given specimens of claims complying and not complying with the foregoing rule:

INCORRECT	CORRECT
An excavating machine comprising a main frame mounted upon traction wheels and having a rotary digger supported thereon upon a pivoted frame, said pivoted frame carrying said rotary digger and the mechanism for conveying the material away from the machine, and means for operating said digger and raising and lowering said frame.*	An excavating machine comprising a main wheeled frame, a frame pivoted to said main frame, a rotary digger supported upon the pivoted frame, material conveying mechanism to carry material away from the machine also mounted on said pivoted frame, and means for operating said digger and for raising and lowering said *pivoted* frame.

*This claim is quoted from a patent issued in 1906 and the Patent Examiner erred in passing it as to form.

One but starts a reading of the incorrect claim when he begins to get confused as to whether certain elements have been recited before, and mixed as to the frame elements, all owing to indirectness with which the parts are set forth. The fact that practitioners of long standing draw claims of this sort is no reason for assuming them to be in the most acceptable form to present clearly the matter attempted to be covered. The elements of the claim being tangible should all be positively and separately included, and not run into one another, and narrative expressions should not be resorted to.

c A PATENT CLAIM SHOULD SET FORTH AN INTANGIBLE ELEMENT WITHOUT INCLUDING IT POSITIVELY.

The foregoing is a simple requirement, but one which in the interest of complete correctness of statement and diction should always be observed. When, therefore, the invention resides in a combination of elements, by which we ordinarily mean tangible elements, it is improper to set forth intangible elements positively. Thus we say, "In combination, an oscillating arm, a dog carried thereby *provided with a slot*, and a control member engaging in said slot to determine the operativeness," etc. To define as a distinct element or clause "*a slot in said dog*" is obviously objectionable since the slot can not be a positive element of the combination. The most common instances of the application of this rule are in relation to the limitation of structure as to provision of openings, slots, recesses, kerfs or grooves, notches, and the like. None of these is an element, intangible or otherwise, in a most strict sense, but rather a characteristic formation of a tangible element.

d A PATENT CLAIM SHOULD CONTAIN FUNCTIONAL LIMITATIONS PREFERABLY ONLY WHEN SUCH ARE REQUISITE TO ESTABLISH PATENTABLE NOVELTY OR CLEARNESS.

The subject of the use of functional limitations in claims is one calculated indeed to try the patience of students of claims procedure. In fact, experienced practitioners are frequently confronted with many complex questions in regard to the desirability of incorporating function in one way or another in the composition of a claim. The lack of a full comprehension of how and when to employ functional claims is entirely excusable in early practice. After a manner, functionalism of claims may be considered from the solicitor's viewpoint a sort of weapon with which to establish patentability, when no other recourse seems available. By this is meant that occasionally it seems almost impossible to differentiate an invention properly from priorities, unless the function of an element or elements is developed in the claim. The foregoing may, furthermore, seem an anomaly when it is recalled that as a general rule a claim must not depend wholly for patentability upon mere function of a part or parts.

Again, the skill possessed in dealing with functions of structural features not infrequently comes in good stead for the drafting of basic or very broad claims. In the face of most earnest effort to avoid functionalism, the solicitor is often bound to conclude that claims of greatest breadth will be such as contain reference, more or less, to the mode of action or function of elements of the combination, *and actually rely upon the latter as related to specified structure to establish patentable novelty.*

Where it is possible to do so in claiming a mechanism or construction, it is good practise to omit statements of function. Especially as to claims for mechanical combinations is the above practise established as most approved. The reason is that the law primarily aims to protect the actual concrete

structure and there is no authority of law for the grant of a patent for a function, principle or result.*

Only when the construction and function are so interrelated, so to speak, as to require joint recitation to develop an essential feature of novelty should functionalism be resorted to.

From time to time the prosecutor is confronted with a rejection on the sole stated ground that the claim presented is functional. Occasionally, this ground of rejection is advanced by an Examiner who is somewhat of a novice himself in regard to the practise as to functionalism. However, in most cases, the intention is to refuse the claim because it is *merely functional,* depending on function alone to differentiate from the prior art. Or, perhaps, the structure upon which the function recited is predicated is omitted from the claim, an inadvertence to which even experienced prosecutors are subject.† Again, a claim may be so devoted to the presentation of functions of elements, rather than to structural characteristics, as to be quite indefinite,§ under which conditions it should not be allowed, and if granted, is liable to be invalidated by the courts.

The subject of functional claims may well be concluded by giving a simple example elucidating the reasonableness of the prohibition against granting a monopoly for a function, principle, or result. Had Edison at the time of his invention of the well-known filament incandescent electric light been permitted to claim this invention in terms of its function, even as limited to the art of electricity alone, such function involving as it does a *novel mode of supplying light,* no other form of light derived from electricity would have escaped the domination of his patent. So it is that any claim, fairly interpreted owing to its functionalism, as covering any and all means for accomplishing the particular result, is invalid. This rule as interpreted by the courts is often nullified, and properly so.

*Tyden *vs.* Ohio Table Co. et al., 152 F. 183. Queen & Co. *vs.* Friedlander & Co. 149 F. 771.

†Ex parte Bitner 140 O.G. 256; 1909.

§Ex parte Kotler 95 O.G. 2684; 1901. In re Perlman 186 O.G. 560; (App. D.C. 1912).

The following instances of claims sustained despite functional limitations, and held not valid on the ground of functionalism, are cited as instructive of the practise, not in approval of the holdings:

Claims Sustained

In a wire-fence machine, the combination of mechanism for intermittently feeding a plurality of longitudinal strand-wires, mechanism for intermittently feeding a plurality of stay-wires simultaneously and transversely of the strand-wires, mechanism for cutting off suitable lengths of the stay-wires to span the space between the strand-wires, and mechanism for simultaneously coiling the adjacent ends of the lengths of the stay-wires around the strand-wires.

Denning Wire & Fence Co. *vs.* American Steel & Wire Co.; 169 F. 793, 799.

A claim for a sound-producing apparatus consisting of a traveling tablet having a sound-record formed thereon and a reproducing stylus shaped for engagement with said record and free to be vibrated and propelled by the same is not for the function of the machine, but sets forth a valid combination.

Leeds & Catlin Co. *vs.* Victor Talking Machine Co. and United States Gramophone Co., 114 O. G. 1089.

Claims Held Void

In a machine for packing explosive gelatin the combination with a packing screw and its case of a hopper, means within the hopper for forcing material therefrom to said screw, and means whereby the pressure upon the material in the hopper will remain constant during the operation of the machine, regardless of the quantity consumed by said screw, substantially as described.

Eastern Dynamite Co. *vs.* Keystone Powder Mfg. Co., 164, F. 47, 58 (Pa., 1908).

A pedestal extension table, in combination with a vertically divided pedestal and the two separate parts of the table top attached to the respective parts of the pedestal, means for binding the pedestai parts together, comprising an element on each part at a substantial distance below the top of the pedestal, and means whereby they are adapted to be connected when the pedestal parts approach; means for operating on said elements after they are connected to cause them to bind the pedestal parts together, extending from said elements upward, and thence under the table top toward the margin thereof.

Tyden *vs.* Ohio Table Co., et al., 152 F. 183, (6th Cir., 1917).

It should also be noted that it is proper to use the broad term "means" limited by function for the purpose of covering structure for performing such function. This is well established by the authorities.*

Another condition frequently is present, making desirable the use of functional expressions in claims. It is often hard to define a part independently of its function. Thus "a lever for controlling the adjustment of the trigger," is a part defined by its operative function. "An operating member acting on the trip lever, whereby the record table is released after a predetermined period of rotation" is another and more extended use of limitation by functionalism. The novelty may depend upon the "whereby" clause and be properly predicated thereon, if the expression of the mere structure is insufficient to carry the claim as to patentability. Much must be left to common sense judgment in this matter of functional claims. No hard and fast rule may be adopted to advantage. In fact, functional expressions are conducive to clarity in a large proportion of cases where a proper foundation in structure is present.

*Corrington et al. *vs.* Westinghouse Air Brake Co., 173 F. 69. Continental Automobile Co. *vs.* Spalding & Bros., 177 F. 693. Electro-Dynamic Co. *vs.* Westinghouse Electric & Mfg. Co. 191 F. 506. Lacroix *vs.* Tyberg, 150 O.G. 267.

c A PATENT CLAIM SHOULD BE DIRECTED TO ONE FORM ALONE AND NOT TO ALTERNATIVE FORMS.

This rule is undoubtedly in the interest of definiteness of claims terminology. It is always to be remembered that a claim ultimately is that which establishes the extent of the monopoly of the patent. All reasonable restrictions, therefore, as to the form of a claim, are conducive merely to complete definition of patentable novelty.

To permit a claim to be couched in language setting up alternative structures is obviously highly objectionable, owing to liability of resultant confusion as to what is covered, and the attempt to cover different constructions. The proper course where the prosecutor is of the belief that his claim should be of sufficient scope to protect alternative forms, is to employ terms broad enough to cover the two or more forms, as the case may be.

"Asbestos or its equivalent" has been held objectionable,* as has also the expression "brake or locking device."† In the first instance objection lies principally because an equivalent is always covered by a claim without including it as in the illustration.

Clearly, while a brake may have a locking function and usually does, a locking device may operate without the slightest braking action. The terms are not equivalent—equally applicable. This is a clear case of alternativeness of structure.

"Button or hand wheel" was held unobjectionable as applied to the same element in Ex parte Leon,* in view of Phillips *vs.* Sensenich, 132 O. G. 677. However, there is little real warrant for a holding of the above kind, seemingly merely *in accord* with the whim of a particular Commissioner. Alternativeness of structure, or substance, in claims is to be heartily discouraged as not best form, and the practitioner is not advised to quibble over this objection when raised; the better

*Ex parte Phillips 135 O.G. 1801 (1908).
*Ex parte Leon, 164 O.G. 250 (1911).

course is the use of a term common to the various forms to be covered for one is always available.*

But alternativeness of structure and alternativeness in terms are not the same thing, necessarily. Thus, the expression "means whereby to produce one movement of the reproducer, or both movements" is alternative in its terms. But such an expression is quite permissible as the structure defined is a definite single mechanism. And the structure to be covered must inevitably be delineated by terms in themselves alternative. Alternativeness in terms as distinguished from substance is frequently confused on the examination by the Patent Office and the objection of the Examiner should be closely scrutinized to determine its merit.

f A PATENT CLAIM SHOULD COVER SUBJECT MATTER NOT DUPLICATIVE OF THAT OF OTHER CLAIMS.

This subject is to a certain extent explained by its title. A claim which in effect covers the same thing or things as another is obviously an unnecessary adjunct of the specification; not only is it surplusage, but it is prejudicial to the interests of the patentee or patent owner when it reaches the consideration of the courts. Naturally, such evidence of a patentee's intention not to differentiate his claims in a substantial way, is rather convincing that the court is not asked to exercise a reasonable degree of leniency in its work of construing the grant.

The case of Ex parte Duncan, 276 O. G. 207, gives an excellent discussion of this subject of duplicative claiming, in a well-advised decision of the late Assistant Commissioner Clay. The following words of this learned Commissioner will partially develop, at least, the theory of the law, and the proper practise:

*Ex parte Caldwell & Barr, 120 O.G. 2125 (1905).

The essence of my decision was that while several other claims also were erroneously held to be for aggregations and, so far as that ground alone was concerned, should be allowed, yet as to all the claims they should be rejected for another reason. That other reason was explained rather fully, and it was concluded that the several claims must be on their face obviously different in substance.

The Examiners-in-Chief allowed, for example, claims 19 and 20, which as a matter of fact are two claims identically the same substantial thing and by their very presence together interfere with the pointing out of the invention.

Undoubtedly a patentee may claim his invention in several scopes—that is, in its broad aspect and also in its narrow aspect—and he may also separately claim several related inventions; but there is no authority for the Commissioner to issue a patent with several claims to the same thing. It is the primary duty of the Commissioner to see that the patentee delimitates his invention and each of his inventions distinctly. This for the guidance of others and in order to definitely fix the patentee's rights.

g A PATENT CLAIM SHOULD COVER A COMPLETE OPERATIVE CONSTRUCTION.

The foregoing rule of claim preparation is one, infraction of which is not frequent. Most claims are complete in the respect of operativeness of the subjects matter thereof, when prepared by capable solicitors. The tendency, perhaps, is to make them too complete as to operative details.

The difficult phase of practise in connection with presenting operative constructions, etc., in claims, arises where scientific effort is being put forth to cover the subject rather broadly. The breadth should not go beyond the requirement that the elements should be set forth in a properly connected manner, with reference to features of cooperative relation. Likewise,

the rule applies to subcombinations, which often do not constitute complete devices or mechanisms, commercially speaking, though they may be for patenting purposes. Nevertheless, claims for this kind of combinations may and must be complete for them as such.

h A PATENT CLAIM SHOULD COVER A COMPLETELY ILLUSTRATED INVENTION, NOT FEATURES MERELY SUGGESTED OR DESCRIBED ONLY.

Elsewhere herein, the suggestion has been made that what is worth claiming must be illustrated, and perhaps it might be said that it is not very necessary to illustrate what is not claimable, in many cases. The exigencies of the particular invention control the latter phase, however.

It is worth while to bear in mind that features of an invention are frequently claimed when not described fully, and not at all illustrated. In such cases the claim is required to be canceled, or the feature illustrated if there is proper basis laid for the illustration. In some interesting recent litigation, an attorney defended a patent, the claims of which did not include certain elements, and contended first that they should be read into the claim. But the drawings did not show them. He secondly contended that the drawings of a copending application still held secret in the Patent Office amply showed said features, however. There was a reference to said application in the patent, but not suggestive of reliance upon it for proper illustration. There is no basis under the Rules of Practise for any such method of illustration, or claim interpretation. The importance of properly conforming with the rules, therefore, is evident.

Rule 50 of the Patent Office is in point in this discussion:

> The drawing may be signed by the inventor or one of the persons indicated in Rule 25, or the name of the applicant may be signed on the drawing by his attorney in fact. The drawing *must show every feature of the*

invention covered by the claims, and the figures should be consecutively numbered, if possible. When the invention consists of an improvement on an old machine the drawings must exhibit, in one or more views, the invention itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

The foregoing rule has the effect of a statute.

A PATENT CLAIM SHOULD DISTINGUISH IN A SUBSTANTIAL INVENTIVE MANNER FROM THE PRIOR ART.

The lengthy discussion heretofore of the different prerequisites of patent claims renders unnecessary any exhaustive explanation of the proper mode of distinguishing claims from prior art references.

Let us suppose that an invention may fairly be said to be anticipated by the prior art, except in reference to a member that is adjustable in its length. Save under exceptional conditions, to define this point of novelty will not avail to secure a patent; it is not usually "an inventive distinction." Again, the novelty in another instance depends upon the feature of making a three-part member in one casting. Here, also, we have a commercially meritorious distinction that fails to present an inventive idea, under customary conditions. Often, the test of inventive, and non-inventive distinctions, may be satisfied by the answers to these questions: "Is a new result obtained other than obvious to one skilled in the art? Does a new coaction of parts spring up owing to the particular change, giving rise to a generally novel operating subject matter?"

As a matter of fact there is, however, no absolute rule by which to determine the precise line between patentable and non-patentable distinctions!

Form of Claims

In the foregoing treatment of classes of claims, as indicated at the outstart thereof, the claims formulated were drawn after the most common method of terminology, namely, each complete in itself. The method of claiming by a distinct claim was first required by the law of 1836, at the same time that the provision for making examinations as to novelty was enacted; and by custom the form suggested has become almost universal in our practise, with some variation.

For many years the author has advocated a more simple method of claim drafting, like that of the English system,* whereby much of the repetition of terms of claims might be avoided. In 1917 the Patent Office by the decision of Ex parte Brown, 235 O. G. 1355, opened the way for this new practise and to some extent the new type of claims has come into use.

Assistant Commissioner Clay in deciding Ex parte Brown made the following instructive observation:

> Attorneys in preparing a patent, Examiners in examining claims, and the court in construing claims, always proceed on the principle of concentrating attention on one particular idea, which is the essence of the invention, and subordinating everything else. When a court analyzes and distinguishes a set of claims, I think it must always, either consciously or unconsciously, employ the method of analysis of which an example is found in Loggie *vs.* Puget Sound Mills & Timber Co. (194 Fed. Rep. 158, p. 162). If the court there found it convenient to say that claim 2 is the same as claim 1, "with the addition" of some other element which is the essence of claim 2, no reason appears to me why the patentee should not have been allowed to make exactly the same analysis and statement in writing his claim.

*See article *Scientific American*, Nov. 6, 1915.

Reasoning according to the foregoing, the Commissioner held that it is proper to utilize the form of claim after the English method noted below:

1. In a railway-car, the combination of a car-body, a car-roof including carlines, sheet-metal roof-plates, and carline braces substantially rigidly connected together without capability of substantial bodily movement relatively to one another, and loose connections between said carline braces and car-body permitting movement of the roof relative to the car-body, substantially as described.

2. A structure as specified in claim 1 in combination with carline cap-strips rigidly connected to said braces, substantially as described.

3. A structure as specified in claim 2 in which the braces are slotted in combination with bolts accommodated in said slots and securing the braces to the car-body, such slots and bolts permitting the movement specified between the roof and car-body, substantially as described.

Certainly this type of claim conduces to simplicity of presentation of the particular phase of novelty intended to be covered. It is much easier to determine whether the additional limitation constitutes the new thing in the combination, when stated alone as combined with the base combination of a preceding claim, than to fathom out a claim requiring devotion of one-half of the time to ascertaining wherein it differs from one preceding.

Some precautions should be observed by the solicitor in handling claims by this procedure, however. There is a tendency to carry the limitations of the first or base claim into all the following claims, and such is a dangerous thing. Great care must be taken to redraft the ground claim at intervals when the inventive idea of a subsequent claim does not

necessarily require the inclusion of certain features of such claim.

Again, under practical conditions the author has not found it expedient to employ this method of claimology for complicated inventions, except where accurate knowledge of the state of the prior art exists. Absence of such knowledge makes needful the claiming of everything not known to be old. Thus, when there are groups of claims running up to seventy-five or a hundred in number, each group covering a particular mechanism or subcombination and having its base claim or claims, every time the base claim is anticipated on the examination, the remaining or reference claims fall with it and must either be amended or wholly redrawn unless the base claim may be revised satisfactorily to avoid the rejection. This last is rather hard to do where nicely graduated reference claims exist. (The base claim is number 1 in the example given and the reference claims are numbers 2 and 3.)

For more simple cases, the base and reference claim method is most excellent and there is likely to be a time when it will be required to be followed in the interest of reducing the work of the Patent Office examination and court interpretation. Experience shows, tho, that unless the Patent Office insists upon a revision of our present antiquated methods of claiming, the legal fraternity will inflict upon the Office, and the public, a system of claims wholly inadequate to meet the needs of modern inventions. This difficulty is not met with so much in England because there claims are sensibly limited to a reasonable number; likewise in Germany.

Another phase in which the above method offers disadvantage, especially in larger cases, resides in the fact that every time earlier claims are canceled the base and reference claim numbers must be adjusted, and also the numbers in the reference claims denoting a particular base claim. This latter seems to be overlooked at times and results in an invalid claim or claims in the issued patent.

Classes of Claims in One Application

Certain claims of different classes may be obtained in a single application under the practise. While to some extent the inclusion of these different classes is arbitrary, and varies as to different cases, there is sufficient basis upon which to outline a general table applicable to this subject respecting those classes of claims which are combinable, and those which are not.

CLASSES OF CLAIMS

A.	Combination, Subcombination (one or more)	Combinable
B.	Class A and Article of Manufacture	Combinable
C.	Class A and Genus and Species (one species)	Combinable
D.	Class B and Genus and Species . .	Combinable
E.	Genus and Species	Combinable
F.	Class E and Article of Manufacture	Combinable
G.	Process and Product (when intimately related)	Combinable
H.	Process and Apparatus (when intimately related)	Combinable
I.	Apparatus and Product (when intimately related)	Combinable
J.	Species and Different Species .	Not Combinable
K.	General Combination and General Combination (two separate broad inventions) . .	Not Combinable
L.	Genus and a Species not included in the Genus	Not Combinable

Testing the Claims When Completed

The solicitor's task is not a finished one when, after careful and thorough study of the inventive subject, he painstakingly draws the claim or claims definitive of the scope of patentable novelty. He is erring if, at this seemingly appropriate time,

he views his work well done even if conscientiously performed; but it is just at this point that many attorneys stop. An essential thing to ensure the protective scope of the claims has been omitted, and this is the subjecting of the claims to the important test of *determining what is required in order to avoid them.*

In the application of the test spoken of, the attorney should assume for the time being the attitude of one who desires to use the essence of the invention without liability of infringement of the claims, assuming them to be contained in an issued patent.

The claims are compulsorily analyzed, by employing the above test, in such a way that one is bound to inform himself regarding their probable interpretation, as to terms and substance, in order to appreciate the probable range of equivalents to which the inventor would be entitled under a fair construction of the claims. In this manner are the claims weighed in the balance, so to speak, having in mind the modifications or variations in the invention which might be resorted to in an effort to use the same illegitimately. Then, if it is found that there exists a way by which the *essence of the invention might be adopted* without infringement, it is clear that the claims are inadequate to fulfil their intended purpose which is to constitute any one who makes, uses, or sells the inventive subject matter, an infringer.

Thus it is that an attorney must always bear fully in mind that his problem and his duty are not only to cover the real invention before him, but to cover that invention in such divers forms as it may reasonably take in the course of natural commercial development. And the experience of all practitioners is that the variations, or different forms, almost every invention possessing a fair degree of novelty may take in practising the same, are many indeed.

Obviously, the greater the liability of infringement of the claims, the more effective and broad may the patent protec-

tion be deemed, so that it is to the end of causing everything approaching the essence of the invention to be equitably regarded as infringing the patent claims, that the solicitor should direct his efforts.

Repetition of Limitations

The question of necessary and unnecessary limitations in claims is worthy of special treatment, even in the face of the recognition that experience, and experience alone, will finally make the solicitor adept at deciding when a limitation is required or superfluous. Naturally, in most cases, this proposition depends primarily upon the state of the art prior to the invention in hand, and the requirements of differentiation. Nevertheless, too much care can not be taken to avoid the unnecessary use of limitations both as to function and structure. By subjecting the claims to the test discussed in the preceding paragraphs many unrequired limitations will be deleted, or should be.

It is desired to refer especially to a common mistake made by attorneys, even those of no small experience, in drawing patent specifications and claims. The error lies in employing a limitation of structure used in one claim, for the purpose of broad differentiation from priorities perhaps, in subsequent claims which themselves contain particular differentiating limitations establishing their patentable novelty independently of that first mentioned.

We may take, for instance, a claim to a scraper comprising a dirt receptacle, an end closure, means to move the end closure to empty the receptacle, and means to tilt the receptacle to assist in the emptying operation. We will assume that the above claim is allowable; that the tilting action is not needed for the *operativeness* of the invention, though desired; and that there are details of novelty as to the receptacle and as to the tilting means. Under these conditions, having drawn the claim suggested and perhaps one of a more specific form

it is unnecessary and unwise to carry into all other claims, such as those for details of the receptacle, by way of repetition, the limitation as to the tilting even though this is seemingly essential. By so doing, one who omits the tilting feature alone *avoids infringement.*

Too much care can not be exercised not to carry through a series of claims a limitation of structure not required in every claim *to maintain its patentability.* By lack of observance of this rule the chances of successful infringement, or rather avoiding infringement, are wonderfully promoted. The limitation should be carried only so long as it of itself, or as an element of the combination (if the invention be such), is depended on to render the claim allowable. A study of many thousands of patents is convincing that a breach of proper practise on this score is an occurrence too common to-day.

Multiplicity in Claims

We now approach a subject of interest to all patent claims students. In the claiming of an invention how many shall be the claims considered fair and adequate to allow? To-day the practise definitely requires that each claim must patentably differentiate from all others. That is, there must be a substantial difference amounting in itself to patentable novelty. But how does this work out under actual conditions? Patents are regularly granted containing fifty to two hundred claims. The files show here and there instances of unpardonable claiming, as the Gubelman U. S. patent No. 1,160,071, issued November 9, 1915, for a Calculating Machine, containing seven hundred ninety-seven claims. This is a patent on an application which was pending in the Patent Office twenty-six years! Can any satisfactory basis be urged for a grant of this sort? The Patent Act requires the patentee to "point out and *distinctly* claim" the thing which is his invention. And usually, where several claims exist, a comparison between

them is conducive to an understanding of just what is being covered as to the whole invention and component parts. But who is so daring as to assume the capability of analyzing seven hundred and ninety-seven different claims? The average court will not undertake intimate study of ten claims, let alone make such an effort, and feel that in good conscience he is doing his duty to the public; the court would be devoting his entire service for an indefinite period to an individual patent owner in this instance, and then fail to accomplish the desired end, in all probability.

Take United States patent No. 1,028,133 of June 4, 1912, as an example. There is nothing basic or tremendously broad in the improvements described, and yet a total of one hundred and ninety-five claims have been granted to the patentee. A reading of the first three claims of the patent shows that the second differentiates from the first claim by the words "the movement of such" and the third claim differentiates from the first by the words "without interfering with the printing mechanism." Claim 1 would seem to cover the patentable inventive thought.

Claim 9 is a claim not substantially different from claim 4. Read claims 11 and 12 and an expert must be constrained to believe that claim 12 is almost identical with claim 11. Claim 13 uses the word "adjustably" to differentiate patentably over claim 11. Adjustability is rarely, if ever, more than a mechanical expedient. Claim 19 uses the words "arranged on the paper carriage" to differentiate from claim 18, and claim 20 differentiates from claim 18 by the words "adjustably arranged on." Claims 24 to 27 inclusive are differentiated from each other by limitations of little or no materiality and are already worked to death in previous claims. Claim 35 uses the word "lever" instead of "means" to distinguish from claim 34!

In the thirty-five claims of this patent which have been considered, over one-third or less probably define a really differentiating inventive thought over other claims. These claims

may differentiate patentably from one another, but the differences are not likely to be held by any court as separate inventions.

Patent No. 1,043,882, November 12, 1912, purports to cover improvements in mechanisms of an adding machine and the improvements may possess fairly broad novelty. The patentee describes them in *six and one-half printed pages* and uses *thirty-nine printed pages* for the two hundred and seventy-seven claims which he deems necessary to protect his invention. These claims may be patentably distinguished, but it is doubtful whether any unprejudiced body looking at the question of the proper protection for the patentee's invention, from the standpoint of the practical efficiency and economy of examination of patent applications, would say that the above enormous number of claims is necessary to cover the novelty of the improvements. The grant of the claims of this patent in the number stated is a very close approach to the ridiculous.

The exceedingly complicated inventions examined by the Patent Office probably represent between 25 and 40 percent of the entire burden of work placed upon the Office. If the practise in relation to such applications may be simplified, therefore, and the issuance of patents thereon accelerated, much would be accomplished toward a reduction of the total amount of work of the Office. It needs but a comparatively small amount of experience for an attorney to recognize that a greater amount of work must often be done on a single complicated patent application, both by counsel and the examining force, than incident to the issuance of from fifty to a hundred simple patents.

The time has come in patent claimology for new thought upon the question of multiplied claims. In the early days of our patent history, one and two claims were used to cover what it now takes ten to twenty claims to protect, and it is not clear that the patentee formerly suffered a great deal from lack of more numerous claims.

There are two responsible causes. The attorney using un-

duly multiplied claims is too fearful of failing to cover the invention properly, and resorts to too great refinement of terminology. He fails to give due weight to the fact that the courts exist to give effect to the protection of the patent for all real invention present. The Patent Office is at fault for failing to sit hard and fast upon the logical and required position that there must be some end to word-pictures of an invention, and less mere refinement of language in making distinctions.

That patentable distinctions can be drawn indefinitely between claims by a skillful draftsman is quite clear. Therefore, some other basis must exist to enable this gross abuse of practise to be consigned to oblivion, and an arbitrary rule must be set, or arbitrary power assumed. Real and substantial differences, and distances metaphorically speaking, should be compelled.

The Primary Examiner should be empowered to draw the line on the number of claims allowable, and required strictly to enforce brevity respecting the number, necessitating an appeal if more claims are pressed for.

The basis in law for revision of the practise outlined is ample. The view of the courts has been sufficiently expressed.

In Brush Electric Co. *vs.* The Electrical Accumulator Co. et al. (56 C. G. 1334; 47 Fed. Rep. 48), the court condemns prolix claims and says that making several claims to the same matter is "calculated to embarrass the inventor and mislead the public." In Carlton *vs.* Bokee, (17 Wall., 463-371) the Supreme Court condemns such indistinct claims and intimates that if they were intentionally made obscure they would invalidate the patent. It says:

> Where a specification by ambiguity and a needless multiplication of nebulous claims is calculated to deceive and mislead the public, the patent is void.

In Benjamin *vs.* Dale (141 Fed. Rep., 981) Judge Holt complains of supernumerary claims, saying they "simply make

burdensome the investigation of the claims." In re Perlman (186 O. G. 560; 39 App. D. C. 447) the claims were rejected because they were supernumerary, as well as because they were functional.

In Green Felt Shoe Co. *vs.* Dolgeville Felt Shoe Co. (210 Fed. Rep. 164), Judge Lacombe intimates that claims which even by construction are duplicates of others "must be struck out as superfluous." The same in Weber Electric Co. *vs.* National Gas & Electric Co., (212 Fed. Rep. 950).

In the English courts this question has come up and the doctrine of Carlton *vs.* Bokee, supra, approved in the recent case of Linotype and Machinery Ld. *vs.* Hopkins, (Vol. XVII Reports of Patent Cases No. 5) wherein Lord Loreburn, Lord Chancellor, said:

> The appellant has filed a specification which resembles a treatise in its length; it contains no less than sixty claims; there is infinite redundancy and repetition and constant reference to illustrations which are not very easy to follow. Altogether it is a document which needs the most prolonged and penetrating study in order that anyone who wishes to work out problems of invention in this class of industry, may know where they stand and how they may be free from the danger of infringing former patents.
>
> The point whether this patent is good or not does not arise in this case, but I think it is my duty to state explicitly that those who file and secure specifications must take the risk of having the whole thing declared void for ambiguity. I have had occasion to observe that there is a tendency to frame specifications and claims so as to puzzle a student, and to frighten men of business into taking out a license for fear that their interpretation may be held erroneous and they be found guilty of infringment. That is an abuse of the law and will be checked, if occasion should require, by the simple process of declaring the patent invalid.

In the case of Victor Talking Machine Co. *vs.* Thomas A. Edison, Inc., 221 O. G., 351, two patents were treated by the court, namely No. 814,786 having forty-two claims, and No. 1,060,550 having forty-eight claims.

As to the former patent we have this indication of strict interpretation where the patentee attempts to leave nothing for the court to construe:

> Therefore, claim 23 may be disregarded at once; because where so many claims are put into a patent, each element in a given claim may be supposed to be especially necessary to the combination. In such a patent, there is little room for latitude of interpretation.

As to the later patent this condemnation was handed down:

> Whether this be true or not, the practise is so obviously mischievous that the courts should discourage it as much as possible, as well as the practise which permits forty-eight claims upon a simple and perfectly obvious machine like this. Such claims violate the very purpose of any claims at all, which is to define the forbidden field. In such a waste of abstract verbiage it is quite impossible to find any guide. It takes the scholastic ingenuity of a St. Thomas with the patience of a yogi to decipher their meaning as they stand.

With a view to supplying something by way of constructive suggestion for a new type of claim, the following claims from an issued patent are each revamped into a new model of claim. The reader is left to his own conclusions as to whether this new phraseology would have a weak or strong appeal to the efficient patent examiner, who wants to know as quickly and fully as practicable what the inventor is claiming, and of possibly greater importance to an efficient court desirous of arriving at a quick and fair adjudication of the scope of an alleged infringed claim, and an understanding of the inventive idea for comparison with the alleged infringement.

PRESENT TYPE

1. In combination, a cash register comprising keys, a cash drawer therefor, paying mechanism in said drawer and carried by the drawer, and means controlled by the keys of the register controlling the operation of the paying mechanism by said actuator, the paying mechanism including ejectors, and the said controlling means embodying selectors to predetermine the ejectors for operation.

2. In combination, a cash register comprising sales keys, a paying-out mechanism associated with said register whereby the paying out of money by said mechanism is controlled by the sales keys of the register and special keys for controlling the paying-out mechanism, said paying-out mechanism including electrically controlled devices, and an electric circuit including said sales and special keys whereby one set, or both sets, of said keys may be caused to control the paying-out action of the paying-out mechanism.

SUGGESTED FORM

1. The construction such as disclosed, wherein the keys of the register control the paying mechanism which includes predetermining selectors.

2. The construction such as disclosed where the sales keys control the paying-out mechanism, and the special keys as well as sales keys are in the electric circuit to control paying-out by either set of keys.

3. In a paying-out machine, a coin tray, means tending to normally hold the tray elevated, a compartment to receive the tray, means to deposit a coin in the tray and move it from the compartment, and means to cause a coin delivery action of the tray as it reenters the compartment.

3. The feature of my invention comprises the normally elevated tray adapted to have a coin delivery action as it reenters the compartment.

As to the reframed claim 1, less than a third of the words depicting the invented construction directly cover it just as well and much more plainly than the approved type. Yet this claim may not be tolerated under the present office practise.* The same applies to claims 2 and 3; the original in each instance is a patented claim.

In the present approved type of claim the object seems to be to set forth as many features or elements which are old and known, as possible, and hide *inside* the claim, so to speak, the invented feature that is new and intended to be covered by the patent. *Direct statement of the meat of the invention seems the last thing a patent claim of the general combination type presents.* On account of inadvertent inclusion of some immaterial feature of a combination (by repetition of unnecessary limitations, for instance, see page 198) many a patent has failed to deliver to the inventor the protection to which he is justly entitled. By indicating precisely the feature of novelty, claiming it directly as in the suggested new form, unsurrounded with superfluous verbiage, there is gained a method of claiming superior to anything at this time utilized in the practise of this or any foreign country.

*Note: The author now has some labor-saving claims of this class under rejection in the Patent Office because indefinite. What method of claiming could be more definite? In another case claims of this form have been allowed!

In making the observations herein, the author has not ignored the conditions of patenting modern complicated machinery. Engaged constantly for many years upon work involving most intricate machines he has had ample opportunity to appreciate the uses of claims of many kinds to protect adequately inventions of this sort, and to recognize the abuses of multiplying claims as well. The very multiplicity itself is the reason for the grant of invalid claims in numberless instances. It is the basis for preventing the concentration of the examination of the Patent Office upon that which really is new, because of the physical impossibility of efficiently passing upon an endless number of claims having endless refinements of language rather than invention.

Claims: Breadth-Controlling Phase

When it comes to claim definition, if the student will bear in mind the rule to cover the substance rather than the mere form, and couch the language of the claim accordingly, one of the greatest obstacles to proper claim formulation, namely, the inclusion of unnecessary limitations, will be avoided. A thorough knowledge of what are ordinary mechanical expedients, and mechanical skill, is very helpful in avoiding undue limitations in claims. Of course, upon an adjudication of a claim, the courts make allowance for patentable equivalents being used, but the effort should be to avoid the need of straining the courts' liberality beyond the point of reason. Courts are human and feel that when the inventor is given the opportunity to prescribe in his claim those things essential to his invention, they should not be called upon to modify, and even ignore, plain terms to cure limitations which may not have been proper and necessary.

VII

PRACTICAL OPERATION OF IMPORTANT PATENT OFFICE RULES

A. Rule 31. Application, Execution, Alteration After Signing, and Completing. B. Rule 42. Requirement of Division in Applications Containing Two or More Inventions. C. Rule 48. Requirement of Supplemental Oath for Covering Subject-matter Originally Shown or Described in an Application, but Not Originally Presented as a Part of the Invention. D. Rule 63. (Sections *b* and *f*) Certain Cases Having Preference at Every Stage of Their Examination Over Others. E. Rule 66. Requirement that Examiner Cite Best References at His Command and Explain the Pertinency of a Reference the Application of Which is Not Obvious. F. Rules 68 and 69. Duty of Applicant in Forwarding the Prosecution of Application. G. Rule 70. New Matter May Not Be Added to an Application Subsequent to its Filing. H. Rule 75. "Swearing Back" of References. The Law of Rejection by Combining Prior Art and Prior Invention.

A. Rule 31—Application, Execution, Alteration After Signing and Completing

All parts of an application must actually be filed at the Patent Office before the case will be assigned for examination.

If an application is sworn to in blank it is invalid; the changing or altering of the application in any material way after signing will render it invalid, and it will be taken from the files for this reason.

An application filed incompletely, as, for instance, one lacking an oath, a petition, or drawings where required, must be completed within one year from the date of filing of the original papers. If the completion of the filing is not effected in the time stated the case becomes automatically abandoned.

Only by showing that the delay in completing was unavoidable may such an abandoned application be revived. Adequate showings of this nature are among the most difficult to supply, however.

B. Rule 42—Requirement of Division

The provisions of Rule 42 are designed to prevent the inclusion in a single application of two or more independent inventions. Where the claims of the application are drawn to more than one invention and the independence of the inventions as commercially made is clear, there can be no controversy in regard to the propriety of a divisional requirement. Furthermore, it should be noted that under a practise commenced very recently, and established by the rules as revised to January 1st, 1916, it is proper to give to a divisional requirement, finally insisted upon in the examination of an application, more weight than said requirement was previously entitled to. The reason for this is that new Rule 42 makes it necessary that the Primary Examiner obtain the written approval of a Law Examiner before repeating a divisional requirement previously made.

Under present conditions, a Law Examiner devotes considerable time to the study and determination of questions involving division of inventions in applications as they are submitted by the various primary examiners. The Patent Office practise is quite uniform as a result of the foregoing system of reviewing divisional requirements. Previous to the commencement of the practise just referred to, statistics show that in a high percentage of all cases wherein divisional requirements were made, such requirements were reversed on appeal to the Board of Examiners-in-Chief.

The splitting up of an application for patent for an invention by the dividing out and filing of a number of other applications is often necessary owing to the advances made in

the various arts, resulting in improvements, for instance, in detail mechanisms of a machine having no necessary interdependence or coaction with respect to the particular related mechanisms of the same machine. Often, so many improvements have been made in such detail mechanisms that the latter are classified separately in the Patent Office.

By way of example, we have in the art of printing machines such related mechanisms as the rotary platen and its attachments, the feed mechanism, and the delivery devices. No printing machine is complete, obviously, without all of these, but they are not in the ordinary sense interdependent. In other words, while all of the stated mechanisms are driven by a common motor, no one is really *interwoven*, so to speak, in its functioning, with the other, their operations having a time relation solely. Of course, here I am speaking of a conventional machine, for it would be possible to have a construction wherein the interdependence might exist.

The common adding machine typifies a somewhat different condition as already discussed under heading of Subcombination Claims. Here we have a keyboard, an accumulating mechanism (adding wheels, etc.), a listing or printing mechanism, and platen feed means. To a large extent these various mechanisms are interdependent in their functioning. The keyboard is absolutely necessary as a controller for the accumulator and the listing mechanism, certain actuating members are common to the two latter mechanisms, and the platen is fed by being actuated by the main actuator (handle or motor) which in turn also operates on the accumulator and the listing mechanism. Nevertheless, it is customary to-day, even in the absence of any separation of these various mechanisms in actual manufacture, that improvements in the keyboard, accumulator, listing and motor drive means be separately patented. Such improvements are separately classified.

Where the lines of classification are clearly established, the

practitioner will be greatly assisted in determining upon the reasonableness of divisional requirements on reference to the classification. Nevertheless, Rule 42 is subject to be construed in the light of Rule 41 which makes provision for the claiming in a single application of several distinct inventions, when the latter are dependent upon each other and mutually contribute to produce a single result.

It is difficult to lay down any hard and fast rule of division. Sometimes classification of the Patent Office controls largely. Again, the separate manufacture of parts or mechanisms in commercial practise may determine the legitimacy of the requirement of division. Not infrequently, both of the above considerations affect a particular case. A review of authorities is always helpful in arriving at a decision where doubt may exist, and many examiners follow the excellent course of indicating the various factors controlling them in ruling a separating out of an application of an invention which may be classed as truly independent upon one ground or another. It is advisable to consider a case carefully in arriving at conclusions. It seems rather sensible at times to divide when, as heretofore suggested, we bear in mind that to contest by appeal often costs the inventor or client nearly as much as the filing of a divisional case. Where the counselor is firm in his belief of the inequity of the requirement, in justice to his client and to himself he should argue the point and, if necessary, raise an appeal. Furthermore, while in a number of instances the courts have deprecated the action of the Patent Office in requiring that an invention be covered by a large number of divisional applications, in no case which can be brought to mind has a patent been held invalid because it covered more than one invention.

It is only in one case out of five, perhaps, that a conclusion as to the applicability of a divisional requirement is difficult to reach, but occasionally almost as great a degree of good judgment is required to determine when distinct inven-

tions are dependent upon one another and mutually contribute to a single result, as is incident to a determination of the line between patentable novelty and mechanical skill.

With a view to advising in regard to actual cases in point, a careful study should be made of the selections of related and unrelated claims as adjudicated in appeals to the Board of Examiners-in-Chief. Excellent grouping of such claims is found in the paper by L. A. Sadler, Patent Examiner, page 83, which constitutes a more detailed treatment of divisional practise than is intended to be presented hereby.

C. Rule 48—Requirement of Supplemental Oath

Too much care can not be exercised in the strict observance of this particular rule. It is not infrequent that a patent presented to the courts for adjudication is held to be invalid, owing to the fact that a claim or claims on which a complainant presses for infringement are found to include a feature of construction, or other matter introduced by way of amendment, which matter the inventor at the time of making application for patent cannot be said to have fairly presented as a part of his invention, tho it may have been shown, or properly described. Introduced matter of this character obviously is not sworn to as a part of the invention by the oath accompanying the application.

It is the duty of the Patent Office to insist upon a strict compliance with Rule 48; but there are times when the examiners, hard pressed with their work, inadvertently overlook the fact that the applicant has presented matter in his specification, or claims, which is not substantially embraced in his original statement of invention or claim. It is under such conditions as these that the practitioner must safeguard the applicant by careful analysis of the claims sought for in the applications to ascertain whether a condition exists that warrants the applicant in availing himself of the real protection afforded by provisions of Rule 48.

When any doubt exists as to the applicability of Rule 48, notwithstanding the omission of the Patent Office to invoke the rule, it is by all means desirable to file the supplemental oath accompanying the subject-matter, the proper presentation of which as a part of the invention at the time of filing the application, is doubtful. Here again comes into evidence the importance of a true and complete statement of invention. By supplying the oath there is an increased factor of safety surrounding the validity of the patent, and, if desired, the affidavit may be filed at any time during the pendency of the application.

D. Rule 63—Certain Cases Having Preference

(Sec. b) While it is unusual that prompt examination of reissue applications, upon filing of the same, is overlooked, it is well to know that such applications are entitled to practically immediate consideration on the part of the Examiner, both upon the filing of such applications, and after each amendment and argument submitted therein.

(Sec. f) A valid United States patent can not be issued on an application the subject-matter of which is covered by a patent issued in a foreign country on an application filed more than twelve months previous to the filing of the United States application. Thus it is that, owing to the requirements in certain foreign countries, necessitating the issue of patents on patent applications within certain limits of time, care must be taken by the practitioner to insure the issue in the United States of the letters patent with utmost promptness. Should it happen that the applicant here has an application or applications filed abroad more than twelve months prior to his United States case, on which foreign application or applications issue of the letters patent is imminent, the patent must issue first in this country, to be valid. Cases of this kind will usually be given preference over others. The Examiner's at-

tention should be directed to the condition of affairs in writing, however, either upon filing the application, or when making amendments, but preferably by personal interview to insure against likelihood of loss of time.

E. Rule 66—Requirement That Examiner Cite Best References

There is no way in which an applicant or his counsel may compel the citation of the best references at the command of the Patent Office during the examination of the application. To some extent, the citation of many references in the rejection of an application is due to the failure of the applicant to claim his invention fully and properly at the outstart of the prosecution of his case. It is, therefore, advisable, upon the drawing up of an application, to present to the Patent Office claims which represent a substantially complete original presentation of the protection intended to be obtained. The extreme cases where counsel is constrained to feel much provoked at the persistent presentation of new references in rejection of an application, references which might have been cited at the commencement of the rejecting actions, are worthy of comment only to the extent of making more forcible the suggestion above given.

In regard to the general run of applications, the pertinency of references is either obvious, or ascertainable, with the expense of no great effort on the part of applicant or counsel. In relation, however, to complicated inventions it is to be reasonably expected of the Examiner, who is ordinarily an expert in the particular arts or classes of an art customarily examined by him, that reference patents covering complicated machines, processes, or compositions, be applied at the time of rejection. Especially is this true when it is borne in mind that the Examiner should be able to present the pertinency of a citation of which he is cognizant, with little or no trouble,

and that without an explanation a heavy burden is placed upon the applicant to determine just how the reference may apply to a particular claim or claims. While it is best not to resort to the rule unless absolutely necessary, where conditions warrant the applicant is entitled to insist that a non-obvious reference be fully explained and applied to a claim or claims, and until so applied, the applicant may reserve response to a rejection as required by Rule 68.

F. Rule 69—Duty of Applicant in Forwarding Prosecution

Where thousands and thousands of applications for patents must needs be acted upon, not only once, but in many properly contested cases again and again, the necessity of a fairly strict compliance with practise which experience has proved prerequisite to facilitating the tremendous business of the patent department, is evident. Rule 68 speaks for itself to a large extent, but some words of caution may be given which will be especially appreciated by the young practitioner. Care should be taken to observe that when an application has been once rejected it is incumbent upon the applicant to present fully, in response to the rejection, reasons why the claims contended for are not anticipated, or amend the claim or claims, or submit new claims with a view to completely distinguishing from the references. If the prosecution of the case be pursued along these lines and the applicant does not indicate any lack of understanding of the references, the Examiner, in giving the necessary reconsideration of the application, is in a position immediately to finally reject the case, should he rely upon his original grounds for refusing the patent. The precaution is, therefore, taken by most solicitors, in submitting a case for second consideration, to show fully the impropriety of the grounds of rejection and request the Examiner to point out specifically wherein he considers the references anticipatory of the claims, or explain any other of

the grounds of rejection which are not clear, the applicant at the same time offering to make amendment or otherwise revise his case upon receiving a further rejection with the desired explanation. By indicating a lack of understanding of the relevancy of the prior art when its applicability is not too obvious, possibility of a final rejection is ordinarily avoided.

The point to be observed especially is that the applicant should make a *bona fide* effort to present his invention, after rejection of his application, in such a way as to permit the Examiner to concede the allowance of his patent. The patent examiners are almost invariably capable men, and able to recognize what may be called a *bona fide* effort to advance a patent case to issue, as distinguished from a *buncombe* effort. In nine cases out of ten, furthermore, the applicant is not likely to suffer through the too severe application of Rules 68 and 69. Unfortunately, however, it is the tenth case that not infrequently proves to be exactly the one in which the applicant or his counsel most wish to prevent a peremptory conclusion of the prosecution, so that too much emphasis may not be laid upon the practise empowering the Examiner to finally reject an application if said application is submitted to consideration a second time under the following conditions:

(1) Without a definite statement sufficiently convincing to establish the contentions of the applicant.

(2) In the absence of a request of the applicant for assistance as to the manner of construing references.

(3) In the absence of a *bona fide* request of the applicant for a more complete setting forth of the ground or grounds of a rejection not clearly obvious, supplemented by the suggestion that final action be deferred until the rejection is fully understood.

(4) In the absence of a showing not requiring the citation by the Examiner of new references or new grounds of rejection.

(5) In the absence of a presentation of the applicant's case representing more than a mere unsupported allegation of error on the part of the Examiner in making the rejection.

It is doubtful whether the Patent Office is sufficiently stringent in closing up the prosecution of patent applications.

The applicant is allowed one year from an official action or rejection, in which to answer the same. The statute allowing this period must have contemplated that the mails might require two to four months, going and coming, in order to effect transmission of the papers passing between the Office and the applicant. The year period is an absurdity. On rejection it is quite appropriate that the Examiner be empowered to set from thirty to ninety days for a response such as required by the condition of the case. The burden incident to the prosecution of patent applications, commonly for periods of from two to five years or longer, might in this manner be relieved. The practise suggested is used by other countries, and our statute should long ago have been repealed, and the Commissioner of Patents empowered to control the time allowed for replies to official actions or rejections, in his discretion. For certain things, i.e., correction of informalities, fifteen days is ample time to respond; now the applicant is within his rights to take a year.

G. Rule 70—New Matter May Not Be Added to an Application Subsequent to Its Filing

It will be recalled that in the previous discussion of Rule 48 permitting the filing of a supplemental oath, the oath allowed to be submitted related to matter which was shown or described in one way or another at the time of the original presentation of the application to the Patent Office. That which constitutes new matter, therefore, must not be confused with what is a part of an invention originally presented to the

Patent Office *but not substantially embraced in the application when filed as a part of the invention.* The latter omission, due often to the non-recognition at the early stages of the prosecution of a case, of an essential part of an invention, or the failure of an inventor to properly present his invention to his counsel or to the Patent Office, or other frequently uncontrollable conditions, may be very clearly distinguished from an attempt to introduce new matter into a patent application. There are certain cases where much difficulty indeed may be experienced in determining whether belated matter introduced is new, but reference is now particularly made to the average problem involved in relation to new matter.

If the matter attempted to be introduced into the case is something which may not fairly be said to have been shown in the drawings, or described clearly or by way of clear inference in the specification or claims, in the absence of a showing in the drawing, such matter is new matter in the sense of Rule 70. If shown in the drawings it may be described; if described, it may be illustrated, and in either event it is not new matter, but is within the purview of Rule 48 under certain conditions. Where the matter attempted to be introduced is of importance, a considerable amount of care necessarily should be exercised in reaching a conclusion as to whether the applicant is entitled to include the same, and since there is a line of authorities which fully establish the practise, these authorities may be consulted with excellent results. (See chapter on *New Matter*, pages 103 to 112.)

There is suggested in the later discussion of reissues that a statutory basis exists for the introduction of new matter in a reissue application, where neither a drawing, nor a model, is used. The question arises whether this privilege extends equally to an original non-reissue application. Query: Is Rule 70 really opposed to the spirit and letter of the statute, and therefore invalid as to one class of applications at least, if not two classes?

H. Rule 75—"Swearing Back" of References. The Law of Rejection by Combining Prior Art and Prior Invention

The condition arises in practise that during the prosecution of an application for patent a reference is at times cited, consisting of a domestic or foreign patent, which shows but does not claim the invention that is covered by the application. A peculiar situation is thus created because upon the status of such a reference may rest the allowability of the entire patent, or at least, the allowance of broad claims of great relative importance.

There are two things which may be done.

First, if the applicant's invention was completed prior to the filing date of the patent, the applicant, against whom the patent has been cited in rejection, may "swear back" of the reference. By this is meant that by presenting a verified showing of facts or evidence, or both, establishing clearly a completion of his invention prior to the domestic patentee's filing date, the applicant may obtain the allowance of a patent to him, which will dominate or cover the invention of a prior applicant and patentee. Regarding a prior foreign patent the showing need only antedate the *date of the patent.*

This procedure seems strange, and by some it is deemed unwarranted, and unfair to the patentee, who has no knowledge of the proceeding whatever. Without discussing the merits of this phase of the practise, it is proper to indicate that Rule 75 is based upon the theory that the patentee had the opportunity or privilege of asking for the broad claim or claims, and not having done so, his failure must legally be ascribed to either of two things. He either dedicated the subject matter unclaimed to the public, or he did not deem himself the inventor thereof. The first assumption is a proper one to be legally inferred, though an absurd one from a fair view of the working out of the practise. The second assump-

tion is most unlikely to be true. In the memory of the author all instances where Rule 75 has been brought into use are due to inability or negligence on the part of the patent solicitor of the patentee in failing to properly claim the invention, thereby enabling the second party or applicant to do so practically in a *clandestine* manner.

The foregoing is a simple exposition of the clear operation of Rule 75.

If the conditions are as stated, and the second applicant is unable to "antedate" or "swear back" of the reference, there is nothing to do but accept the rejection as based properly on the ground of *prior invention,* not anticipation by prior art, or prior use, etc.

This brings us to an important phase of the operation of Rule 75 which it is essential to know, and which, furthermore, is most easily understood on reference to an example.

A has an application pending, and, after considerable prosecution effort, excellent claims are secured over a number of cited patents in the prior art. In the midst of the prosecution, a patent of *B* issues and has some general relation or pertinency to the invention of *A* resting in application. The Patent Examiner notes the issue of *B*'s patent, which is based on an application filed earlier than that of *A*. The Examiner thereupon rejects *A*'s application on the ground that the claims of *A* are anticipated by the patent of *B* taken in connection with *C*'s patent which was previously cited in the application of *A*.

A rejection of the above character is ordinarily improper, because the Examiner is combining a prior art patent with a patent which was not in existence prior to the filing of *A*'s application, and therefore not prior art, namely, *B*'s patent, in order to build up a basis of rejection by anticipation.

The unreasonableness of the foregoing is based upon a common sense explanation. The Examiner in effect says, "Your claims are anticipated because it was not invention to

modify the construction of *C*'s old prior art patent in accordance with *B*'s prior invention." This sounds plausible, superficially, but the fallacy lies in the fact that there are being combined to make this rejection, prior art and prior secret invention references. For this there is no warranty under a fair and reasonable interpretation of American patent practise. In a more simple expression, it is not right, under the laws of common sense, and statutory legal bars, to hold that an invention be considered as anticipated by *C*'s old patent over which a patent was allowable to the applicant *A*, owing to some prior invention of *B* that was secreted in the confidential archives of the Patent Office, never seen or heard of by *A*, never in a position to be availed of by him to assist him or any one else in evolving his invention, and never in any sense *prior art*. Had *B*'s invention been in public use, before *A*'s filing date, then it would be prior art and combinable with *C*'s prior art reference, to constitute a valid rejection. Such was not the ground of rejection, however.

The Patent Office for a long while fell into the error of making rejections of the above nature, and does now at times, but the proper law is laid down in Ex parte Thomas 251 O. G., page 839, elucidated in Ex parte Allen 267 O. G., page 487.

Under these authorities it must be understood that in a case such as outlined above, Rule 75 is inapplicable. The applicant *A* can and should properly refuse to attempt to "swear back" of *B*'s patent. He does not have to do so, in order to obtain a patent, if both references are required upon which to base the rejection.

Generally, the practise laid down by the two cases referred to is this, adhering to the example to assist in the explanation:

1. If the claims sought by *A* are readable on *B*'s patent as to all essential and patentable particulars, the issue is one of prior invention, not anticipation, and the patent of *B* is a valid reference alone. That is, if the claims could be made issues of an interference be-

tween *A* and *B* then *A* must swear back of them or *B* is available as a *prior invention* reference.

2. If an interference could not have been declared between *A* and *B*, then *B*'s patent is not a reference as a *prior invention* subject to a single qualification, leading to an opposite view.

3. The qualification of 2, supra, is that the only differences between *B's* prior invention, and *A's* invention, are inconsequential and immaterial, and do not constitute invention.

It must be recalled that in the example given at the outstart there was need to cite a second reference patent of *C*, and combine it with *B*'s patent. This indicates that there was some phase of invention to be answered by *C* and shows that *B* was inadequate, making the rejection invalid as combining prior art and prior invention alone, two things that should not and do not mix, for purposes of patent application rejections, or patent invalidation. When prior invention becomes prior art that is quite another thing.

The Patent Office was not alone in becoming lost in the maze of a mixture of prior art and prior invention grounds of anticipation. The Federal Courts have likewise unduly confused these two wholly separate and distinct statutory grounds of refusing and invalidating patents. A reading of the case of Lemley vs. Dobson, 243 F. R., page 391, 246 O. G. 1203, will greatly enlighten regarding the depths to which the courts have sunk in this gravely important and much misunderstood angle of patent law. That it is possible for a court to hold that new and real invention, *X*, is anticipated by a prior patented invention, *Y*, as changed or altered in the light of another invention, *Z*, prior to the new invention, *X*, but never available to the inventor because hidden away in a secret place (neither prior thing of itself constituting the invention), seems incomprehensible to thinking students of patent law. And yet such has been the holding in several instances by courts of certain circuits.

The lack of acquaintanceship of both the bench and bar with the *principles* of the law in this connection has made desirable this complete explanation, and only superficial knowledge of the true theories concerning conception of inventions could lead to the error. Until the United States Supreme Court has laid down the law finally along the lines of Ex parte Thomas, the courts will doubtless do much irreparable injury to the interests of inventors and patent owners. The rulings thus far are not at all consistent in different jurisdictions.*

If the law compelled more prompt issue of patents, say within eighteen months' time, there would be less application of Rule 75. At least, it would seem fair to the patentee who may be antedated under the rule that notice be given of the application of the rule, because the procedure can readily emasculate the earlier patent. The notice would lead in nine cases out of ten to a reissue of the earlier patent, and an interference determining the *true inventor*.

No "swearing back" is permitted in respect to a patent issued more than two years prior to the application.

*At the time of the publication of Lemley *vs.* Dobson, supra, the author sought to cooperate to bring this cause to the attention of the United States Supreme Court, by certiorari, but the time limit had then expired.

VIII

APPEALS

Appeal to Board of Examiners-in-Chief

Once filed in the Patent Office, an application is examined first ostensibly by the Primary Examiner, but in reality usually by one of his assistants of whom there are often five to ten. The examination is supervised by the Primary Examiner, and the action had as a result of the examination is customarily under his direction.

The action, see specimens, pages 347 and 361, is either a rejection or allowance of claims, or both, presents objections to form, or makes the requirement for division.

Assuming the case formal and no division necessary, there ensues between the applicant (by his counsel) and the Examiner, a contest for claims as protection. In the United States practise, and with the possible exception of the German, this contest is the hardest fought of any required in the patent offices of the world. So much is this true, that on the subject of invention alone it is not uncommon for six to eight written and oral arguments to be made. It is doubtful whether in any legal proceedings anywhere, such arduous effort is required as is necessary in soliciting patents to present claimed subject matter properly.

A difference arising as to any matter of form in this proceeding would be petitionable to the Commissioner in person, see subject of Petitions, page 227, but if the difference affects the merits of the case, as when based on the patentability of the claims as combinations, aggregations, incorporating new matter, etc., the question may be raised only by appeal.

The first appeal is to the Board of Examiners-in-Chief and

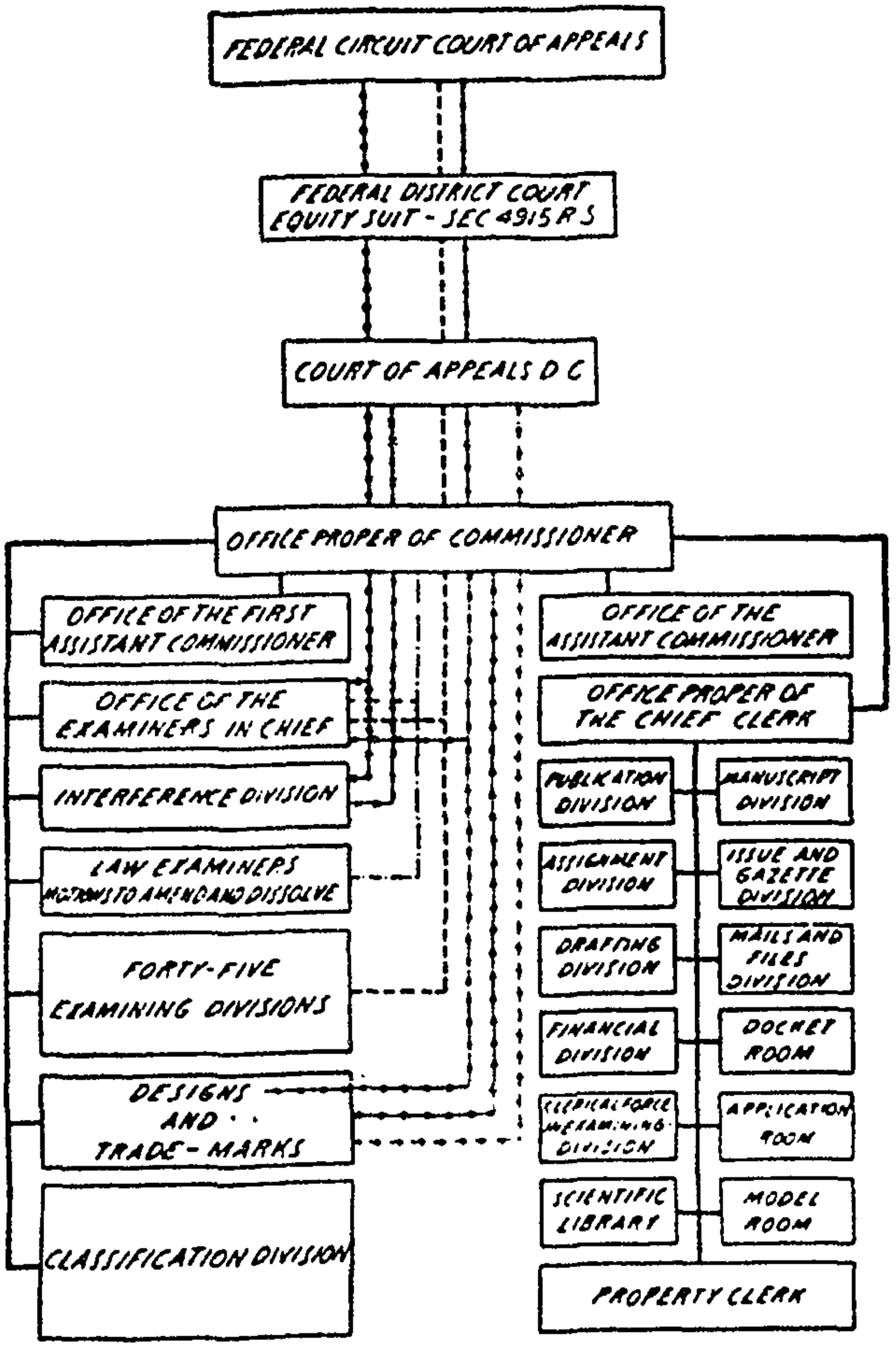


CHART SHOWING GENERAL LINES OF APPEAL

By M. H. Coulston—From Journal of Patent Office Society.

must be filed within one year from a final rejection. It takes a form of which an example is found on page 385, subject to reasonable modification within the discretion of counsel, and somewhat according to his whim. An appeal once filed is docketed and counsel is notified of the date of the hearing, if one is requested. A hearing may be asked or waived as desired by the appellant.

Appeals are conducted quite formally before this board which consists of five superior Examiners ranking above the Primary Examiners, and usually supplied from that class when appointed. Three of these Examiners at a time usually officiate at hearings which take place in a regular court room, the Examiners-in-Chief sitting on the bench very much the same as three judges of the United States Circuit Courts of Appeals. After the manner of courts, one of the Examiners, not announced, usually has the particular case for decision and his associates may assent or dissent to the final decision, with or without a written opinion. Opinions handed down are customarily in writing and briefly explanatory of the grounds of affirmance or reversal of the Primary Examiner.

It is questionable whether the appeal to the board represents much more in many cases than the studied opinion of one Examiner. It is not less effective, however, for that Examiner has had a large experience in regard to the merits and demerits of the rejections made by the whole corps of Principal Examiners, and with such knowledge he can ordinarily arrive at a fair conclusion in the case. What is needed most often on an appeal is a fair review, by an unbiassed third party, of the opposite contentions involved, and it is doubtful whether any legal tribunals of the country afford this as much as do those of the Patent Office. Where any ground of doubt exists as to the position of the deciding Examiner-in-Chief, that is most likely to be developed by a different view set up by a colleague. There are the usual exceptions, necessarily, to the foregoing.

Where only two Chief Examiners sit at a hearing on appeal a division has the effect of affirmance of the Primary Examiner's decision. Since the board has been enlarged to five members it has not been the experience of the author to attend hearings by two Chief Examiners sitting as the board.

An appeal may be withdrawn any time prior to the hearing and the appeal fee will be refunded.

The Examiners-in-Chief hear appeals from the Examiner of Interferences who has jurisdiction of *inter partes* cases, as distinguished from *ex parte* cases first treated herein.

The government fee on appeal to this board is $10.00.

Appeals to Commissioner

From the decision of the Board of Examiners-in-Chief an appeal lies to the Commissioner of Patents in person. In practise this appeal is heard by either the Commissioner, the First Assistant Commissioner, or the Assistant Commissioner.

While it is very true that this appeal is helpful at times in the interest of improving the office practise, many students of official procedure including the author believe it should be dispensed with. It is an additional expense, time-consuming and frequently affords only a review of a decision of the Examiner-in-Chief by a less skilled or qualified single official.

Why this intermediate appeal, between that to the board and that to the Court of Appeals of the District of Columbia, was ever established or maintained, is not clear.

One year is again allowed in which to complete an appeal from the Examiners-in-Chief to the Commissioner. This is afforded by Section 4894 R. S., and involves a useless waste of time not conducive to expeditious issue of patents. This applies to ex parte cases; in interference cases the board usually sets a time limit of twenty or thirty days, something eminently desirable.

When a hearing is requested on the appeal to the Commis-

sioner, a time will be set and notice given of the date when the appeal hearing is docketed, also in regular course counsel or the applicant is advised as to whether the Commissioner, or one of his assistants, and which one, will hear the case. As a general thing, the Commissioner (or assistant) hears the argument on appeal in his chambers.

The government fee on this appeal is $20.00, payable on filing the appeal and after a decision, another appeal may be taken to the Court of Appeals of the District of Columbia.

Petition—(A Form of Appeal)

One of two modes of questioning the propriety of a certain action or requirement of the Primary Examiner or subordinate official of the Patent Office, is by way of direct petition to the Commissioner in person.

Petitions are special appeals, so to speak, relying upon the Commissioner to exercise supervisory authority in the matter at bar.

Rule 142 affecting petitions reads as follows:

> 142. Upon receiving a petition stating concisely and clearly any proper question which has been twice acted upon by the Examiner, and which does not involve the merits of the invention claimed, the rejection of a claim or a requirement for division, and also stating the facts involved and the point or points to be reviewed, an order will be made directing the Examiner to furnish a written statement of the grounds of his decision upon the matters averred within five days. The Examiner shall at the time of making such statement furnish a copy thereof to the petitioner. No fee is required for such a petition. Hearing will be granted in the discretion of the Commissioner.

The intent of the remedy by petition is to afford some way in which a formal requirement of the Primary Examiners, or a question of practise of importance, may be reviewed without

appeals and with expedition. For the Commissioner to determine whether an applicant has presented a claim in suitable form to comply with the law—a purely formal matter—by the method of appeal, would require two appeals, and considerable time and expense, especially if the appeal dockets of the Board of Examiners-in-Chief and Commissioner are crowded, as usual. And, too, the question involved, while of no small importance to the applicant, is most often one of practise, and can usually be settled quite promptly, so that to have it raised by appeal would tend only to clog the already hard-worked machinery of the Patent Office bureaus.

A petition to the Commissioner, therefore, is allowable following the general rule that it does not affect the merits of the case. That is to say, the question of patentability of an invention will not be settled by the Commissioner on petition; it is appealable to the Board of Examiners-in-Chief in the first instance. A divisional requirement may not now be questioned by petition for, since the leading decision of Steinmetz *vs.* Allen,* division has become a matter of merits of the case, instead of a mere formality which latter it doubtless is from a common sense viewpoint.

Sometimes petitionable matters are difficult to distinguish, as regards whether they go to the form or merits, of the case. In such event, the chances are they will be considered by petition if they involve some point which in the judgment of the Commissioner is deemed sufficiently important for him to settle definitely for the purposes of effective administration of the Patent Office.

On page 412 is furnished a specimen of petition involving a question of form very largely, but carrying with it the important proposition of an entire change in practise. In a case of this sort the supervisory authority of the Commissioner is properly invoked, especially because the decision of no tribunal other than His Honor would really be empowered to effectuate

*109 O.G. 549.

that desired to be accomplished. It is notable upon study of the petition referred to, and of the typical case in which it was tried, that the question of whether the merits of the case were involved came up. In the instant example the propositions of form and merits were largely interlocked. But the essential thing raised was a question of practise and the application of the law along lines affecting far more than the invention at bar alone. In such cases, the authority of the Commissioner to supervise all that takes place in his office, where special authority in others is not especially delegated by law, comes into play and has been a boon to the practise in obtaining expeditious and clarifying decisions.

Before filing a petition counsel should scrutinize the grounds carefully and come to the conclusion that there is involved that which is of sufficient real weight and importance for a decision. It is far better to yield to the Examiner on other matters, than to go through the procedure of petitioning, both in the interest of saving the applicant time and money, and especially to avoid saddling upon the high officials of the Patent Office the labor of deciding the importance of the matter raised, and secondly, the petition itself. Frivolous and immaterial matter should not be raised by petition; indeed, as it is within the discretion of the Commissioner to hear a petition, such matters will commonly not be considered by him, though, in the interest of the public, considerable liberality has been shown in hearing these direct appeals.

IX

SPECIAL SUBJECTS

Renewals—Reissues—Abandonment of Inventions and Applications.

Renewals

The matter of renewal of a patent application has been viewed very largely as one of mere formal procedure, when in reality it may have much to do with the validity of the ultimate patent.

Renewal, according to its ordinary meaning, refers to the reopening of the prosecution of an application which has become forfeited for failure to pay the final government fee. Renewals are effected under the provisions of Section 4897, Revised Statutes, which is as follows:

> Any person who has an interest in an invention or discovery, whether as inventor, discoverer, or assignee, for which a patent was ordered to issue upon the payment of the final fee, but who fails to make payment thereof within six months from the time at which it was passed and allowed, and notice thereof was sent to the applicant or his agent, shall have a right to make an application for a patent for such invention or discovery the same as in the case of an original application. But such second application must be made within two years after the allowance of the original application. But no person shall be held responsible in damages for the manufacture or use of any article or thing for which a patent was ordered to issue under such renewed application prior to the issue of the patent. And upon the hearing of renewed applications preferred under this section, abandonment shall be considered as a question of fact. (See prior patent statutes: Section 35, 1870; Section 1, 1865; Section 1, 1864.)

There are several important conditions to be noted:

A renewal may be made by any one who has an interest in the invention or discovery.

A renewal must be effected within two years after the allowance of the original application. This is construed to mean the first allowance.

On hearing of renewed applications, abandonment shall be considered as a question of fact.

So it appears that as regards renewed cases the question of abandonment may enter as a serious factor. Likewise, it will become evident that the question of diligence of the inventor in presenting his invention to the public is likely to be of vast importance.

Suppose a person to have a really meritorious device and that he applies for a patent. Assume that his circumstances are normal as to finances and health. May he obtain the allowance of his patent, then forfeit his application, and proceed to let the application remain idle, and the invention likewise, for a year or until the limit prescribed by law? If his application is idle in the state of forfeiture and he is earnestly working to produce his invention in a highly refined form for the benefit of the public, he is certainly operating as diligently as possible. But without the last-mentioned effort *there is lacking any reason for a situation of forfeiture,* and the proposition would seem to involve a constructive abandonment. But, if the applicant were ill over this period of forfeiture, or financially embarrassed, there would exist another ground of excusable delay. At the present time the Commissioner of Patents requires no showing to overcome a presumption of abandonment when an application has been forfeited a considerable period of time. Query: Should a showing of this sort not be required? In a case of suit based on the patent its validity might well be open to attack on this score; otherwise, why does the statute specifically include the provision that "abandonment shall be considered as a question of fact"?

Then we have the same situation of idle forfeiture unexcused as presenting a phase of equitable estoppel, one which has defeated the interests of the forfeiting applicant or inventor in interference in the Patent Office, and which seems to be suggested as menacing those interests where a patent has been issued, and where such interests may be opposed by a rival claimant of the invention.

In the case of Barber *vs.* Wood, 207 O. G., 299, the Board of Examiners-in-Chief held as follows:

> We are satisfied that enough is shown by the testimony to warrant the conclusion that Wood had knowledge of a rival in the field for some time prior to the renewal of his application. Coupling the fact of such knowledge with his failure to renew his application until just prior to the end of the time allowed by the statute for that purpose, a presumption of acquiescence in the use of the invention which Barber had given to the public arises, such as in our judgment establishes that Wood has lost his right to a patent. As was said by the Supreme Court in the case of Shaw *vs.* Cooper, (7 Pet., 292:)
>
> > The doctrine of presumed acquiescence, where the public use is known, or might be known to the inventor, is the only safe rule which can be adopted on this subject.

Cain *vs.* Park, (86 O. G., 797; 1899, C. D., 278; 14 App. D. C., 42), wherein the court says:

> From what has been heretofore said we are not to be understood as holding that a renewal application filed within the two years given therefor will under all circumstances relate back to the original and cut off all intermediate applicants and patentees. The statute contemplates the possible existence of facts and circum-

stances attending the action of the original applicant that might show an abandonment of the invention itself, notwithstanding there may have been no formal abandonment or withdrawal of his application. In such a case it would be wrong to allow him to come into the Office, instigated by the entry of a new and independent inventor into the field, and revive his original invention for the purpose of defeating his rival for reasons similar in their nature to those which controlled the decision of the following cases: Mason *vs.* Hepburn (C. D. 1898, 510; 84 O. G., 147) and Warner *vs.* Smith, (C. D., 1898, 517; 84 O. G., 311).

Now, a mere delay of two years in the application for a patent is not evidence of abandonment; but neglect to confer the benefits of the invention upon the public, whether it is or is not accompanied by neglect to apply for a patent, is evidence of abandonment. The inventor may voluntarily keep his invention secret as long as he sees fit to do so, provided he applies for a patent before another invents the device. He may abandon or forget his invention, provided he resumes or recalls it before another makes the invention. But his rights do not, in either case, relate back through the intermediate "vacuum" to the original invention, so as to give him the benefit of its date as against a rival inventor.

It, therefore, behooves the counselor to exercise care in the handling of forfeited applications. The utmost protection demands that it be assured that the state of forfeiture be for just ground, for only a momentary period, or that during the same the diligence of the inventor in relation to the reduction of the invention to practise be uninterrupted. For at best, while an application is a constructive reduction to practise as of its filing date, this is doubtless subject to rebuttal, the completion of the invention being necessarily either constructive, by issue of the patent, or actual, by building or actual practise of the same. An application may be abandoned and

an invention may likewise, by the omission to complete the patent to the point of giving the invention to the public.*

It has been customary for attorneys of record to sign the petition for renewal of an application, tho preferably of course the applicant should do so. In one instance, the author recalls that the validity of a patent was questioned on account of signing of the petition by the attorneys instead of the applicant. The point offers the suggestion of a controversial difficulty upon adjudication of a patent, and, in the interest of abundant caution, the applicant might best make the renewal application over his own signature, notwithstanding that the validity of the other method is hardly open to successful attack.

In renewal applications it is not necessary to file a new set of application papers and drawings, as the original ones are usable for the renewed application under a properly simplified procedure.

Where an application is not renewed within two years from the original date of allowance, it becomes abandoned, and a presumption of abandonment of invention may follow, and may only be overcome by a suitable showing if a patent, later issued, comes to the test of adjudication. Of course, if the renewal period has passed, the only method of obtaining the patent is by a new application with new papers complete.

See page 306 for typical form of Renewal Petition.

Reissues

A concise history of the beginning of reissues will assist in gaining an idea of the purpose and general method of pro-

* Note: Since the above-discussed decision was rendered and the observations written a later case treating to a large extent the question of abandonment incident to delay after forfeiture, is reported. In Wells and Hunter *vs.* Honigman 280 O. G., 590, the Court of Appeals of the District of Columbia seems unwilling to go as far as the Patent Office. The case is made to hinge upon the doctrine requiring proof of intent to abandon. The courts seem to go to extremes in protecting the negligent inventor and trade-mark owner under this doctrine. There is room for much reform in this connection and unless abandonment is more liberally construed to exist than at present, on the basis that actions speak louder than belated words, a premium is placed upon unwarranted delays and negligence by a certain class of invention owners and trade-mark proprietors.

cedure pursued in this class of cases. Quoting from Walker on Patents, we have this reliable information:

> No. 210. In 1821 James Grant, of Providence, Rhode Island, received letters patent of the United States for an improved mode of manufacturing hat bodies. In 1825 he presented a petition to Henry Clay, Secretary of State, stating that the specification of his patent was defective, and praying that his patent might be canceled, and a new and correct one granted, embracing the same improvements, so far as they were set forth in certain new specifications, drawings and explanations which accompanied the petition. Though there was, at that time, no statute which authorized any such proceeding, yet, on the advice of William Wirt, the Attorney General, and in the name of John Quincy Adams, the President of the United States, Mr. Clay canceled the letters patent of Mr. Grant, and thereupon issued to him new letters patent, for the same invention, and for the residue of the term covered by the original document. Annexed to the new letters, and forming part thereof, were the new specifications, drawings and explanations, which had accompanied Mr. Grant's petition.

In the case of Grant *vs.* Raymond, the validity of this proceeding was called in question in the Supreme Court, and was argued in the negative by Daniel Webster. The Supreme Court sustained the validity of the reissued patent, on the general spirit and object of the patent law, not on its letter. In delivering the opinion Chief Justice Marshall said: "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 error, 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 that 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 innocently been committed by the inventor himself?" And his Honor further said: "If, by an innocent mistake, the instrument introduced to secure his privilege fails in its object, the public ought not to avail itself of this mistake, and to appropriate the discovery without paying the stipulated consideration. The attempt would be disreputable in an individual, and a Court of Equity might interpose to restrain him."

Then came the actual legislation—making a reissue a valid and statutory proceeding by enactments culminating in Sec. 4916 of the Revised Statutes which reads as follows:

Section 4916. Whenever any patent is inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, if the error has arisen by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, the Commissioner shall, on the surrender of such patent and the payment of the duty required by law, cause a new patent for the same invention, and in accordance with the corrected specification, to be issued to the patentee, or, in the case of his death or of an assignment of the whole or any undivided part of the original patent, then to his executors, administrators, or assigns, for the unexpired part of the term of the original patent. Such surrender shall take effect upon the issue of the amended patent. The Commissioner may, in his discretion, cause several patents to be issued for distinct and separate parts of the thing patented, upon demand of the applicant, and upon payment of the required fee for a reissue for each of such reissued letters patent. The specifications and claim in every such case shall be subject to revision and restric-

tion in the same manner as original applications are. Every patent so reissued, together with the corrected specification, shall have the same effect and operation in law, on the trial of all actions for causes thereafter arising, as if the same had been originally filed in such corrected form; but 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; but when there is neither model nor drawing, amendments may be made 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, as aforesaid. (See prior patent statutes: Section 53, 1870; Sections 5 and 8, 1837; Section 13, 1836; Section 3, 1832.)

The law of reissues is very voluminous and is well treated by many authors. Some practical points might be emphasized herein to advantage:

Because a patent has issued, and some inconsequential mistake is involved, does not make the case one for reissue. If an inventor takes his patent, and, being advised of its inadequacies regarding protection, permits time to elapse without any effort to correct the grant, he cannot be heard later when alleging that there was inadvertence, accident, or mistake, in the issue. These are absolutely essential to every valid reissue, just as much as lack of fraudulent or deceptive intention on the part of the reissue applicant.

The statute calls for a surrender of the original patent. Query: Must the surrender be that of the physical documentary letters when they are available, or the grant evidenced thereby? The author has in mind a case where a company claimed to own a patent but had no assignment interest of record therein. It had received the original letters through the fact that it had the same attorneys as the patentee. The patentee filed a surrender of the patent in writing and applied

for a reissue, but the company claiming ownership refused to give up the original document. In the absence of a transfer of title of record it would appear that the Commissioner should accept the surrender of him who is the legal owner of the patent; certainly the mere absence of or inability to control the actual papers should not defeat the spirit and even terms of the statute. The actual loss of the original letters patent may be averred, and a certified copy surrendered in lieu thereof.

That a patent when reissued can not validly cover other than the subject matter of the original grant is almost axiomatic. But to determine this matter is sometimes difficult in the extreme and is often a bone of contention in the courts. As a general thing the courts, however, lean toward giving great weight to the judgment of the Commissioner in sustaining as valid a reissue grant, and it is only the usual small minority of cases where invalidity on this score is found.

The established rules of new matter as affecting applications, therefore, may be applied generally in reviewing reissue cases, and considering the phase of whether the application or final grant is for the invention of the original patent. Nevertheless, the statute in its terms would appear to permit the introduction of *new matter* in one class of cases, a privilege not usually understood as existing.

In this connection these words of Sec. 4916 above quoted are to be noted:

> . . . but when there is neither model or drawings, amendments may be made upon proof satisfactory to the Commissioner that such new matter or amendment, was a part of the original invention, etc.

The question is quite pertinent whether the same doctrine is applicable to non-reissue applications containing neither

model nor drawing! If so, Rule 70 of the Patent Office Rules of Practise is invalid.

The considerations governing the advisability of filing a reissue are quite weighty. Aside from the matters outlined at the commencement hereof, there are other difficult things to determine. For instance, is the reissue for the purpose of narrowing or broadening the protection? Narrowing might be effected by disclaimer (see typical form on page 307) as the proper course instead of reissuing.

When the situation is one of broadening, it must be borne in mind that generally speaking only two years may elapse after the original grant in which to file for the reissue.

Close study of the statute fails to disclose any basis for the two-year rule on the question of broadening. That is to say, both the Courts, and the Patent Office in consequence, have adopted the view that after a patent has been issued two years there springs up an estoppel (laches) which prevents a patentee from thereafter claiming more than was claimed in the original grant. The way this came about was by reason of the cases, famous in patent annals, of Miller *vs.* Brass Co., 104 U. S., 350, decided in 1882 by the Supreme Court, and the later case of Topliff *vs.* Topliff, 145 U. S., 156. In effect, the Court imputes laches to a patentee if he fails to seek his broadening reissue within two years from the date of the original. A prominent author deduces from the authorities that "the general rule is that a delay for two years or more invalidates a broadened reissue, unless that delay is excused by special circumstances." Such a rule at best is a loose and unreliable one. In effect, it says that the more than two years lapse may, or may not invalidate, and we are little better off than before. The two year rule is by way of analogy with the two year public use bar.

While this question may be one largely of abstract law, it is worthy of note to indicate that a patentee may not discover for many years after his patent issues a defect making it

inoperative to cover his real invention. The defect may be pointed out ten years after the original issue, upon an adjudication by a court. Shall such a patentee be presumed to know the defect has existed all that period prior to the expiry of two years subsequent to his patent, especially if the adjudication alone showed the existence of the defect because of a certain interpretation of the patent? Decidedly no! The attempt of the Supreme Court to read into the law that which is not there, and to the mind of the author, never intended to be there, is an encroachment upon legislative power. The equities of intervening right persons or concerns are and naturally should be amply protected. To lay down a fast and hard rule as to a limiting time, or any two year rule, is decidedly beyond the province of the courts and tends to defeat the essential object of the reissue statute. The Patent Office has fallen into the same error as indicated by the tenor of the Commissioner's decision in Ex parte Schneider, 253 O. G., 513, 1918, where the following words of Justice Brown in the Topliff *vs.* Topliff case are cited with approval:

> 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, *tho not always*, be treated as evidence of 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.

But the legislators have never provided that the terms of Section 4886 R. S. shall be read into Section 4916, and until they do, this doctrine is to be deprecated as not in conformity with the spirit of Section 4916, which was enacted to deal with a condition wholly irrelevant and foreign to any contemplated by Section 4886. Section 4886 is no more entitled

to be read into Section 4916 than the court is empowered *to read it out,* by reason of exceptional circumstances, if the court's premise or interpretation expressed in the above words "tho not always," were well founded.

The doctrine that, after the Patent Office grants to a man a patent intended to adequately protect his invention, (for both the Office and applicant are obliged to cooperate to this end if the contract is to be completely mutual as between the parties), the patentee is obligated to be diligent in discovering if the patent is fatally defective, is fallacious and pernicious. The patentee has a right to conclude that his patent is fully operative and valid when it issues, instead of being obligated to suspect the contrary. Reiterating, how can the defect be ascertained in many instances except by trial in court, which unfortunately often ensues more than two years subsequent to the grant?

There has long since sprung up a law of intervening rights, by which he who, subsequent to the original grant, innocently, with or without knowledge thereof, proceeds to make an article which does not infringe the original patent, may not be held later to infringe a reissue made sufficiently broad to take in his product. He is viewed as having moved in the light of knowledge of the scope of the original patent, on the basis of a dedication to the public of the subject matter not claimed, and therefore possesses a special right arising in the time between the original issue and the reissue. This doctrine is well founded in equity and takes care of the interests of those having *bona fide* rights of the character outlined.

The law of intervening rights does not protect him who usurps an invention, even if he does not infringe an original patent therefor, but upon reissue is found to infringe the latter. Such an infringer cannot go into a court of equity with clean hands, or take advantage of his own wrong.

Why, therefore, presume *general* intervening rights to exist if all special rights of this character are protected by a fair ap-

plication of the doctrines of equity? American Automotoneer Co. *vs.* Porter; Porter *vs.* American Automotoneer Co., 232 F., 456, 463.

A reissue is granted only for the period of the unexpired portion of the original patent.

An example of a reissue patent application file wrapper contents will be found herein.

Abandonment of Inventions and Applications

It is very easy to determine the question of abandonment when an express and voluntary statement of abandonment exists. But the difficulties arise in practise in dealing with involuntary and constructive abandonments.

In many instances we have the formal abandonment of an invention as by a disclaimer, a form of which will be found on page 307. In this instance a patentee concedes publicly and in writing that a certain defined invention does not belong to him, and he abandons all claim to it by the precise disclaiming method prescribed by law.

Suppose an inventor makes his invention and markets it for more than two years. Two years' public use is a practical dedication or abandonment of an invention when no application for a patent therefor has been filed.

During the procurement of a patent an applicant may cancel certain claims for inventions. If he deletes the claims with the reservation that their non-patentability is not conceded, or indicates clearly that he has no intention to abandon the subject matter thereof, his action may not be regarded as a disclaimer; otherwise there is a constructive abandonment.

A reissue application sometimes surrenders a patent which may be perfectly valid as to limited subject matter. Claims of the original patent are sometimes abandoned by reissue cases.

One of the most common ways in which applications become abandoned is owing to the failure of applicant, or his counsel, to take action fully responsive to the last official action of the

Patent Office within the period of one year allowed by law. While an application may become abandoned in this way, the invention of the application does not necessarily become abandoned at the same time. This class of abandonment of an application may take place purposely or inadvertently. An invention may be seen to be defective and inadequate or impractical and the application intentionally abandoned.

When abandonment of an application takes place through inadvertence, as when the applicant, or his attorney, accidentally omits to respond to an official action within the period allowed by law, it is very essential that the application be revived for the preservation of the interests of the inventor or applicant. Assuming that the prosecution of the application has been carried forward with diligence and in a manner fully responsive to the usual requirements, the mistake of accidental omission to answer an official action, giving rise to an inadvertent or constructive abandonment, is held usually to be an unavoidable error, when all reasonable care has been exercised, and the revival of the application will be allowed under such conditions within the discretion of the Commissioner. Revival is effected by petition to revive, an example of which is to be found on page 309 hereof.

X

DESIGN PATENTS

Legal Provisions—Subject Matter—Design Patent Applications: Petition, Specification and Claims—Design Drawings—Infringement.

Legal Provisions

The subject of design patent law involves problems which are far less complicated than those incident to the operation of the law governing mechanical, method or process, composition, and article of manufacture patents. Design patents are granted under the provisions of Section 4929 of the Revised Statutes, which section reads as follows:

> Section 4929. Any person who has invented any new, original, and ornamental design for an article of manufacture, 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 thereof, or 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 is proved to have been abandoned, may, upon payment of the fees required by law and other due proceedings had, the same as in cases of inventions or discoveries covered by section forty-eight hundred and eighty-six, obtain a patent therefor.

It will be apparent from the foregoing that this section is somewhat similar to Section 4886, appertaining to other classes of patents discussed herein, in that the design must be an

invented thing, it must be novel, and there are provided certain statutory bars to the grant of patent therefor.

Generally speaking, under the foregoing conditions, design inventions are largely in the same category as other classes of inventions.

Subject Matter

The conclusions to be fairly reached, after many years of application of the design patent law, are that every design must be ornamental, that is, having an appeal to the sense of the beautiful, the grotesque, or the fantastic, etc.; and that the design must be for an article of manufacture.

It is evident that the phase of ornamentality is one essentially involving appearance. Hence, in the consideration of the patentability of designs, appearance is controlling and practically solely depended on, to determine this question. So much is this true that descriptions of designs have been viewed as superfluous and are no longer used in the formulation of a design patent application.

Seemingly, whether or not the alleged design is for *an article of manufacture,* would be an easy thing to determine. But what *is* an article of manufacture? As the author works upon this subject he has before him a rejection of a design application for a tractor, held to be a machine and not an article of manufacture. It is apparent, therefore, that there may be diversity of opinion as regards all manufactured articles being susceptible of design protection under Section 4929, R. S.

Doubtless a treatise might be devoted to refinements of definition of an *article* of manufacture. Bearing in mind the spirit of the enabling statute, we must interpret the enactment in the light of an evident intention to create in inventors having artistic conceptions, monopolies like those grantable to inventors of mechanical, method, and similar patentable conceptions. Why should this enactment, treated other than with

the most literal interpretation of the word "article," establish any discrimination in favor of simple articles as distinguished from complicated articles, *if artistic* or *ornamental* conceptions are present in both? It would be gross injustice surely, to grant unto a certain inventor a monopoly in an ornamental button-hook, and refuse one for an ornamental dishwasher. The serious question immediately confronting us is whether the ornamentality of a dishwasher is not more deserving of protection than that of a button-hook, on the theory that the former is used, and comes to our view three times a day, as against a single view in favor of the button-hook. But in reality, of course, this is not the controlling factor. The makers of the design law indubitably intended that inventors of ornamental conceptions of *articles that are manufactured*, whether useful or not, shall be rewarded with the limited term protection of a patent. It is questionable that when the law was framed, the idea of ornamentality entered into the field of utilitarian machinery as it does to-day, but this in no way makes convincing the theory that an ornamental machine is not as much patentable, as a design, as any ornamental article composed of a single element or comparatively few elements. To draw a line between a simple structure, and one complicated, for purposes of application of the benefits of the design statute protection is quite an approach to the absurd. "Stream line" engines, "graceful" runabouts, "beauty" (in the sense of real artistic design) tools, are expressions heard these days respecting more or less complicated machines.

So it is fair to view the statute liberally in regard to the term "article of manufacture." Thus considered, the problem of patentable subject matter resolves itself largely down to the proposition of ornamentality and originality, the former a question of fact readily determinable ordinarily, and the latter a formality of the allegation under oath.

It is within the memory of present day practitioners that any mechanical invention, not patentable as such, could be

protected as a design. But the courts held that merely utilitarian structures, not possessing ornamentality, even tho not susceptible of mechanical patent protection otherwise, did not fall within the design statute. A plowshare of new, but not ornamental construction, usually operating under earth and adapted only for its useful purpose, had no appeal to the esthetic. As regards a horseshoe calk the case of Rowe *vs.* Blodgett, 112 F. R. 61, found the Court holding as follows:

> Design patents refer to appearance, not utility. Their object is to encourage works of art and decoration which appeal to the eye, and the esthetic emotions, and the beautiful. A horseshoe calk is a mere bit of iron and steel, not intended for display, but for an obscure use.

That all the requirements of design protection may be present in a machine is clear. The court did not concern itself with the definition of "article."

Supplementing the foregoing, the authorities discussed in the form of Petition to the Commissioner for exercise of his supervisory authority, page 412 hereof, will be enlightening as regards the law.

To merely simulate an object which is well known, in formulating a design, where the imitation involves no special inventive effort, does not ordinarily result in creating a patentable design. Thus, to make candies in the forms of apples, peaches, bananas, etc., would not be an inventive idea. But to make a decorative dish with a group of objects thereon representing pieces of fruit, such as those mentioned, might easily involve an artistic and patentable conception.

Design Patent Applications—Petition, Specification and Claims

A design patent application is comprised of a petition, a specification, an oath, and drawings, somewhat parallel to the

parts of a mechanical patent application, except that the description in the specification, and the claims, have no correspondence with those of other classes of patent applications.

As a matter of fact, a design patent application does not include as a part of the specification any description whatever of the invention involved. The courts have long declared that an understanding of a design invention is had by the vision of its appearance. In the acceptance of this view, the patentability of a design and questions of infringement of this type of invention, being susceptible of determination by study of the appearance, the practise has come to be that description of a design is mere surplusage. As to whether this should be accepted as a final view is another matter.

There was a time in the practise when design patents were obtained largely for articles of manufacture, viewing the term in a very limited sense as covering articles not composed of moving parts. This view is one which places the article of manufacture largely composed of single or stationary parts in one class, and articles of manufacture which comprise moving parts in another class; namely, that of mechanical devices or machines. There is little or no basis in fact for such a classification, as hereinbefore intimated in relation to machines, for in the industrial arts to-day it is common that things styled articles of manufacture embody moving parts.

It is the view of the author that it is not to be considered superfluous to describe design patent inventions, especially where the invention lies largely in certain features of design of a machine, many of the parts of which may be conventional, lacking design or inventive effort of any sort. What harm can be done in giving a brief description of that which an inventor believes to be his invention, is difficult to determine. That the time may come, now that machines are subject to design patent protection, when a description of the features which constitute the ornamental design will be helpful, both to the Patent Office to determine whether the design

is patentable, and to the courts to determine questions of infringement, is a fair conclusion.

Again, we have in the design application of to-day, as largely drafted, a purely formal claim which reads as follows:

> The ornamental design for a ————————————
> as shown.

That such a claim is not fitted for acceptable usage, if the ordinary rules of interpretation of other types of patent claims are had in mind, is clear. Whether the tendency of the courts has been to prevent patentees of designs from going to the extreme lengths of other kinds of patentees, in providing dangerous and unclear refinements of language to distinguish claims, can not be stated. At any rate, the form of claim of a design patent leaves to a court the determination of that which is the invention claimed in the patent, and that which is to be fairly held as an infringement of such invention. In the final analysis, therefore, the court interprets the invention in the proper spirit of its presentation in the patent, and its novelty respecting the prior art, and arrives at an equitable conclusion as to what constitutes a usurpation of the inventive idea of the original and ornamental design ultimately covered, or intended to be covered, by the claim of the patent.

A somewhat better form of claim than suggested by the Rules of Practise for design applications would be the following as applied to an ordinary article of manufacture:

> The new and ornamental design for ————————,
> a typical form of which is shown in the accompanying
> drawings.

Such a claim does not restrict a patentee to the particular design as shown, but clearly indicates that the design as illustrated is only one embodiment which the inventive idea de-

veloped by the patentee may take. When it comes to a case, therefore, like that discussed herein under the subject of Design Patent Infringement, where the forms of the designs are quite distinguishable in detail, tho identical in inventive subject matter, the question could not be raised as to whether the patentee had limited himself to the particular design, as shown, by the exact terms of his claim.

In the case of machines, the time will ultimately arrive when the applicant for the design patent will be required to define what features of the machine represent his novel and ornamental design subject matter. A consideration of many design patents which have been issued more or less recently, leads to the conclusion that where machines are involved, a requirement for specific claiming such as outlined above, would lead to a refusal of a design patent in some instances. If this time does come, it is to be hoped of course that there will be no duplication of the present claims practise appertaining to other types of patents, which involves the "This is the house that Jack built" form of claim!

A typical form of design patent specification and claim will be found herein.

Petition of Design Applications

The petition used for a design patent application is so similar to that employed for mechanical and other kinds of patents, and subject to the same rules in so far as method of formulation and execution are concerned, that a sufficient understanding thereof may be had by merely referring to the form given herein.

Oath for Design Applications

The oaths of design and mechanical patent applications are quite the same, except for certain specific allegations, and similar procedure is followed in reference to the design ap-

plication oaths as presented under the subject Oaths for Patent Applications. The suggestions for drawing and execution of such oaths will not be reiterated.

Design Applications: Specifying Term

Design patents are granted for terms of three and one-half, seven, and fourteen years, and a special procedure is followed in electing the term for the ultimate patent. The method pursued is of advantage to the inventor where there may be some doubt as to the patentability of the design for which protection is sought.

The Patent Office, under the said procedure, will permit of the filing of a design application petitioning for the grant of a patent for three and one-half years, with the payment of the Government fee of ten dollars, the term of the patent as specified to be enlarged at the will of the applicant. Thus, on filing an application for the short term, after the case is prosecuted to the point of allowability of the patent, by special request in advance the Patent Office will give a regular notice to the applicant or his attorneys, as the case may be, indicating the allowability of the application, and will permit thirty days' time to ensue wherein the term for the patent may be enlarged by the filing of a request to such effect. With the filing of the request the additional amount of the Government fee, namely, five dollars, or twenty dollars, for the seven and fourteen year terms, respectively, must be paid into the Patent Office, according to which term is elected.

In view of the foregoing practise, it is evident that the possibility of a design patent being granted may be determined before the patentee has to pay the larger Government fee required for either of the two longer terms of the patent, as compared with the three and one-half year term.

The Patent Office has no power to refund a portion of the fee if the patentee of the design patent elects to obtain a seven or fourteen year patent and his case is rejected finally.

Design Drawings

Little need be said about design application drawings, for the drawing of this class does not embody the complications of those of mechanical cases, so called.

Designs involve largely that which appears to the eye, when it comes to illustration thereof, hence an external view or views only are required. Views in section, in other words, are not therefore appropriate. Usually side elevation and plan views are quite all that are needed. A general perspective view, however, is often the best by which to depict the design when it is a mechanical structure of several dimensions. Signature requirements are the same as regards mechanical patent drawings, but reference characters, other than figure numbers, are superfluous in the absence of any specific description.

Infringement

We can best understand the theory of patentability and infringement of design patents by referring to a concrete example.

The design patent of Pfeffer, No. 51,559, issued December 11, 1917, shows a design for a doll. The design, as customary under present practise, is not described in the patent, description being held to have little or no value to establish the patentability of design invention, or to enable the decision of questions of infringement which may affect the same. Viewing the invention, therefore, as it strikes the eye, it becomes evident that the doll is a unique idea in the way of a caricature upon a bathing female, illustrating a supposedly demure girl as she sits on the beach inviting attention to herself and costume, and with an assumed attitude of flirtation. Of course the doll is an artistic figure, and doubtless the figure as shown is quite unrealistic, having largely an appeal to the imagination and representing more than anything else a very amusing conception.





"DIGNITY" HAT.





BUTTER "SLANTING" HAT.

There is a decided phase of invention involved in the production of this figure or doll, and it is interesting to review the decision of the Circuit Court of Appeals of the Second Circuit in the case of Geo. Borgfeldt & Co. *vs.* Weiss, 265 F. R. 268, adjudicating the patent for the invention. In the lower court the bill of complaint for infringement of the patent for this design was dismissed.

There is annexed hereto an illustration of the design of the patent and a corresponding illustration of the design of the infringing article. The patented design was called "Splash-me," commercially, and the infringing design was called "Duckie." The appellate tribunal held, in respect to the infringement phases involved, as follows:

> The question of infringement of a design patent for a doll is a question as to the impression produced on would-be purchasers.
>
> Infringement of a design patent for a doll turns upon whether there is identity of appearance, whether the effect produced upon the eye is the same, and whether there is substantial identity of design; and the persons to be deceived are not experts, but ordinary observers, giving such attention to the matter as purchasers usually give.
>
> A design patent for a doll entitles the holder to the usual range of equivalents with respect to known prior unessential details, and, tho the patent drawings show a doll with a cap, the figure shown is included within the claim of the patent, whether the doll is provided with painted hair, real hair, bathing cap, or military or naval cap, or any other standard form of headdress.

This case is very instructive with which to discuss design patents. The question arises as to whether the court has clearly expressed what is believed to be the controlling consideration in determining the patentability of the design, and whether a design patent is infringed.

Query: Is it necessary that there be identity of appearance between two designs; also, is it necessary that the effect produced upon the eye be the same in comparing two designs, one alleged to infringe the other?

The question of patentability, and the question of infringement, largely hinge upon the phase of the invention involved. In order to infringe a mechanical patent it is not necessary that there be identity of construction between two inventions under consideration. The proposition is one of whether the invention of the patent is usurped as the said invention is claimed, tho substance rather than mere terms is of course controlling. Is it proper to hold in respect to a design that the question of infringement turns wholly upon the phase of appearance, or effect produced upon the eye? This must be answered in the negative, and while the courts may not have stated clearly their views in this matter, in the case which we are discussing the court undoubtedly had in mind that there is the moving consideration of usurpation of invention in determining a question of infringement. For instance, the court uses the expression—"and whether there is substantial identity of design." By this is certainly meant whether there is substantial identity of invention.

Whatever else may be said in respect to the design alleged to infringe the Pfeffer patent, there can be no question but that the two designs are distinguishable. The general postures in both are undeniably the same, but the head appearances are quite different in some respects. Of greater importance, however, is the fact that the inventive idea involved in Miss Pfeffer's design patent is bodily adopted in the infringing article. The District Court in this case said—"at a glance one would, of course, see the patent plagiarism." The Appellate Court discusses and lays down a rule bringing into play the doctrine of equivalents, so often employed in construing all other classes of patents, and holds infringement clearly to be present.

It is, therefore, conceivable that the general appearance of two designs may be quite distinctive, so much so that there would be little or no confusion, and yet one design may constitute a clean-cut usurpation of the *inventive idea* of another. Having made his invention, obtained an adjudication that there was invention in his design, and patentable novelty being properly established, the patentee of a design patent, equally with the patentee of inventions of mechanical and other classes, is certainly entitled to take into the courts for decision, the question of the *pirating of his inventive ideas.**

In the still later case of Wilson *vs.* Haber Bros., 275 F. R. 346, decided May 25, 1921, the Second Circuit Court of Appeals, by Judge Hough, practically reaffirmed its views in Borgfeldt *vs.* Weiss. The original "Kewpie" doll Patent No. 43,680 was under consideration regarding infringement. The following quotation is of special interest:

> The proper method of investigating and declaring asserted infringement of a design patent has been much discussed at bar and in the court below; it being suggested that differing and divergent, if not incompatible, rules are to be found in our previous decisions of Ashley *vs.* Tatum, 186 Fed. 339, certiorari denied 225 U. S. 707, 32 Sup. Ct. 839, 56 L. Ed. 1266, and Borgfeldt *vs.* Weiss (C.C.A.) 265 Fed. 268. We discover no contradiction between these decisions, though they do afford illustrations of different methods of approaching solution of the same ultimate problem, which is, like every question of infringement, always an inquiry of fact.
>
> Whether the problem be of validity, scope, or infringement, the prime difference between patents for

*NOTE: Since the foregoing was written another decision has been handed down by the District Court for the Northern District of Illinois in the case of Pfeffer *vs.* Western Doll Mfg. Co., 271 F. R. 124, invalidating the design patent discussed above, which was sustained by the Second Circuit Court of Appeals. The Court's view in the recent case, summarized, was that the "Splashme" doll is nothing more than the "Kewpie" doll dressed "in conformity with everyday practise in dressing." Also, it was "merely the selection of a bathing suit for the doll, and was not a creative act."

In the decision the only things the court did not say the average skilled person would or could do, was to dispose the body in the peculiarly novel general attitude of the design, head tilted a certain way, arms disposed peculiarly, and legs bent in a striking relation to the arms and head. While the evidence before the court might have been very persuasive, without study thereof it is believed that the fundamentals of the appellate decision remain undisturbed.

other inventions and those for designs is that in the first class the inquiry is, "What will it do?" whereas in respect of a design one always asks, "How does it look?" Rowe *vs.* Blodgett & Clapp Co., 112 Fed. 61, 50 C.C.A. 120.

How anything looks depends very largely on the eye of the observer; yet that observer, if a court in equity or a juryman at law, must decide by the effect upon his eye whether there has or has not been that appropriation of essentials, or substantial appropriation, which constitutes infringement of any patent. For such a process it is inaccurate to speak of a rule in the sense that that word is properly used in relation to legal rights. No more can be done than to indicate the processes by which experienced observers arrive at conclusions.

The discussion has only illustrated how differently admitted phenomena affect different minds when all are endeavoring to apply the admittedly proper measure in respect of design patents, viz., optical effect. In respect of this particular defendant's doll it is sufficient to say that there is an even stronger external resemblance between plaintiff's "Kewpie" and defendant's so-called "best baby" than is exhibited by the drawings inserted in the opinion in Borgfeldt *vs.* Weiss, supra.

XI

ASSIGNMENTS AND CONTRACTS

Assignments—In General—Contracts: Transferring Patents and Businesses; Employer; Employee—Warranting Protection—Estoppel—Licenses: In General; Shop Rights.

Assignments—In General

The customary document used to sell or transfer a patent, or an interest in an invention resting in application, is called an assignment. Assignments may cover the whole right to an invention or patent, or the whole right to the patent in a specified territory. The last-named class of transfer is known as a territorial assignment, and in the United States often covers a certain State or group of States, or counties, or cities.

In the addenda of forms found herein a general form for assignment of inventions resting in application is found, and also one for assignment of an issued patent. These forms are such as are properly usable for record at the United States Patent Office.

The recording of assignments relating to inventions is an important matter to be attended to. Without attempting to enter into the particulars of the law controlling the recording phase, a few facts may be noted. The Patent Office will not record in its regular assignment records a document of assignment which does not completely identify the invention transferred either by supplying the serial number, or filing date, or both, as usual, respecting the application covering the invention; where the invention has been patented, patent number or patent date, usually both, must be furnished.

During the preliminary stages of an invention a transfer of the invention by a general assignment is frequently made,

the invention being identified by its name, the reciting of the inventor's name and address, and often the business in which and place where developed. A document of this sort is all that can be prepared at certain stages, but should invariably be supplemented by a complete properly identifying instrument for recording purposes, as soon as the patenting processes have proceeded sufficiently far.

While it is very common to-day for assignments of inventions to be made prior to issue of the patents therefor, strictly speaking, an invention is not an assignable monopoly until its ownership is fixed. The only method of establishing a *prima facie* ownership is by obtaining a patent.

Therefore, it is to be understood that the risk is upon the purchaser who buys an invention while it is resting under an application for patent. Proper investigations will enable the determination of the allowability of a patent, and the probable scope thereof, with a fair degree of safety. When such investigations are made there is a suitable basis for both inventor and purchaser to come to terms for the purposes of transfer of the future patent monopoly.

One of the most common phases of assignment practise is frequently not understood. It is the accepted belief, for instance, that an assignment conveying a one-half interest in an invention or patent makes the assignee (he who receives the interest) a partner with the assignor (who assigns the interest). That is, the assignor and assignee, under the foregoing conditions, are thought to have equal shares in the proceeds derived from the invention, whatever these may be. But this is not the true state of affairs. An assignee of a one-tenth interest in a patent is in reality constituted an independent owner and operator under the grant. He may move wholly free of cooperation with the assignor, and the latter is in a similar position. The odd part of the situation is that he who has a one-tenth interest is as well entrenched under the laws as he who has nine-tenths. All this lacks an appeal

to the workings of common sense, but such is the legal status of the parties.

To avoid disastrous consequences which may spring up from assignments of part interests such as discussed in the last paragraph, it is essential that the assignment instrument include provisions such that the interest conveyed vests in the then owners the right to share in the profits, and all other emoluments, which may arise from the invention and patent, in the proportion of their respective interests. Inasmuch as the conditions just stated create possibilities of sharing profits, to be mutual they should obligate the interested parties to share any losses incident to promoting the invention and patent, also in accordance with the respective interests held. In effect, the terms such as above outlined will constitute the parties involved as partners, in regard to the particular subject matter, and an agreement, rather than an assignment, is the form of document in which the obligations should be inscribed, an assignment being limited thereby.

Assignments to employers, such as are utilized for purposes of passing title to patent rights, inventions, etc., owing to the obligations of an employee, may well include a special clause by which to transfer additionally the right to apply for and pass title to all foreign patents that may be procured. Provisions for the above contingency are fair when the understanding is that any and all inventions developed by an employee during his employment shall belong to the employer. In nearly all such cases, the value of the employee's services is based upon the expectation of receiving all inventions and patent rights arising from his efforts when such rights relate to the particular business.

A provision, such as referred to, is also of advantage at times in dealing with situations arising regarding foreign patents. Occasionally, the consent of the inventor to the making of a foreign application, by the owner of the rights, is necessary. After an inventor leaves an employment this con-

sent is at times hard to obtain. An assignment covering the contingency is ample evidence of agreement on the point.

The recording of assignments at the Patent Office is an act of importance for purposes of protection. The conditions governing this matter may well be treated by way of example.

A owns a patent and assigns all rights in the same to *B*. *B* omits to record the assignment at the Patent Office. *C* comes along and makes *A* an excellent offer for the patent, and *A*, who is crooked, accepts and makes a second assignment to *C* who has no knowledge of *B* or the previous transaction. *C*, if an innocent purchaser for value without notice, will take the valid title if *B*'s assignment was not recorded at the Patent Office within three months of the date of the making thereof, or prior to the subsequent purchase or mortgage.

Contracts

Transferring Patents and Business

A patentee owning a business and patent rights sometimes transfers the same for very equitable valuable considerations to new parties, in the ordinary transaction of business. In many instances, where the intent of the parties has been to pass title to the patent rights and the business with its good will, the contracts drawn between the parties have failed to realize the object in view. A common cause for this has been due to the person or persons selling out a business and patent rights, and reentering upon said business within competing territory, often very promptly after the selling out process.

It is surprizing how many instances of this kind of transaction occur, due to the fact, largely, that tho an invention is quite adequately protected from the patent standpoint, it is susceptible of improvement, or the objects accomplished thereby capable of being obtained by similar inventions not comprehended within the scope of the patent rights transferred with a certain business. The seller in a case of this sort may often have considerable inventive talent and be able to devise new

ways and constructions for accomplishing certain results, patent these things, and proceed to compete with the purchaser of his previous business to such an extent that the earlier established business is almost destroyed, or at least greatly reduced in value. So large is the reduction in value at times, that the consideration passing between the parties to the original transaction is rendered abnormally large and an unfair one, as regards the value of the business caused to be reduced or deteriorated owing to the methods of the seller. It is on account of reductions in the value of a business, caused by what may reasonably be considered to be unfair methods of the character stated, that rigid contracts should be drawn, protective of the purchaser acquiring inventions, patents, and the good will of a business connected therewith. A form of contract suitable for the protection of purchasers of patent properties and businesses associated therewith is found herein. Its essential features are these:

1. The protection of the purchaser against competition with inventions of the seller in the same line of business.

2. The protection of the purchaser against the sale by the seller, to others than the purchaser, of inventions which may be similar to or superior to those transferred by the seller to said purchaser. In this way, competing businesses are prevented from being energized against the purchaser's business, and the selling price or consideration is maintained fair, or of full value.

3. The insurance that the purchaser will receive the benefit of any like inventions of the seller already evolved but not fully identified in the agreement.

4. The insurance that the seller will cooperate with the purchaser in maintaining the inventions of patent rights valid.

5. The complete transfer of all patent rights, inventions, business, and good will to the purchaser.

6. A definite agreement as to the status of future inventions, and foreign patent rights.

Employer; Employee

An inventor entering upon employment calling forth his inventive genius should bear in mind the general obligations which attach to his efforts, as they may affect the rights of an employer, and in all fairness he should arrange a special contract for his services if he does not propose to give up the full results of his inventions as they may appertain to the business of the employer.

Limitations respecting the right of an inventor to operate in the competitive field, and similar obligations of a contractual nature should not be inadvisedly entered into; when incurred they should be abided by. It is a bitter trial for an inventor to be indefinitely tied up against operating in the field of his experience, so that contracts governing such matters should be well considered indeed. Frequently such contracts might well be declined.

A great loss, however, is suffered when a concern or manufacturer, in the capacity of an employer, finds itself despoiled of important inventions developed in its manufactory, and at its expense. This is the common result of the service of unfaithful employees, and has caused the employer of inventing service to make himself secure by rather rigid contracts that have tended to prejudice, rather than promote, the interests of inventors and designers. If a more universal desire existed on the part of such persons to give the full result of the employment to him who pays for the inventing, many unfortunate contracts would be avoided.

But it is one thing to produce inventions during an employer's time, and another to do creative work of this sort during an employee's time. When the inventing is in a different field from the employer's business, or not the regular work for which employee was retained, it is not difficult to draw a line of distinction as to the ownership of patent rights; when such are not the cases the line to be drawn is more difficult.

A rigid agreement between an employer and employee is supplied in the addenda of forms. The provisions of this agreement are of extreme stringency, as they cover the rights of the parties thereto. In early times, when communication was difficult between people, between portions of a country, and between nations, the field of usefulness of a person in his employment was very considerably restricted. During such times the courts did not view with favor agreements limiting territorially the right of a man to pursue his occupation or vocation. By so doing, the ability of a person to earn his bread and butter may be circumscribed, something which is clearly against public policy.

Where agreements are entered into at this time, however, embodying restrictions as to time and territory, regarding the pursuit of an occupation, as this matter relates to contracts of invention and employment, the tendency of the courts to-day is to sustain such restrictions where they are reasonable. If this were not true, a person could enter the employ of a manufacturer, obtain wages based upon his inventive capacity and the value of the inventions which he might produce and intended to be owned by the employer, obtain knowledge of trade secrets, or especially evolved efficient methods of the employer, and after a certain time separate from his said employment, taking with him inventions and methods to competitors. When agreements are made in good faith in limitation of the extent to which an employee may proceed along the above lines, it is the view of the authorities that contracts of employment restricting the employee should be sustained, the reasonableness of the contract being of course always a question of importance. So it is that while a Court may in some cases restrict an employee from entering a competing business for a period of two years, such a restriction for ten years might be deemed wholly unreasonable. When phases of coercion enter into the circumstances of the contract, and where an employer seeks to take an undue advantage of an employee

under such contracts, the extent to which courts will go in sustaining an agreement may be considerably limited.

Warranting Protection—Estoppel

It is not an uncommon practise for patent owners in their efforts to dispose of patent rights, to make representations regarding the breadth of their monopolies as an inducement for the disposition of the same on the most favorable terms. Thus, as an instance, the assignor of an invention and patent at times indicates by way of inducement that his patent is exceedingly broad and covers all similar devices of the same general class. Furthermore, in selling his patent, the seller at times warrants that he will not reenter the same business, invent, or compete with the purchaser in the same line of invention, either for a term of years, or indefinitely. In respect to the warranty of the breadth of a patent, the courts are constrained to go pretty far in enforcing the contract against the assigning party and in favor of the purchaser. When the assignor of the patent rights, after transferring the title to his patent, invents and patents another and similar invention to that previously assigned, he will ordinarily be estopped from denying the infringement when attacked under his first patent and contract or assignment.

It is not consistent and fair, obviously, for a patent seller who warrants his invention to be broadly novel, and the patent therefor to be correspondingly a very complete monopoly, to promptly make a new similar invention and introduce the same, thereby despoiling the patent purchaser of the fair returns of the sale, and in effect setting aside a very important part of the consideration for the sale. The courts have gone so far as to say in such cases, that they will not enter into a study to determine nice questions of infringement such as may be involved technically speaking; they simply rule that infringement exists and will enjoin it. This is possibly a rather

strange and unusual practise, but is clearly based upon the desire of the court to give the purchaser proper and equitable relief. To a certain extent the relief appears grounded rather upon unfair competition, or the enforcement of the consideration of the contract—specific performance—than upon any doctrine of infringement law, if, in matter of fact, technical infringement does not exist. Certain authorities in connection with this practise are of interest, and are therefore noted:

Assignments—effect as estoppel.

(C. C. A. 8th Cir., 1910.) One who actively participates in the sale of a patent and receives a share of the proceeds, and all in privity with him, are estopped to deny its validity as against the purchaser or his assigns, and a corporation subsequently organized by him is so in privity with him and affected by such estoppel. (For other cases, see Patents, Cent. Dig. 182½-186; Dec. Dig. 129.) Johnson Furnace & Engineering Co. *vs.* Western, 178 F. 819.

Assignor may contend for narrow construction of claims.

(C. C. A. 2nd Cir., 1914.) Where complainant obtained its patent sued on from defendants, the fact that defendants were estopped to claim that the patent was void for lack of invention did not preclude them from contending for as narrow a construction of the language as the claims would warrant and the conditions of the prior art might require. (For other cases, see Patents, Cent. Dig. 238; Dec. Dig. 163.) Standard Plunger Elevator Co. *vs.* Stokes et al., 212 F. 941.

Suit by assignee against assignor and company created by him.

(C. C. A. 2nd Cir., 1909.) In a suit for infringement brought by the assignee of the patentee against the patentee and a company he has created and controlled to

exploit the same appliance, an inquiry into the prior art to ascertain the validity of the patent assigned will not be undertaken, the patentee and his corporation being estopped to urge the invalidity of the patent as against his assignee. (For other cases, see Patents, Cent. Dig. 289; Dec. Dig. 202.) Johns-Pratt Co. *vs.* Sachs Co. et al., 175 F. 70, 71.

Assignor estopped to deny validity.

The assignor of a patent, upon suit against him for infringement thereof by the transferee because of the use of the identical construction described in the patent, is estopped to challenge the validity of the patent for want of novelty and patentability. The defense of invalidity is closed to him, and he can not deny his own title to the interest assigned. Frank et al. *vs.* Bernard, 131 F. 269 (N. Y.).

Assignor may not assume inconsistent positions.

(C. C. A. 1st Cir., 1915.) The assignor of a patent for value, with covenant of warranty, is estopped to deny its validity when sued for infringement by the assignee or to claim a narrower construction of the claims than it did to induce the sale. United States *vs.* Cross 227 F. 600.

(C. C. A. 6th Cir., 1914.) While a patentee-assignor may, when made a defendant, litigate the scope of his patent, the courts will not unnecessarily construe it so narrowly as to make it worthless, but will be inclined, so far as the record permits, to make its exclusive right a real and valuable thing. United States *vs.* Sanhoff 216 F. 610.

It is also the practise of the courts, in cases in which parties agree to withdraw from the possible fields of competition as a part of the consideration of the sale of a patent, that the seller's actions be scrutinized closely when there is any attempt to

avoid the strict terms of an agreement of this character. Many have been the expedients of fraudulent sellers of patents in attempts to reenter the fields in which the patents sold may be classified, after having received liberal considerations for keeping out of such fields. When relatives are often caused to invent, or others are relied upon for this purpose, who may be very remotely connected with the fraudulent party, superficially, but very closely related through recourse to incorporation methods or secret partnerships, it well behooves the courts to study closely and afford relief to *bona fide* purchasers of patens who have parted with valuable considerations in the acquirement of the rights. Fortunately, it is the liberal spirit of the courts to dispense equity in such cases.

Estoppel to deny validity—sale of patent.

All persons who concur in the sale of a patent, either directly or indirectly, or participate in the consideration received therefor, are estopped from averring the invalidity of the patent. (Affirming decree, 111 F. 902. N. Y.) Force *vs.* Sawyer-Boss Mfg. Co., et al., 113 F. 1018; 51 C. C. A. 592 (2nd Cir.).

Where persons thus deal in a patent right and afterwards form a corporation, such corporation is likewise estopped. Thus all persons interested in the sale and in privity with the assignor are estopped as against the assignee. Id.

Assignment—effect as estoppel—corporation organized by assignor.

(C. C. Md., 1910.) A corporation organized by a patentee, who subscribed for two-thirds of the stock and paid for it with money received from another corporation to which he assigned the patent, is bound by his estoppel, and can not question the validity of the patent, nor introduce evidence so to limit its construction as to render it worthless. Automatic *vs.* Monitor, 180 F. 983.

Corporation organized by patentee after assignment—estoppel of corporation.

(D. C. Pa., 1913.) Where a corporation alleged to infringe a patent was organized by the patentee and his family after he assigned the patent, and he has since been its president and active manager, it is bound by his estoppel and can not deny the validity of the patent but may show the prior art to define and limit the claims. Rollman *vs.* Universal 207 F. 97.

Licenses—In General

A special form of license is treated herein, known as the "shop right," which is in the nature of an *automatic* license. Generally, however, licenses are written agreements by which a patentee, or the owner of an invention, specifically grants to another the power and right to employ the invention by way of manufacturing, selling, and using, or doing any one of these things.

A well-known form of license is one which gives an exclusive right of sale, constituting a party or concern as an exclusive sales agent. As a general thing such licenses are not granted until by careful investigation it is determined that the sales agent has the proper sales equipment, force, and capability for the production of large sales. Exclusive licenses in the interest of the licensor should cover a minimum amount of sales annually, and in the event of default in this connection the license should provide for a reversion of the rights granted to the licensor. This reversion is usually handled by a special privilege granted to the licensor to revoke the license when there is default in respect to the minimum sales provisions. A corresponding method of revocation is ordinarily employed in non-exclusive licenses.

In respect to exclusive licenses the licensee is reasonably entitled to protection by provisions which give him sufficient

time to create the minimum sales required annually. An exclusive license to use is not uncommon, and an exclusive license to manufacture and sell is frequently employed. Certain general principles suggested as regards the exclusive license to sell are applicable to the exclusive license to manufacture particularly.

Limitations as to the territory in which the use, sale, or manufacture may be performed are proper and necessary for the adequate protection and understanding of the parties. It will be seen that if owners of patent rights grant unrestricted territorial exclusive licenses in the manufacture or sale, the corresponding rights in foreign territories may be vitiated.

In effect, of course, the fixing of minimum sales is the fixing of minimum royalties to be derived from said sales. In cases of exclusive licenses the requirements regarding minimum royalties or sales should be more rigid than in respect to non-exclusive licenses because, obviously, an exclusive license during its life may practically vest in the licensee nearly all of the rights and privileges of the patentee, save the title to the patent itself. Exclusive and non-exclusive licenses for limited terms are often negotiated.

From the viewpoint of the licensee it is fair that he should be protected by the licensor against infringement of the patent rights. No absolute rule may be set down in connection with this matter as regards the payment of the expense of litigation over the patent in the interest of the licensor and licensee. The circumstances may warrant that either one of these parties should stand the expense of litigation, this matter largely depending upon conditions and the status of the parties themselves, and possibly special phases of the contract. It is almost axiomatic, however, that if the licensor will not contract to defend his patent rights, the licensee should have this privilege, and be able to compel the cooperation of the licensor.

Contracts of non-exclusive license are most often employed where the owner of patent rights desires to constitute a num-

ber of different parties licensees. Often a manufacturer, in the interest of the development, and to promote the public use of his products, takes the liberal view that competition is to the interest of increasing the value of his patent rights by popular acceptance under conditions of increased distribution of the inventions constituting said products. In these circumstances, such a manufacturer frequently licenses several of his competitors under certain or all of his patent rights, and, by exacting royalties in fair amount, an overhead is placed upon each competitor, and increased advertising and distribution constitute in many cases fruitful results of this liberal attitude of mind. After all, the object in the promotion of any invention or a patent right is to obtain the widest distribution thereof, and in respect to certain arts or classes of invention such distribution is insured by a division of the monopolies of manufacture, use, or sale, instead of maintaining the exclusive ownership and use of the monopoly.

It is essential to licensees of both the exclusive and non-exclusive classes that the licensor have complete rights regarding the inspection of the books of the licensee or licensees. As a method of avoiding embarrassment it is quite proper to require returns under licenses, as to quantities manufactured, used, or sold, and royalties thus produced, to be made under oath, notwithstanding that the book inspection privilege exists.

A licensee during the pendency of a license acknowledges the validity of a patent under which the license is taken. An excellent provision in license agreements is one which requires the licensee to contract that he will not be a party, directly or indirectly, to any procedure disputing the validity or *tending to impair the value* of the letters patent under which he operates, or by which the enjoyment of full revenue from said patent, by the licensor, may be reduced. This is a broad contract provision which prevents in many instances any possibility of the licensor being caused to suffer through unfair methods of the licensee. Furthermore, the provision from a legal

viewpoint is a blanket protecting provision for the whole contract involved.

Licensing under patents is a method of a very flexible nature whereby to derive returns from an invention. Where an invention is susceptible of use for different purposes, such as in different arts, a license may be caused to run for the use, manufacture, or sale of the invention as applicable to a predetermined art. A concrete mixer in construction may be utilized as to certain features and subject matter of patent protection, as a tumbling barrel; it may be employed possibly for the mixing of dough. Manufacturers in these several arts do not compete with one another and provisions restricting the field of operation of different licensees in the different arts form possibilities of revenue not otherwise obtainable.

Shop Rights

An inventor when employed by a company or concern, often produces an invention under the direction, and at the expense, of the employer, and in his factory or shop. It may be that at times the special circumstances of this act are such that the patent rights to the invention do not pass to the employing concern. Nevertheless, there is created automatically a license right in the concern or company, or other employer, even tho a patent may properly later be issued to the inventor.

This employer's right consists of the privilege of manufacturing for his own use the invention developed under the conditions stated. The patent may pass from hand to hand, but the automatic license which has just been treated, known as "shop right," will remain undisturbed. It is complete save for the fact that it lacks assignability. The transfer thereof is not allowable, tho the right will pass with the business owning it when the business is absorbed or taken over as a whole.

XII

INTERFERENCES

In General—Priority of Invention in Interferences—Commencement of Interference—The Declaration of Interference—Proceedings after Declaration—The Preliminary Statement—Interlocutory Proceedings; Reformation; Dissolution—Final Proceedings—Appeals.

In General

When two or more applications for a patent are pending in the Patent Office, and claim the same invention or substantially like inventions, some method of adjudging who is entitled to the patent must be employed. The same is true when a patent has issued and includes claims which one (other than the patentee) believes belong to him as the inventor. The determination of who is the true inventor is the function of the procedure known as an interference, and the cause may involve two or more copending applications, or an application or applications and an issued patent. Because a patent is issued, therefore, the patenteee is not secure against an interference.

It is notable, however, that as between the parties whose applications are copending *a preponderance of the evidence* in favor of one will win for him; whereas between a patentee and an applicant who files subsequent to the issue of the patent, the patentee is favored and the applicant must produce *proofs beyond a reasonable doubt* in order to secure the judgment of priority. Here, again, the presumptions are favorable to the patentee.

The Patent Office sometimes inadvertently issues a patent

when an interference should have been declared during pendency of the application. In this case, no advantage is gained by the inadvertent issue.

While the Commissioner of Patents may not cancel a patent, he is empowered to adjudicate an interference in which a patent is involved. Priority of the invention of the patent may thus be awarded to some one else besides the patentee. Thereupon the Commissioner may issue a second patent to the winning interferent, in effect voiding the first patent.

Upon issue of a second patent under the above conditions a court of equity, under Sec. 4918, R. S., may adjudge and declare either of the patents void in whole or in part.

The burden of proof is upon him who filed his application last, called the junior party to distinguish from the senior party, as the first to file is customarily called.

If there were possibly some slogan necessary to adopt for him who embarks upon the troubled tide of interference practise, an appropriate one worthy of suggestion and in accord with modern phraseology is, "Watch Your Step." The missing of a proper and timely effort in the procedure often entails so much added effort to regain the position to which an interferent is entitled, that the prosecutor must be careful and wary to the highest degree.

A thorough study and understanding of the interference rules is requisite. Presumably, rule study will be given throughout the different classes of work treated herein, but especially is it necessary in connection with *inter partes* cases. Dealing with single party cases has its troubles truly; however, interference or plural party cases offer manifold opportunities for being caught up by errors of commission or omission on the part of the uninitiated.

There is a time to file a certain motion, and if it is not filed within the allowed period, more work will frequently be involved in making a showing to obtain a hearing for the motion than is incident to the hearing of the motion itself.

Copies of records must be filed within a limited time and if not printed in time may lead to the loss of a cause. Briefs, too, may be proffered for consideration within definite periods, and upon objection will not be considered thereafter unless the delay is sufficiently excused. An appeal date passed, and a cause is lost.

These are a few of the minor requirements which offer possibilities of penalties to the party committing an oversight, and the practise abounds in similar and even more important ones.

Priority of Invention in Interferences

Since the purpose of an interference is to ascertain who is the *first* and *true* inventor as between the parties thereto, the question of whether an outside third party is the true inventor is not judicable as a result of taking the evidence in this class of proceedings.

It may be noted that the expression *first* and *true* inventor is employed above. The first inventor is not invariably entitled to a patent. There are considerations which govern, other than merely first invention, such as abandonment, suppression or concealment, and diligence, any one of which may control the final judgment.

As an example, suppose *A* invented a machine in 1917 and produced it in a practical form which he operated successfully that year. Thereupon, being a busy man, he turns to other work and for eighteen months until December 1918 he leaves this invention untouched. Afterward, in December 1918, he files an application for patent. But meanwhile *B* in January 1918 developed the same invention and with diligence applied for a patent in April 1918. *B* never built the machine. Under the foregoing conditions, *B* is entitled to an award of priority. The reasoning involved is that *A* either temporarily abandoned his invention or suppressed it, so that when an opposing claimant entered the field he was not exercising that effort in

bringing his invention to a patented condition, or to the use of the public, which the race of diligence requires in patent procedure.

To demonstrate how small a variation in the foregoing conditions would necessitate a different judgment, suppose *A*, instead of letting his machine remain idle, had put it in a shop, even a public one, and subjected it to the tests of commercial practise during that period of eighteen months. In such circumstances, he would be the first and true inventor because his diligence is not open to attack, and the factors of suppression or abandonment are absent.

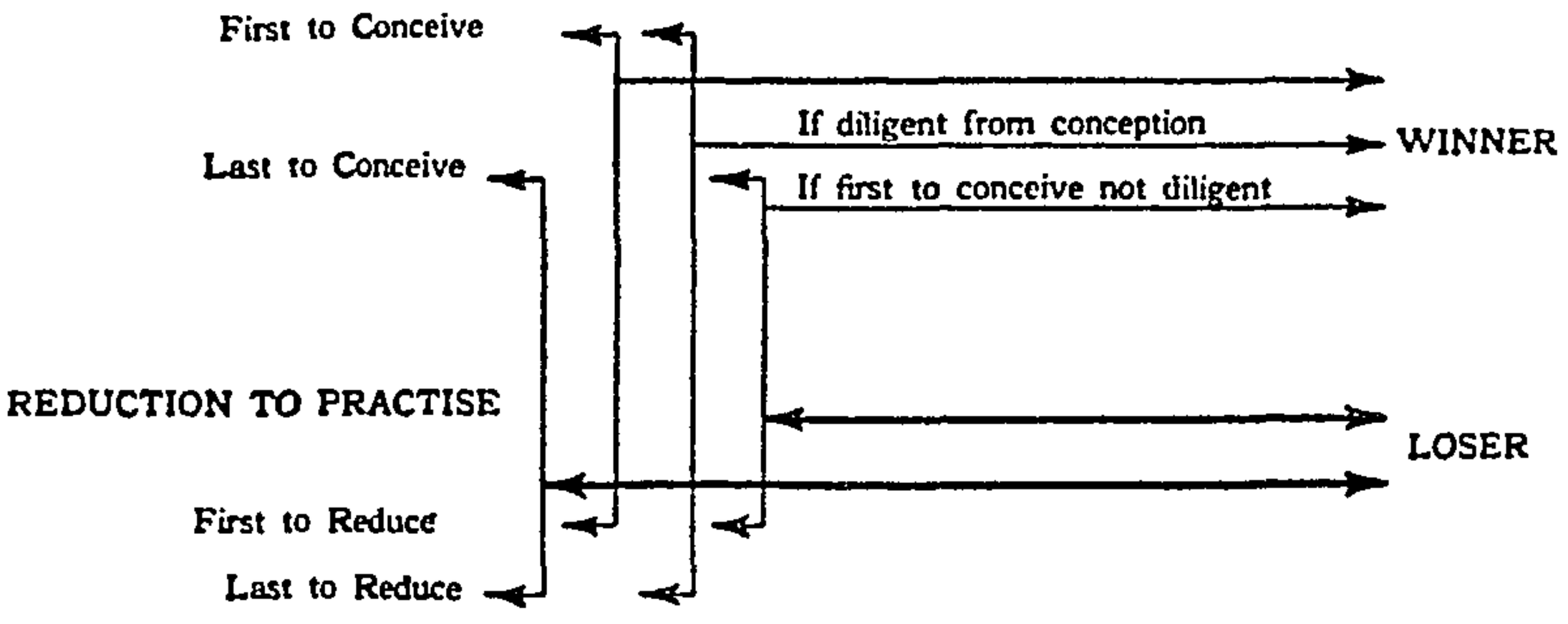


FIG. 11

The law does not compel the immediate filing of an application for patent. Two years are allowed for the filing, even after the invention is placed in public use. But if a rival inventor enters the field, the elements of diligence, abandonment, suppression, etc., become of great consequence and one or more of these factors may determine the complex question of true inventorship.

Legally, the filing of an application for patent is a great advantage. It constitutes what is known as a *constructive* reduction to practise of the invention; building and operating a successful machine, or practising a process or method successfully, constitute *actual* reductions to practise. The two classes of reduction to practise are of equal legal value in regard to their status as completing the *act of invention*. Additionally,

however, the application might be characterized as a public assertion of a claim for the invention.

This brings us to certain main and elementally important rules affecting the race of diligence determining priority of invention.

First Rule of Priority:

He who is the first to conceive and the first to reduce to practise is the first inventor.

Second Rule of Priority:

He who is the first to conceive and the last to reduce to practise is the first inventor if he demonstrated reasonable diligence from the time of his conception to the time of reducing his invention to practise.

Third Rule of Priority:

He who is last to conceive and first to reduce to practise is the first inventor when the first to conceive and last to reduce to practise was not diligent between these two primary acts of invention.

These rules may generally be relied upon as controlling the customary situations arising in regard to the relative positions of the parties in interferences. They have to do with the evidence adduced upon the taking of testimony, and not with the mere allegations of the preliminary statement.

Furthermore, the race of diligence runs between the conception and first reduction to practise of the invention. That is, if there are both actual and constructive reductions to practise, the later one may be ignored in interpreting the rules of diligence. Thus if the later reduction is the application filing and not the successful operation of the invention this filing date is immaterial, and may be ignored, and *vice versa*.

It has been held that where a party is first to conceive and first to reduce to practise, it is immaterial whether he was diligent between the times, or not.*

*Hubbard *vs.* Berg, 195 O.G. 818, Court of Appeals, District of Columbia.

A peculiar priority condition has arisen regarding proofs of joint inventorship in interferences, under a decision of the Court of Appeals of the District of Columbia,* holding that conception of an invention of a joint application for patent may not be proved as prior to a time of first meeting or coming together of the joint applicants.

It is not clear that a rule of this sort is applicable to all cases that may arise, though in the particular case then before the Court it may have represented the dispensing of justice.

Inventions are odd things because created in divers ways. We shall suppose that *A* conceived of a log-rolling device and even made sketches enabling a disclosure to others. Without finances he was able to go no further, though his broad conception was quite clear and equally practicable. Capital became interested, and *B*, an engineer, later met and collaborated with *A*. After considerable effort and improvement the invention was brought to a perfected or workable shape by development of features introduced by *B* and *A* cooperatively. Thereupon, an application for patent was filed for the invention as conjointly developed, including broader claims than were readable on *A*'s conception alone. Later, a machine was built and worked satisfactorily. To have built *A*'s crude conception would have been feasible, but not desirable in its imperfected state; and an application directed to it in its undeveloped construction was never made.

No invention is considered completed for patent purposes until an application is filed or a working device built. One of these things alone is necessary to bring the invention to the point of a reduction to practise, or what is viewed as equivalent. Inventions of which sketches are made, merely, are not completed inventions in the sense of the patent law. The sketches are only evidence of conception, as is a disclosure, or a model.

With a case of the class above outlined, claims for what was originally *A*'s crude conception are properly made in an appli-

* Bayer and Brown *vs.* Bradley, 237. O. G. 917; 46 Appeals A. C., 7.

cation of a joint nature presenting for the first time the completed invention. This being true the case presents an unprovable one under the noted decision, as regards the priority running back to *A's* conception. Therefore, the original conception which inherently had to do with an uncompleted invention, can not be availed of by *A* and *B* together, tho only by their joint efforts was the invention completed, and only by *A*'s early efforts was the first conception created and the race of diligence sustained.

With a case of this nature before the court it is doubtful whether the broad declaration in Bayer and Brown *vs.* Bradley would be deemed of invariable applicability. Should it be so held, the situation would be that an invention conceived by one but completed by two, may be totally lost notwithstanding diligence continued from its conception. The one party is not the inventor because he did not complete his invention; the two are not the inventors since they did not jointly conceive the thing. To give *A* and *B* credit from the date they joined forces would not suffice when diligence runs from A's conception; and *C*, a new party, entering the race with his conception alone, after *A*, but before the meeting of *A* and *B*, would win if he conceived much later than *A*, and exercised diligence to his reduction to practise, even if the latter were subsequent to that of *A* and *B*. A case of this sort would work injustice to no small degree. Bayer and Brown *vs.* Bradley is not believed to contemplate a case such as that cited above, and should be modified if it does.

In the case of DeLaski and Thropp *vs.* Thropp & Sons, 218 F. R. 464 and 226 F. R. 941, however, the lower court, sustained by the Court of Appeals of the Circuit, held:

> * * * it is not to be thought, nor by the law required, that the inventive conceptions of two inventors shall develop simultaneously.

The same condition was recognized in Worden *vs.* Fisher, 11 F. R. 505; see also Vrooman *vs.* Penhollow, 179 F. F. 296.

Commencement of Interference

Interferences may be initiated upon motion of the Patent Office, so to speak, or upon motion of an applicant. In other words, the Patent Office upon noting a conflict of claims between two or more applicants' copending cases, or those of an applicant and patentee, will suggest claims to one party, or both, under Rule 96, so there may be claims common to the two cases as a basis of interference.

Again, an applicant may obtain information that another is seeking to usurp his invention, or he may note the issuance of a patent containing claims belonging to him, in his view, and thereupon suggest to the Patent Office the possible propriety of an interference in one instance; and by copying the claims create an interference in the second instance, assuming he has a right to the claims. These, in effect, are interferences really initiated on motion of the applicant.

Interferences will only be declared under the rules when one application is practically ready for allowance. An issued patent, of course, meets this condition of an allowable application.

Assuming that two applications, or an application and patent, contain one or more like claims, an interference is in order and the customary declaration will be made.

An applicant, by his attorney, should carefully determine whether he is entitled to make claims proposed to him under Rule 96, for purposes of an interference. If the claims suggested are readable on his invention in substance, as well as in terms, they should be inserted in the application as a matter of course; otherwise, the subject matter of the claims will be deemed disclaimed with all right to contest the question of priority relative thereto.

If the claims suggested can not properly be made by the applicant, it is advisable to insert them with reservations as to their allowability to him. Until the contents of the application in which they originated are studied, it is risky to dis-

claim upon first superficial consideration. The reservations submitted on entering the claims will form a basis for a later motion to dissolve. (See subject of *Dissolution of Interferences*).

The Declaration of Interferences

While the initiating of an interference may largely be effected by either an applicant for a patent or the official examiner, depending on circumstances, the declaration of the interference is almost wholly a matter of discretion with the Commissioner of Patents. The courts have made some inconsistent holdings in this particular connection, but the law is pretty well fixed by the United States Supreme Court in the case of Ewing, Commissioner, *vs.* the U. S. ex rel. the Fowler Car Co., 238 O. G., 983, from which the following syllabus is illuminative:

> It is to be remembered that the law gives the Commissioner both initial and final power..... It is he who is to judge (be of opinion) whether an application will interfere with a pending one; it is he who, after an interference is declared and proceedings had, is the final arbiter of its only controversy, priority of invention.*

The declaration of an interference is the formal notice to the opposing parties that their applications are found to interfere. It names to each party the opposing party or parties, if more than two parties are involved, with the address and the name of the attorney of record for the opposing party, and the assignee of the application, if any. Additionally, the declaration states the issues in the form of counts which are the interfering claims to be found in both applications. Finally, the declaration calls upon the parties to file within a fixed time what are known as preliminary statements under

*NOTE: The Court of Appeals and the Equity Courts are the final arbiters.—Author.

oath, these giving certain dates affecting the inventions in conflict, which dates are to be later established by proofs. A preliminary statement from each party is required under Rule 110, and a specimen of such a statement will be found on page 328.

The declaration of an interference usually takes the following form:

Forwarded from 25 Div. to Examiner of Interferences 2-213 Paper No. 1 (Interference)

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
Washington, D. C.

November 30th, 1920

Doe & Doe,
Hanna Bldg.,
Cleveland, Ohio.

Please find below a copy of a communication from the Examiner concerning the application of R. E. Roe, filed Apr. 30, 1916, Ser. No. 98,761 ROASTING MACHINES.

Very respectfully,
ROBERT F. WHITEHEAD,
Commissioner of Patents

Room No. 135
Address only
The Commissioner of Patents
Washington, D. C. No. 45261

The case, above referred to, is adjudged to interfere with others, hereafter specified, and the question of priority will be determined in conformity with the Rules.

The statement demanded by Rule 110 must be sealed up and filed on or before January 3, 1921, with the subject of the

invention, and the name of party filing it, indorsed on the envelope. The subject matter involved in the interference is:

> A roasting machine comprising an oven, a sliding carrier arranged therein, a movable holder on the carrier, an operating device connected to the carrier to shift it back and forth in the oven, and means for causing the holder to float transversely during the shifting movement of the said carrier.

(a) The interference involves your application above identified.

(b) A patent for Roasting Oven granted to J. V. Roberts, Apr. 13, 1920, (filed Nov. 24, 1916) No. 1,962,735, whose attorney of record is Samuel Dobbs, Marquette Bldg., Chicago, Ill.

(c) The relation of the counts of the interference to the claims of the respective parties is as follows:

Count:	Roe:	Roberts:
1	26	11

Counts compared.

Examiner, Div. 25

For proper protection, when the same attorney represents two or more interfering parties, the Examiner is required under the rules to notify each party of this fact.

Proceedings after Declaration

As soon as the declaration of interference is in hand, several things must be determined.

The application held to interfere may comprise several inventions susceptible of being claimed in a single case, because intimately related or coordinated one to another. If the interference involves one of these inventions alone, it is possible for one interferent to avail himself of Rule 106, and divide out the non-interfering invention by filing a new and separate

application therefor, and thus facilitate the granting of a patent upon the latter.

If a certain mechanism only of the machine is involved, under Rule 105 the applicant is privileged to maintain the other features of his invention secret by filing a certified copy of that part of the specification, claims, and drawings, as relates to the interference, and the balance of the application may be sealed against the opponent. Liability of creating unwarranted conflicts is thus avoided.

A decision of a party not to contest an interference may be rendered effective to cause an adverse judgment by a concession of priority favoring his opponent, by default in the proceedings, or by a disclaimer by him or his assignee, representing that the subject matter held to interfere is not his invention. (A form of disclaimer is supplied herein.) These two courses will result in closing the interference by a judgment in favor of one of the parties. Every interference must conclude with such a judgment, unless it is dissolved upon a motion or motions based upon proper grounds specified in Rule 122, and which grounds will be treated hereinafter.

Assuming that the interference is to be contested and not avoided by default, disclaimer, or concession of priority, it is necessary to file the preliminary statement or pleading of facts and circumstances affecting the origin of the contested invention, and a period of thirty days is usually allowed for this step, a period which may, however, be extended.

The Preliminary Statement

As the initial pleading in the interference this statement requires very careful drafting. Upon its contents often hang the fortunes of the particular interferent, because once filed it cannot be easily amended, and under certain circumstances no amendment will be permitted.

The preliminary statement is required by Rule 110 and

gives under oath the dates of certain events and other matters germane to proving the priority of the invention, as follows:

Conception
First drawings
First disclosure to others
First written description
First date of building model (if any made)
First reduction to practise
Extent of use

Obviously the dates of conception and reducing to practise of the invention are the important things, the other dates merely involving matters supporting the above propositions when it comes to the proofs.

A model, if made, has about the same status as drawings in assisting to prove conception. (Walker on Patents.)

Technically, an invention is not viewed as complete unless it has been reduced to practise, and such is a common sense view.

When drawings, description in writing, or the actual invention, have not been made, the preliminary statement must so state.

A conception of an invention is never the mere thought of the need of doing a thing definitely desired; it resides in a complete idea of the means or method by which the desired thing or result may be attained. The conception may be disclosed by written data upon the invention, or by oral statements explanatory thereof; also by models giving to the invention form or substance.

The explanation of the extent of use is helpful to arrive at conclusions of whether the invention has proved an operative conception useful to the public and if so to what degree. After all, the greatest weight is attached to the bringing of an invention into a condition for public use, for that is the basic aim of the patent grant.

What constitutes an actual reduction to practise is fre-

quently the main point in controversy in an interference. Sometimes even an application for patent is contended as not constituting a constructive reduction to practise, as when a question arises as to whether the real contested invention is fully disclosed therein, and when the machine of the application is not operative as disclosed.

Generally, when a mechanical invention has been built and successfully operated under practical conditions of service, there is a complete reduction to practise; likewise, when a method has been completely and successfully performed. The phase of successful operation or performance is highly important *when that step is essential to a determination of the complete operativeness of an invention.* It is to be again emphasized that *actual* not *constructive* reduction to practise is being discussed, for the latter stands largely upon its own legs, so to speak, i.e., the disclosure of an application for patent which is a matter of record.

The qualification as to the requisite successful operation or performance respecting an actual reduction to practise is advised. As to some inventions, the operativeness phase is determinable on mere completion; respecting others, operation or performance under conditions of actual service is the required test to establish successful completion. Illustrating, a safety pin upon being finished may of itself show its full operativeness. But a machine may be complete, supposedly, and yet not a successful device in the eye of the law. In a well-known case a voting-machine contended to be a complete actual reduction to practise was held by the Court of Appeals of the District of Columbia not to be such because it was liable to failure of operation once in a hundred times. For such a machine the requisite of successful operation was, and is, accuracy to an absolute degree. Since this was not attained the machine built failed to fulfil its purpose as evidence of a successful completed invention. (McKenzie *vs.* Cummings, 112 O. G., 1481.)

The allegations of a preliminary statement as to dates of conception and reduction to practise must be made with a full comprehension of those features of the law that control these subjects; otherwise the dates may be wrongly set up.

Precaution demands that in submitting the dates in a preliminary statement any doubts as to times alleged be resolved in favor of the inventor.

It is difficult on the face of a preliminary statement to presume the real outcome of taking the testimony. Even when a constructive reduction to practise exists, the date of conception may be the burning issue, together with the race of diligence.

Failure to file a preliminary statement is the basis for the giving of judgment in favor of an opponent who presents his pleading in due form if the latter party is the first to have filed his application. When no statements are filed, the application priority controls the judgment.

Preliminary statements are filed carefully sealed up (see Rule 110) and are opened after the date of expiration of the filing period. They are then usually ready for inspection by the opposing interferents or their counsel.

On expiry of the time for filing preliminary statements, after the statement of each party is approved and opened for inspection by the opposing party, the parties' files are also released for examination. At this time, *and for the first time*, each party learns of his position in relation to his opponent as to dates of filing and contents of files.

That is to say, the relative positions of the parties, *prima facie*, are determined by the dates of their applications, and the dates alleged in the preliminary statements are merely the basis for proofs.

A party not filing any statement is restricted to the day of filing his application as the date of his (constructive) reduction to practise of his invention and he cannot be allowed to avail himself of any earlier date.

If on the opening up of the applications, *A* finds his filing date earlier than *B's* conception date, *A* will be entitled to judgment of priority, whether or not he filed a statement, on the theory that his application is proof absolute of his completion of the invention before *B* even conceived it. If no judgment on the record, such as the above condition calls for, is in order, the next things timely under the rules are the interlocutory motions or proceedings.

Reverting to the matter of amendment of preliminary statements it is notable that, generally, the changing of the statement will be allowed if failure to do so might cause issue of a patent to one not the inventor. Customarily, the factors of injury to the opposing party, and extent of increased expense to the latter, will affect the decision as to whether or not to permit amendment. As regards the phase of injury, such as naturally follows a disclosure of the truth, a great amount of weight will not usually be attached thereto. (Silver *vs.* Eustis, 98 O. G., 2361; 1902 C. D., 91; McDermott *vs.* Hildreth, 98 O. G., 1282; Gales *vs.* Berrigan, 100 O. G., 232; 1902 C. D., 232.) After testimony in the interference has been taken the amendment of the preliminary statement will almost invariably be refused. Exception is sometimes made where the evidence which forms the basis for the motion to amend could not have been discovered by exercising proper effort and diligence at the time of making the original statement.

Under certain conditions, an assignee may and must make a preliminary statement, and defend an interference, if his interests are to be protected. Judgment on the record may properly be opposed, and often prevented, by motions to dissolve.

In conclusion, it is worthy to suggest that to allege mere fictitious dates in preliminary statements, is more harmful than beneficial. Such course shows up on proofs being taken and tends to reflect discredit upon true testimony.

Therefore all statements should be carefully prepared by being based on actual facts and by setting up accurate dates susceptible of being substantiated later, on the taking of depositions.

Interlocutory Proceedings

Reformation; Dissolution

Interferences involve two stages, that for proceedings which are interlocutory or take place between the date of filing the preliminary statement and the commencement of the taking of evidence, and the second stage when proofs are actually adduced by depositions and a final hearing had thereon.

The interlocutory proceedings are usually directed to questions affecting the form or validity of the interference declaration, while the final proceedings have to do with the merit of the cause which is the settling of the priority contentions of the parties.

The period in which to file preliminary statements being ended, they are duly approved when received and in proper form (Rule 108). At this time, periods are set in which the parties shall take testimony, and a preliminary thirty days time is allowed for filing of interlocutory motions, subject to extension.

Motions to reform the interference should be filed at this time, if either party wishes to put in issue claims other than those on which the original interference is based, or perhaps desires to substitute or include a different application.

It may be that a party has an application containing subject matter on which the issue counts read, which application has an earlier filing than that in the interference. If said party is junior in the interference he should at this time move to shift the burden of proof.

At times, the Patent Office declares interferences by mistake.

This is due in most instances to failure to discover the most pertinent prior art or publications bearing upon the invention in controversy. Obviously, there is no advantage in determining priority of invention when the invention is not patentable. Under these conditions, a motion to dissolve on the ground of non-patentability is in order.

Again, the Patent Examiner may really misinterpret what a claim means, and on this account an interference is sometimes declared by proposing such a claim to a party who has no right to make it. When this condition arises, the party who feels that he or his opponent has no right to the claim, or that neither is entitled to the claim, may move to dissolve on such ground or grounds.

An interference may be declared by an informality precluding proper determination of the question of priority. In such event, dissolution is in order.

A motion to dissolve must state explicitly the ground or grounds on which it is brought, and explain each ground briefly enough for a clear understanding thereof. A typical motion to dissolve is found hereinafter.

Motions to dissolve are brought under Rule 122 and if in proper form will be set for hearing before a Law Examiner on a day certain.

It is usual for motions of this character to be brought by a junior party, he being the one on whom the burden of proof rests in the interference. The practise permits either party to move for dissolution, however. It is doubtful if this system operates with very great efficiency. Often, dissolution effort is used as a means of delaying judgment and can be so employed with great ease.

An improvement on the present methods of dissolution would be to have every case reexamined by an independent examiner after a possible interference is suggested. If a mistake has been made in the examination of the prior art,

or in regard to the rights of the parties to the claims, it may be rectified in good time. Motions to dissolve on the ground of non-patentability might be required in advance of opening the file wrappers to the parties, so that such motions would be entirely *bona fide*, not brought merely because a party happens to find himself on the losing side of the cause according to the positions established by the filing dates. This practise might result in hardship occasionally, because an issue count is not always clear when read independently of a specification.

Ample opportunity is, therefore, afforded to the party who feels that dissolution is proper, to put an end to an interference before contesting the question of priority. If there existed an equal opportunity to complete the whole interference cause promptly the practise would be much improved. When it is possible to hold off the taking of proofs in an interference for many years, through proper proceedings, or mere delays of the Patent Office and counsel for the parties, the operation of interferences is not what it should be.

A knowledge of the rules of dissolution is greatly to be desired for effective results in supervising the proceedings in interferences. To stop the interference at the right time is highly essential. If the conflict as established is justified, the next steps after reforming or failure to dissolve are the final proceedings.

When an applicant has copied claims from a patent to obtain an interference, he is not permitted to move for dissolution of the interference on the ground of non-patentability of the issue count or counts. The theory here is that to allow the foregoing action is simply opening the opportunity for a judgment (of dissolution) that casts a cloud upon the patent. The Patent Office holds that if the claim or count is not patentable, it is invalid and will so prove if taken into the courts; therefore, and in this way, the Office perpetuates its own mistake, occasionally. Much that is logical may be said in opposition to this particular patent practise.

Final Proceedings

If no interlocutory motions are filed, or those filed duly heard, and no dissolution is ordered, and after a reformation if needed, the parties must take their testimony.

Interference testimony is taken by depositions under Rule 154. To detail the requirements of this rule is not necessary. The provisions are strict and must be followed closely, reasonable changes in certain formalities being allowed by stipulation between counsel.

When the testimony is ready to be taken in the time allotted, that of the junior party comes first, of course. A notice of taking of depositions in the form prescribed is first sent to the opposing counsel, or interferent, usually the former, inviting him to cross-examine. Service should be made personally and an acknowledgment thereof indicated on the notice, or service had by mail under the provisions of the rules. (Rule 154 b.)

It is worthy of note to suggest that it is as poor a plan to take testimony without the careful outlining or preparation of the case, with a knowledge of the facts to be proved and evidence to put in, as to prepare a patent specification and claims with an inadequate knowledge of the invention to be covered thereby.

The actual taking of depositions calls for great care and painstaking work. The customary rules of evidence govern the proceedings, but unfortunately no court is present to determine the admissibility of testimony, or the evidence itself. Hence much is frequently presented that is irrelevant.

The parties' counsel meet, upon notice, at the place designated for the taking of the depositions, after previous arrangement for the presence of the officer before whom the depositions are to be taken. This officer is usually a notary public, or official qualified to administer an oath, tho by stipulation another may act as Special Examiner. He must not be interested in the controversy in any way.

It much simplifies matters when the officer is a reporter and can take the testimony. The testimony must be written out by this officer, or some one in his presence, under the rules. This plan is rarely followed save when the officer is the reporter. When a stenographer handles the actual taking of the depositions it is the custom to permit the notary to administer the oaths and retire, and if desired, a stipulation to this effect may be entered on the record.

Again, the rule requires that the testimony be written out in the presence of the officer, and this is seldom done. The notary so states in his certificate, however, and no one attempts to go behind this record.

It is sometimes desired by opposing counsel that the depositions be written out on a typewriter as they proceed. Cross-examination is thus facilitated when a case is of a certain character requiring close questioning of a witness or witnesses. This method may be insisted upon because strictly speaking it is required under the rule. (Rule 156.) When the depositions are taken down stenographically, and then transcribed, a stipulation is customarily and necessarily entered to the effect that such method may be pursued.

While it is required that the depositions be read over and signed by the witnesses, counsel may and often does waive the necessity for these things in the interest of the saving of time and trouble. It is rather advisable, however, to have the witnesses read their depositions since a palpable mistake of the reporter is often corrected.

Legal or foolscap paper should be employed for the depositions, a wide margin at the left maintained, the witness's name supplied at the top of each page, and the pages numbered consecutively, as well as the questions.

As is always the case, care must be exercised to offer in evidence all exhibits relied upon, after the basis for their introduction is made; also, identification should be carefully attended to.

When the depositions are completed, the officer who is to attend to the completing and forwarding to the Patent Office should be fully instructed what to do. He must attend to the following essential things:

1. Mark each exhibit with its identifying symbol and see that it is entitled properly in the cause.

2. Attend to the writing out of the depositions, submit them to the witnesses for reading, and see that they are signed.

3. Prepare a certificate in accordance with a form usually supplied to him in fairly complete condition by counsel, being Form No. 46 of the Rules of Practise.

4. Address the package containing completed and signed depositions, and paper exhibits, to the Commissioner of Patents, Washington, D. C. and certify to the same as follows:

> I hereby certify that the within depositions of ....., ... relating to Interference No. ....., entitled ..... were taken, sealed up, and addressed to the Commissioner of Patents by me this ..... day of ....., 1920.
>
> ROBERT ROSS
> Notary Public

If paper exhibits are enclosed, the above certificate may so state. If large exhibits go forward separately, a corresponding certification to this, authenticating the same, is required —on the container of such exhibits.

When the junior party has completed his depositions, the senior party takes his testimony, after which rebuttal depositions may be taken by the first named party. Surrebuttal proofs are allowed only in exceptional cases.

The officer before whom depositions are taken must promptly complete the writing out thereof, the signing, and transmission to the Patent Office.

When a witness is not obtainable otherwise, he may be subpenaed by the clerk of a United States District Court so as to compel his attendance for examination in an interference proceeding.

The patent laws as recently amended provide that Sec. 869 of the Revised Statutes relating to the issuance of subpenas *duces tecum* shall apply to contested cases in the Patent Office, i.e., interferences.

The effort here has been not to indicate what requirements are called for by the rules respecting the taking of the depositions, so much as just how the rules operate in practise. There is always a certain amount of mechanical working out of the details incident to the taking of testimony which results in a somewhat automatic adjustment of these details, much to the advantage of all concerned.

A word or two of caution at this point may be appropriate. It answers no good purpose to be too technical in dealing with questions arising during the taking of depositions. Experience dictates that a fair degree of liberality should be allowed an opposing counselor in conducting his case. Objections made as to those things not really affecting the merits or rights of the party represented by the objector, are of little consequence, and if persisted in may result in a prejudice against said party. The examination of witnesses is governed by well known rules of evidence and compliance with these may be insisted upon at all stages where desirable or necessary. The mutual convenience of counsel should be served as much as possible consistent with a fair degree of promptness in speeding up the completion of the taking of proofs. This latter the Patent Office requires to some extent.

If any objection, motion to strike out, etc., affecting the testimony, is to be pressed, the moving party should act quickly after the occasion for the motion arises. Mere technicalities in no way materially affecting the rights of parties are usually ignored by the Patent Office.

All depositions and evidence of the interfering parties being completed, the final hearing is had before the Examiner of Interferences who is the judge authorized in the first instance to decide the question of priority of invention. The junior party opens and closes on the arguments at final hearing.

Forty days prior to the final hearing the junior party's testimony in the form of a printed record must be filed; twenty days prior to such hearing the record of the senior party is due; and printed briefs are due at the Patent Office three days before the hearing.

Appeals

From the decision of the Examiner of Interferences, awarding priority to one of the parties to an interference, appeal lies to the Board of Examiners-in-Chief, thence to the Commissioner of Patents, and from him finally to the Court of Appeals of the District of Columbia. If the losing party is dissatisfied after the final appellate judgment, he may start anew the litigation over the question of priority by bringing a suit in equity under Sec. 4915 R. S., to compel the Commissioner of Patents to grant to him a patent. In such a suit all questions previously litigated may again be raised and new evidence offered enlarging that produced in the interference in an effort to strengthen the testimony which was originally offered.

Summarizing therefore, it is to be noted that there may be had special recourse to the Law Examiner on a motion to dissolve and that four tribunals have jurisdiction to decide a question of priority, namely, the Interference Examiner, Examiners-in-Chief, Commissioner, and the Court of Appeals. Then the decision may be reviewed by the equity suit, the latter, however, seldom resulting in a change in the decision of the Court of Appeals.

A most excellent chart of the jurisdiction of appellate tribunals over different phases of an interference has been devised by an Examiner-in-Chief of the Patent Office, F. C. Skinner, and is incorporated herein as an aid to the student and a handy guide to the experienced attorney.

APPELLATE JURISDICTION IN INTERFERENCES

Nature of the proceeding	Tribunal before whom the proceeding should be first brought	Appeal Lies To			Remarks
		Board	Commissioner	Court	
Motion to dissolve for unpatentability.	Law Exr.	Not unless it is granted.	Not unless it is granted.	No.	Interference continued unless motion is granted by last tribunal that adjudicates.
Motion to dissolve because opponent has no right to make claims.	Law Exr.	Not unless it is granted.	Not unless it is granted.	No.	If motion is refused interference is continued with right to have the matter reviewed under 130.
Motion to add claims under Rule 109.	Law Exr.	Not if it is granted.	Not if it is granted.	No.	
Question raised under Rule 130.	Exr. of Int. if there is evidence that was not before Law Exr. on motion for dissolution under Rule 122.	No, but may be reviewed on appeal from award of priority.	No, but may be reviewed on appeal from award of priority.*	No, but may be reviewed on appeal from award of priority if raised below.	In ancillary to question of priority.
Motion to shift burden of proof.	Exr. of Int.	No.	No.	No.	
Timely motions not provided for in Rules 109, 122.	The one having jurisdiction of case at the time.	No.	Yes, if appealable in his judgment.	No.	
Evidence to show priority.	Exr. of Int.	Yes.	Yes.	Yes.	Pat. Off. may afterwards consider question of patentability. Bill in equity may be be brought by defeated party under 1915 R. S.

* The Commissioner has the power under his supervisory authority to correct any manifest error committed by the lower tribunals, such as: to postpone time for preliminary statements; to correct statements; to require opponent to correct statement; to withdraw parts under Rules 105 and 106; to extend time for taking testimony; to have hearing postponed; to effect stay of proceeding; to permit assignee to intervene; to dismiss petitions, etc. The number and nature of motions are limited only by the attorney's ingenuity and the party's purse, except that obviously and flagrantly dilatory motions will not be entertained. From *Journal of the Patent Office Society.*

A more unwieldy procedure than this of interferences, and one which taxes more the resources and patience of a litigant, can scarcely be imagined. How it has been possible to maintain interference practise in this complicated condition during the many years of its existence is a source of wonder to students thereof. To be critical without being constructive is useless. A remedial suggestion or two, may, therefore, be offered with some diffidence.

A single final decision in the Patent Office, with the appeal to the Court of Appeals, would suffice to ensure complete justice to the patent interferent. The elimination of decisions by the Examiner of Interference and the Commissioner would highly benefit the procedure as regards rendition of final judgment.

Printing of records and briefs for Patent Office use should be done away with at the risk of some slight inconvenience to the Examiners-in-Chief. This work takes considerable supervision and time of the attorney, and money of a litigant, and is avoidable.

To retain the jurisdiction of courts of equity under Sec. 4915, R. S., is surplusage, even tho this step by way of review is not often resorted to.

Where a patent has *inadvertently* issued, and a copending applicant claims the same subject matter, instead of the latter being compelled to go through an interference it would be far more equitable for the Commissioner to allow the injured party's patent to issue, and for the courts then to adjudicate the question of priority. Then the interfering patent could not hold up the rights of the applicant who may be entitled to the priority judgment and infringement profits, etc., as is done today. Sec. 4918 provides a method of doing this very thing.

If a special board of review, authorized to reexamine the whole situation preliminary to promulgating the interference, were established, many of these litigations would not be de-

clared, and the dissolution proceedings could possibly be dispensed with.

Compulsory arbitration of interferences offers a possible solution. This is the Canadian practise, but so little Canadian litigation of this sort has taken place that the success of this method has not been demonstrated. It is safe to say that no such endless procedure as a United States patent interference is to-day approved in any other country and corrective legislation is necessary. In fact, so burdensome have become the processes and delays of patent interferences that conscientious counselors hesitate long before committing clients to this class of litigation. Compromise, submission to arbitration, indeed almost any method except that established by the Government, is infinitely preferable to the endless and unsatisfactory interference, so called.

XIII

SPECIAL FORMS AND PROCEDURE

Powers of Attorney—General Power of Attorney—Associate Power of Attorney—Power of Attorney by Substitution—Power to Inspect—Form of Assignment: Of Invention Resting in Application; Of Patent After Issue—Form of Petition for Renewal—Form of Disclaimer After Patent—Typical Form of Petition for a Certificate of Correction of Letters Patent—Typical Form for a Petition to Revive an Abandoned Application—Typical Form of Non-Exclusive License—Reciprocal License Agreement—Agreement: Transfer of Patented Invention and Business—Contract Between Employer and Employees as a Group. (See Interference Forms. Chapter XIV.) (Also see Typical Cases, Chapters XV, XVI, XVII, XVIII.)

Powers of Attorney

It is at times necessary, or desirable, that during the pendency of an application a change of the attorney of record be made. To revoke the original power in an application, and constitute a new attorney with full power to prosecute the case, is within the right of the applicant. The Patent Office will not recognize two different attorneys of record, and communicate with them as such, however, nor will communication be held with both the applicant and his attorney. When a new attorney is empowered to act in the case, therefore, it is customary to revoke the previous power. If no revocation is made the Patent Office will recognize the last empowered attorney.

When the power of attorney of an attorney is revoked and no new attorney given power to act, the applicant will be recognized and correspondence thereafter conducted with him by the Patent Office.

Notice is always given by the Patent Office of both the

acceptance and revocation of a power of attorney, and all powers of attorney must be in writing.

The owner or assignee of an application has the right to control the prosecution thereof to the exclusion of the applicant or inventor signing powers for this purpose.

An original attorney, one appointed by the applicant or owner of an application, and known as the attorney of record, may appoint an associate attorney to conduct the prosecution of an application, and the associate will then be recognized until the associate power is revoked either by the original attorney of record, or automatically by the revocation of the power of the original attorney. An associate or substituted attorney cannot appoint a third agent or attorney. (Rule 19.)

Death of the applicant automatically revokes the power of attorney.

Applications will not be permitted to be prosecuted by others than the applicant, or an attorney qualified by being registered upon the roster of attorneys of the Patent Office.

A person or concern may be given power to inspect the contents of a patent application either by the applicant, his attorney, or the assignee of an application.

Following are the usual forms of powers for the purposes above outlined:

General Power of Attorney

IN THE UNITED STATES PATENT OFFICE

To the Commissioner of Patents,
Washington, D. C.

Sir:

The undersigned having on or about the day of , made application for Letters Patent for an improvement in , Serial No. , hereby appoints the firm of , (constituting said firm) Register No. , of , his attorneys,

with full power of substitution and revocation, to prosecute said application, to make alterations and amendments therein, to sign the drawing, to receive the patent, and to transact all business in the Patent Office connected therewith. All previous powers are hereby revoked.

Signed at , in the county of ,
State of , this day of ,

.....

Applicant.

NOTE: The above power may be signed by the assignee of an entire interest in an invention. Rule 5.

Associate Power of Attorney

IN THE UNITED STATES PATENT OFFICE

Inventor's Name—Richard E. Roe
Title of Invention—Desk Pad
Date of Filing—Jan. 1, 1920
Serial Number—879,456

ASSOCIATE POWER OF ATTORNEY

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the above entitled application, please recognize Messrs. , Washington, D. C., Reg. No. as associates, with full power, all prior powers of attorney being hereby revoked.

.....

Attorney in Fact.

Power of Attorney by Substitution

IN THE UNITED STATES PATENT OFFICE

Name of Inventor—Richard E. Roe
Title of Invention—Desk Pad
Date of Filing—Jan. 1, 1920
Serial Number—879,456

Hon. Commissioner of Patents,
Washington, D. C.
Sir:

In the matter of the above entitled application, I hereby substitute , of , Register No. , for myself as attorney of record, with full power.

.....
Attorney in Fact.

Power to Inspect

IN THE UNITED STATES PATENT OFFICE

Name of Inventor—Richard E. Roe
Invention—Desk Pad
Filed—Jan. 1, 1920
Serial Number—879,456

POWER TO INSPECT

Hon. Commissioner of Patents,
Washington, D. C.
Sir:

In the matter of the above entitled case, please permit Messrs. , Washington, D. C., to inspect the papers and drawings and make copies thereof.

Signed at , county of , State of , this day of .

.....
Applicant or Attorney.

Forms of Assignment

ASSIGNMENT OF INVENTION RESTING IN APPLICATION

WHEREAS, I, RICHARD E. ROE, of Milwaukee, in the County of Milwaukee, and State of Wisconsin, have invented a certain new and useful improvement in

DOUGH MIXERS

for which I am about to make application for Letters Patent of the United States; and

WHEREAS ROE MANUFACTURING COMPANY, a corporation of Milwaukee, County of Milwaukee, and State of Wisconsin, is desirous of acquiring an interest in said invention and in the Letters Patent to be obtained therefor:

NOW, THEREFORE, to all whom it may concern, be it known that for and in consideration of the sum of One Dollar, to me in hand paid, the receipt of which is hereby acknowledged, I, the said RICHARD E. ROE, have sold, assigned and transferred and by these presents do sell, assign and transfer unto the said ROE MANUFACTURING COMPANY, the full and exclusive right to the said invention, as fully set forth and described in the specification prepared and executed by me on even date herewith, preparatory to obtaining Letters Patent of the United States therefor (including all rights to foreign patents),* and I do hereby authorize and request the Commissioner of Patents to issue the said Letters Patent in accordance with this assignment.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my seal this day of , 1920.

.....(SEAL)

Sworn to and subscribed before me this day of , 1920.

(SEAL) .....

Notary Public.

*Use this parenthetical clause when company owns all rights to inventions.

ASSIGNMENT OF COMPLETE APPLICATION AND OTHER RIGHTS

WHEREAS, I..... a citizen of the United States and resident of.....County of..... and State of.....have invented an improvement in .....and have executed an application for letters patent of the United States of America, based thereon, this .....day of.....; and

WHEREAS....., a duly organized corporation, having its principal place of business in....., is desirous of acquiring the entire right, title and interest in and to the said invention in and throughout the United States of America, its territories, and all countries foreign thereto, and in and to the said application for letters patent, and in and to any and all letters patent of the United States of America and countries foreign thereto, which have been or may be granted on said invention or any part thereof; have been

NOW, THEREFORE, for and in consideration of the sum of One ($1.00) Dollar to me in hand paid, receipt whereof is hereby acknowledged, I.....do hereby sell, assign and transfer unto the said..... the entire right, title and interest in and throughout the United States of America, its territories, and all countries foreign thereto in and to said invention, said application for letters patent and any and all letters patent and extensions thereof, of the United States of America and countries foreign thereto, which have been or may be granted on said invention or any part thereof, or on said application or any divisional, continuing, renewal, reissue or other application, based in whole or in part thereon, or based upon said invention;

TO BE HELD and enjoyed by the said....., its successors and assigns, to the full ends of the terms for which said letters patent or any of them have been granted or may be granted, as fully and entirely as the same would have been held and enjoyed by me had no sale and assignment of said interest been made; and I do hereby authorize and request the Commissioner of Patents of the United States of America to issue any and all letters patent of the United States of America which may be granted upon the said applications above referred to, or any of them, or upon said invention or any part thereof, to the .....aforesaid; and I hereby agree for myself and for my heirs, executors, and administrators, to execute without further consideration, any further legal documents and any further assigmments, and any reissue, renewal, or other application for letters patent that may be deemed necessary by the

assignee herein named, fully to secure to the said assignee its interest as aforesaid in and to said invention or any part thereof, and in and to said several letters patent or any of them.

And I do hereby covenant for myself and my legal representatives and agree with the....., its successors and assigns, that I have granted no license to make, or sell the said invention, that prior to the execution of this deed my right, title and interest in the said invention had not been encumbered, that I then had good right and title to the sale and assignment of the same, and that I have not executed and will not execute any instrument in conflict herewith.

IN WITNESS WHEREOF I have hereunto set my seal this.....day of....., 1921.

.....

(Note: Include usual notarial acknowledgment.)

ASSIGNMENT OF PATENT—AFTER ISSUE

WHEREAS, I , of , county of , State of , did obtain Letters Patent of the United States for an improvement in , which Letters Patent are numbered , and bear date the day of , 19 ; and whereas I am now the sole owner of said patent; and whereas , of , county of , and State of , is desirous of acquiring the entire interest in the same:

NOW, THEREFORE, in consideration of the sum of dollars, the receipt of which is hereby acknowledged, I, by these presents do sell, assign, and transfer unto the said , the whole right, title, and interest in and to the said Letters Patent therefor aforesaid; the same to be held and enjoyed by the said , for his own use and behoof, and for the use and behoof of his legal representatives, to the full end of the term for which said Letters Patent are granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made.

Signed this day of , 19 .

.....

Sworn to and subscribed before me this day of , 19 .

.....

Notary Public.

Form of Petition of Renewal

IN THE UNITED STATES PATENT OFFICE

In re application of——
Roe and Roe,
Record Mechanism,
Filed March 27, 1911,
Serial No. 617,201,
Allowed November 11, 1914.

PETITION FOR RENEWAL

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

Your petitioners, Richard E. Roe, and Samuel C. Roe, citizens of the United States, residents of Hillsboro, in the county of Washington, and State of Oregon, and Portland, in the county of Multnomah, and State of Oregon, respectively, whose post office addresses are Hillsboro, Oregon, and Portland, Oregon, respectively, represent that on March 27th, 1911, they filed an application for Letters Patent for the improvement in RECORD MECHANISM, Serial Number 617,201, which application was allowed on November 11, 1914, but that they failed to make payment of the final fee within the time allowed by law. They now make renewed application for Letters Patent for said invention and request that the original specification, oath and drawings be used as a part of this application.

The renewal fee of $20.00 is filed herewith.

Respectfully submitted,

RICHARD E. ROE
SAMUEL C. ROE

May 24, 1915.

NOTE: This petition may be signed by the attorney for the applicant or applicants.

Form of Disclaimer After Patent

IN THE UNITED STATES PATENT OFFICE

DISCLAIMER AFTER PATENT

Hon. Commissioner of Patents,

Washington, D. C.

Sir:—

Your petitioner, Richard E. Roe, a citizen of the United States, residing at Portland, in the county of Multnomah, and State of Oregon, represents that in the matter of a certain improvement in Sand Deliverers for which Letters Patent of the United States Number were granted to said petitioner and Samuel S. Roe jointly, on the 28th day of February, 1911, he is the assignee of the interest of the said Samuel S. Roe in and to the said Letters Patent, said interest having been transferred to him by an assignment duly recorded on October 12, 1909, in Liber I 82. page 402 of the assignment records of the United States Patent Office; that he is now the sole owner of the said Letters Patent and that he has reason to believe that through inadvertence, accident and mistake the specification and claims of said Letters Patent are too broad, including that of which said patentees were not the joint inventors. Your petitioner therefore hereby enters this disclaimer to the claim in said specification which is in the following words, to wit:

> Claim 4. In a sand-delivery machine, the combination of a plurality of sand receptacles, an ejector bar associated with each of said receptacles, an actuating member for moving each ejector bar and normally inoperative with relation thereto, means for operating the actuating member, and means for moving the ejector bar bodily in the plane of its ejecting movement to cause it to assume an operative position with respect to its actuating member preliminary to its operation to deliver sand.

The fee of Ten Dollars required by law for the recording of this disclaimer is herewith transmitted.

Signed at Portland, in the county of Multnomah, and State of Oregon, this day of , 19 .

RICHARD E. ROE
(Disclaimant)

Witnesses:

1.....

2.....

Typical Form of Petition For a Certificate of Correction of Letters Patent

IN THE UNITED STATES PATENT OFFICE

RICHARD E. ROE,
Adding & Listing Machine
Patented July 25, 1916
Patent No. 1,192,721

PETITION FOR CERTIFICATE OF CORRECTION

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

Attention is respectfully directed to the following discrepancies between the application as on record in the Patent Office and the documentary Letters Patent above noted, as issued.

Claim 3 (page 10, lines 13 and 14 of the printed patent) the words "included in the accumulating mechanism and" should be canceled. (See amendment filed May 23, 1913.)

Claim 4 (page 10, lines 28 and 29 of the printed patent) the words "the accumulating mechanism comprising" should be canceled. (See amendment filed May 23, 1913.)

In view of the foregoing it is asked that a Certificate of Correction be applied to these Letters Patent, and copies thereof, for which purpose the original Letters Patent are surrendered herewith.

Respectfully,

JOHN F. DOE,

Attorney for Patentee.

Washington, D. C.,
August 11, 1916.

Typical Form for a Petition to Revive an Abandoned Application

IN THE UNITED STATES PATENT OFFICE

PETITION TO REVIVE

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

Your petitioner, Richard E. Roe, a citizen of the United States and resident of Milwaukee, in the county of Milwaukee, and State of Wisconsin, whose post-office address is Majestic Building, Milwaukee, Wisconsin, represents that on the 14th day of April, 1910 he, jointly with James S. Roe, filed an application for Letters Patent for an improvement in Candy Delivery Machines, Serial Number 555,552, which said application on the 5th day of December, 1913, became abandoned through failure to prosecute same. Your petitioner therefore prays that said application may be revived in view of the facts and circumstances as set forth in the accompanying affidavits, and that the accompanying amendment be entered.

Signed at Milwaukee, in the county of Milwaukee, and State of Wisconsin, this day of , 1914.

RICHARD E. ROE

As the actual owner of the invention of the above application the undersigned joins in above petition.

INTERNATIONAL CANDY MACHINE COMPANY,

By.....
President.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe, et. al.
Candy Delivery Machines
Filed April 14, 1910
Serial Number 555,552

State of Wisconsin }
County of Milwaukee } ss.

Richard E. Roe, being duly sworn deposes and says that he is one of the applicants in the matter of the above entitled application; that by an instrument duly recorded in the United States Patent Office in Liber X-83, Page 448, he became the sole owner of record of all right, title and interest in and to said application.

That by certain contracts in due form of law affiant has assigned to the United Candy Company, of Milwaukee, Wisconsin, a corporation, all right, title and interest in and to the invention of this application.

That the above entitled application on December 5th, 1913, became abandoned through failure to respond to an official action on said case of date of December 5th, 1912.

That the said abandonment of the above application resulted owing to the following circumstances:

Owing to the transfer of all interest in this application by affiant, to the United Candy Company aforesaid, the last named company has for a period of approximately three years had exclusive charge of the prosecution of the application and was responsible for payment for all services rendered in relation to such prosecution. At the time of the filing of said application affiant retained Messrs. Doe & Doe as attorneys for the purpose of procurement of patent. That said firm was duly continued as attorneys of record in this case by the United Candy Company and that John F. Doe has been retained in recent years by the United Candy Company for the purpose of transacting all business connected with its various patent applications. Under date of the 11th day of November, 1913, the United Candy Company by registered mail was served with notice from the said attorney John F. Doe of his withdrawal from the prosecution of the above entitled application and all other applications for patents in which said attorney represented the said company. The cause of the said withdrawal by the said attorney, from the prosecution of the aforesaid application was as follows:

(State grounds briefly)

The patent rights and rights to manufacture the inventions of said concern are controlled by a newly organized company, International Candy Machine Company, of Milwaukee, Wisconsin.

Affiant further states that said newly organized company is now responsible to the said attorney for the prosecution of this application and has retained him for this purpose and for the purpose of presenting this petition to the Honorable Commissioner of Patents.

Affiant further states that the negotiations leading up to said reorganization, and the incorporation and establishment of the International Candy Machine Company on a financial basis have consumed practically all of the time which has elapsed since the abandonment of this application, wherefore the presentation of this petition has not been delayed except unavoidably owing to the particular conditions hereinbefore set forth.

Affiant further states that he is a director of the United Candy Company, the corporation above referred to, and therefore acquainted with the facts herein stated which to the best of his knowledge and belief are true as set forth.

Affiant further states that to the best of his knowledge and belief the conditions surrounding the abandonment of the above application were unavoidable.

RICHARD E. ROE

Subscribed and sworn to before me this day of , 1914.

JOHN SMITH,
Notary Public.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe, et al.
Candy Delivery Machines
Filed April 14th, 1910
Serial Number 555,552

District of Columbia }
City of Washington } ss.

John F. Doe, being first duly sworn, deposes and says that he constitutes the firm of Doe & Doe, in the matter of the above entitled application; that he has read the affidavit of Richard E. Roe annexed hereto and believes that the allegations are true. Affiant further states that on the 15th day of July, 1914, while affiant was at the office of International Candy Machine Company,

of Milwaukee, Wisconsin, he was authorized by the Secretary-Treasurer of said company to take the necessary steps at once for the revival of said application, and that acting in accordance with said instructions and with the understanding that said International Candy Machine Company is to pay all expenses incidental to the completion and issue of patent on this application, deponent promptly upon return to his place of business at Washington, D. C., prepared the accompanying petition and affidavit for the purpose of revival of said application.

JOHN F. DOE

Subscribed and sworn to before me this day of , 1914.

JOHN SMITH,
Notary Public.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe, et al.
Candy Delivery Machines
Filed April 14, 1910
Serial Number 555,552

AFFIDAVIT

State of Wisconsin }
County of Milwaukee } ss.

Samuel C. Wolley, being first duly sworn, deposes and says as follows:

First: That he is informed and believes that the above application became abandoned December 5th, 1913.

Second: That deponent during the year 1913 was auditor for United Candy Company, Milwaukee, Wisconsin, and that at the time of the abandonment aforesaid the United Candy Company was involved in legal proceedings incidental to the opposition to the appointment of permanent receivers for said company; and that during December, 1913, and January, 1914, said company was in the hands of temporary receivers.

Third: That the International Candy Machine Company of Milwaukee, Wisconsin, is a corporation organized January 29, 1914, as a manufacturing company subsidiary to the United Candy Company, now primarily a holding company.

Fourth: That under a contract between the above named companies, and under the terms of the organization of the International Candy Machine Company, all machinery in the factory of the United Candy Company then located at Racine, Wiscon-

sin, had to be transferred to the factory of the International Candy Machine Company at Milwaukee, Wisconsin, together with patents and other property including especially stock and dies, previous to funds becoming available for the operation of the International Candy Machine Company.

Fifth: That in carrying out said agreement practically all the time from the organization of the International Candy Machine Company January 29, 1914, to April 1, 1914, the property of the United Candy Company at Racine was being prepared for shipment, and that said property was en route in shipment about thirty days. Thereupon the unloading of the said property and setting up of the same in the factory of the International Candy Machine Company required approximately two months' time, it being June 1, 1914, before the machinery of said factory was running.

Sixth: That during all of the above time the International Candy Machine Company did not have the required absolute control of the patent rights of the United Candy Company, including the above entitled application of Roe, but that being informed of the status of the above entitled application on or about the time the actual operation of its factory was started, deponent being advised as to the probable requirements for revival of this application promptly took up the matter of procuring proper affidavits to accompany a petition to revive, with the officers and inventors of the United Candy Company at Racine, Wisconsin, several weeks being consumed in getting in touch with the proper persons at Racine, having authority in regard to this particular matter and eliciting the required information. That during this time the business affairs of the said Racine company were in a chaotic condition owing to legal complications, but that deponent having secured the required information early in the month of July promptly requested the attorneys representing the International Candy Machine Company to prepare and file the petition to revive.

Seventh: Deponent further says that he is Secretary-Treasurer of the International Candy Machine Company and has actual knowledge of all the facts hereinbefore cited.

SAMUEL C. WOLLEY

Sworn to and subscribed before me this day of , 1914.

JOHN SMITH,
Notary Public.

NOTE: A strong and complete showing of diligence is required for all petitions of this nature and must excuse and account for the whole period of delay.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
Washington

October 15, 1914.

In the matter of the
Application of
Richard E. Roe, et al.
Candy Delivery Machines
Filed April 14, 1910
Serial No. 555,552

PETITION TO REVIVE
(Renewal)

Sirs:

You are hereby informed that the decision of the Commissioner on the above petition is as follows:

The showing made in the affidavit is sufficient to show that the delay in the prosecution of the application was unavoidable.

The petition is granted.

THOMAS EWING,
Commissioner.

October 15, 1914.

By direction of the Commissioner.

Very respectfully,
W. F. WOOLARD,
Chief Clerk.

Richard E. Roe, et al..
c/o Doe & Doe
Washington, D. C.

Typical Form of Non-Exclusive License

AGREEMENT

(Made in duplicate)

THIS AGREEMENT made this day of , 1920, between Cleveland Cactus Company of Cleveland, Ohio, hereinafter referred to as Cleveland Company and The S. & W. Tree Company of Pittsburgh, Pennsylvania, hereinafter referred to as Tree Company, witnesseth:

WHEREAS, United States Letters Patent No. 879,610 of E. H. Light were issued November 11, 1919, to said Cleveland Company for Stump Extracting Machine, and United States Letters Patent No. 896,522 of Roe & Roe were issued October 22, 1918, to the latter parties; and

WHEREAS, said Cleveland Company is the owner of all right, title, and interest in and to the said Letters Patent, and the inventions thereof, and the said Tree Company is desirous of obtaining a license under the said Letters Patent;

NOW, THEREFORE, the parties have agreed as follows:

(1) The said Cleveland Company hereby licenses the said Tree Company to manufacture and sell Stump Extracting Machines, within the United States of America, containing the improvements and inventions of the said Letters Patent, to the end of the terms for which the said Letters Patent were granted.

(2) The said Tree Company hereby agrees to pay to said Cleveland Company a royalty of Twenty-five Dollars ($25.00) for each machine made and sold by said Tree Company containing the invention or inventions of the said Letters Patent.

(3) It is understood and agreed that the license fees or royalties herein specified shall be payable to the extent of a minimum of One Thousand Dollars ($1000.00) annually; in other words, if the number of machines made and sold by the Tree Company are insufficient to create a total of royalties aggregating One Thousand Dollars ($1000.00) annually, sufficient shall be added to said royalties to bring the same to the fixed minimum payment just above specified.

(4) The said Tree Company hereby agrees to keep true and accurate book records of the machines or devices made and sold by it in accordance with this license, to open up said book records for the inspection of said Cleveland Company should such inspection be desired and reasonable notice thereof, not less than ten days, be given; and said Tree Company further agrees to make true and full returns to the said Cleveland Company (under oath if requested) as of the dates January 1, April 1, July 1, and October 1, of each year, of all machines or devices containing the patented improvements manufactured and sold by it under this agreement and to pay the license fees accumulating in accordance with the terms hereof at the time of rendering said true and full returns.

(5) It is further agreed by the parties hereto that this license is a non-exclusive license and that it shall not be assignable or transferable by Tree Company.

(6) In the event of the failure of the Tree Company to return upon and render payment of license fees or royalties required by the provisions of this agreement, for a period of fifteen days after the dates above specifically named for rendering said payment, the said Cleveland Company may terminate this license by serving a written notice upon the Tree Company. Should this

agreement be terminated by default of the Tree Company as now provided for herein, said company shall not be discharged from any liability to the Cleveland Company for royalties which may have accrued at the time of the termination of this agreement under the notice above specified.

(7) The licensee, said Tree Company, hereby acknowledges the validity of the Letters Patent aforesaid, the ownership thereof by the Cleveland Company, and agrees not to be a party, either directly or indirectly, to any suit or procedure disputing the validity or tending to impair the value of said Letters Patent or to diminish the enjoyment of the said Cleveland Company of its revenue from said Letters Patent.

(8) The said Tree Company hereby agrees to mark each machine or device manufactured by it under this license, containing the patented improvements of the said Letters Patent, with an inscription:

License Notice.
Patented October 22, 1918.
" November 11, 1919.

Also each device or improvement manufactured and sold by said licensee, hereunder shall be numbered, each to have a different number, and said numbers to run in numerical order.

(9) For the purposes of this agreement, April 1, 1921, shall be considered the annual accounting commencement date.

IN WITNESS WHEREOF the parties hereto have caused their presents to be signed for and on behalf of both of said respective parties, and have caused their corporate seals to be affixed the day and year first above written.

CLEVELAND CACTUS COMPANY

By.....

(CORPORATE SEAL)

Attest:

.....
Secretary.

THE S. & W. TREE COMPANY

By.....

(CORPORATE SEAL)

Attest:

.....
Secretary.

Reciprocal License Agreement

WHEREAS, RICHARD E. ROE, manufacturer, of is owner of an application filed in the United States Patent Office by Richard E. Roe, Serial No. 20647, filed January 2, 1916, for Adding Machine, and of the invention covered thereby; and

WHEREAS, DOE MACHINE MANUFACTURING CO., a corporation of the State of Ohio, having its principal place of business at Columbus, Ohio, is owner of an application filed in the United States Patent Office by John F. Doe, Serial No. 20698, filed February 3, 1916, for Registering Machine, and of the invention covered thereby; and

WHEREAS, said RICHARD E. ROE desires a license to make, use and sell the invention covered by said application of John F. Doe, and any Letters Patent which may hereafter be granted or issued thereon; and

WHEREAS, said DOE MACHINE MANUFACTURING COMPANY desires a license to make, use and sell the invention covered by said Richard E. Roe application, and any Letters Patent hereafter granted or issued thereon:

NOW, THEREFORE, it is hereby agreed as follows: —

Said RICHARD E. ROE, in consideration of the license herein granted to him by said Doe Machine Manufacturing Company, grants to said Doe Machine Manufacturing Company a license under said application, empowering said licensee to make, use or sell machines or devices embodying the inventions or features of improvement covered by said application and by the Letters Patent hereafter granted or issued thereon; and it is agreed that this license shall be assignable or transferable to any bona-fide successor or successors of said license, and that except for this the license shall not be assignable.

The said DOE MACHINE MANUFACTURING CO., in consideration of the license herein granted to it by said Richard E. Roe, hereby grants to said Richard E. Roe a licensee under said John F. Doe application, empowering said licensee to make, use and sell machines or devices embodying the inventions or improvements covered by said application and by the Letters Patent hereafter granted or issued thereon; and it is agreed that this license shall be and is assignable or transferable by said licensee to any bona fide successor or successors thereof, and that, except for this, said license is not assignable.

It is hereby agreed and understood that the above licenses are each for the full term of the Letters Patent to be granted or issued on said Roe and Doe applications, and give each licensee

the right to sell the said inventions and improvements throughout the United States and territories thereof.

It is also hereby stipulated and agreed that the parties hereto shall have the right to make, use and sell, and to grant licenses, under any foreign patents which may be obtained for these inventions in any and all foreign countries.

Signed in duplicate

.....

Signed at
this day of 1919.

.....COMPANY

By.....
President.

Signed at Columbus, Ohio,
this day of , 1919.

Agreement: Transfer of Patented Inventions and Business

This agreement, made as of this day of ,
192 , by and between of ,
first party, and , a corporation
of , having its principal office at
, second party, WITNESSETH:

WHEREAS first party warrants himself to be the owner, free and clear of any assignments, liens, encumbrances, contracts, licenses, understandings, diminutions of interest, or clouds of any name or nature, of certain inventions made by him pertaining to (hereinafter abbreviated to) and of the patents and patent applications therefor hereinafter mentioned and of the business that heretofore he has conducted in making and marketing such ; and

WHEREAS first party now has pending certain litigation charging others to be unlawfully using one or more of the said inventions and infringing one or more of the said patents; and

WHEREAS second party desires to acquire said first party's inventions, improvements, patents, applications, business and rights of action and recovery pertaining to said ;

I. NOW, THEREFORE, in consideration of the principal sum of to be paid unto first party as hereinafter provided, first party does hereby:

(a) Sell, assign and transfer unto second party (1) the entire right, title and interest in and to all of his existing
inventions (hereinafter called "said inventions")
and (2) his entire right, title and interest in and to all other inventions and improvements in such " "
that he, solely or jointly with others, has conceived or shall hereafter conceive or perfect during the period ending
(all hereinafter called "said improvements"), and (3) the entire right, title and interest in and to patents, domestic and foreign, and rights to patent (all hereinafter called "said patents"), for said inventions and improvements including (without limitation of the foregoing generalities) his U. S. Patent No. , his pending application for U. S. Patent, Serial No. , and Canadian Letters Patent No.
granted .

(b) Sell, assign, transfer and set over unto second party (1) his business (as distinguished from his business) including good will, stock on hand and in process of manufacture, tools, dies, equipment, trade-marks, secret processes and formulae, customer lists, mailing lists, advertising cuts and the paraphernalia of every name and nature especially pertinent to and used by him in his said business together with (2) all choses in action, rights of action and recovery arising from or out of said inventions, patents, trade-marks and or business; *provided* however, and it is mutually so understood, that first party shall not turn over unto second party properties used by him in whole or in part in the conduct of his
business nor yet any cash on hand or accounts receivable outstanding in his business and *provided further*, and it is mutually so understood, that second party does not assume any accounts-payable, indebtedness, obligations, or other liabilities of any name or nature contracted or incurred by or on behalf of first party or in connection with his conduct of his business; and

(c) Agree that he will (1) promptly disclose, from time to time as the acts occur and on his own initiative unto
or other person or agent designated by second party, and said improvements that he may (prior to) make or conceive, develop or perfect, solely or jointly with others; and (2) at second party's request promptly execute and deliver all lawful documents of, or in any way pertaining to, patent applications and prosecution thereof, assignments and bills of sale of things and of rights, and other lawful instruments that are by second party deemed necessary or desirable for the protection of said inventions and improvements throughout the world

(to such extent as second party deems desirable) and to evidence second party's ownership of all the matters and things hereunder conveyed or hereunder to be conveyed by first party unto second party; and (3) at second party's request promptly and diligently to assist second party in the ascertainment of facts, and production of evidence that by second party may be deemed desirable or necessary for the conduct of any interference or litigation that in any way may touch or affect any of the matters or things of the said inventions or improvements or business; *provided,* however, and it is mutually so agreed, that expenses arising under the instant paragraph shall be borne by second party, that second party shall promptly reimburse first party for expenses reasonably incurred in the first instance by first party and all expenses incurred by first party on second party's request and *provided further* that if second party should call upon first party for services or assistance involving any considerable expenditures of first party's time, first party shall be reimbursed for his time-expenditures so made at second party's request at the rate of twenty-five dollars ($25.00) per day; and

(d) Warrant that he has, before executing this instrument, directed his attorneys to take in his behalf and at his expense all steps necessary to dismiss all suits pending in which he is plaintiff touching said inventions and patents; it being understood and agreed that second party does not assume any expenses, costs or liabilities arising out of or pertaining to any litigation heretofore instituted by or on behalf of first party; and

(e) Agree to turn over to second party forthwith and without charge or expense all his patent files, and data in his or his attorney's hands, pertaining to said inventions, patents or to suits or interferences touching same or his trademarks or his business.

(f) *Provided however,* and it is so agreed, that this contract is not intended to pass title to any inventions, or patents, other than such as relate to .

II. In consideration of all the foregoing second party agrees to pay unto first party the principal sum of in amounts and times as follows:

(a) Forthwith upon the signing of this agreement,

(b) Monthly hereafter, beginning per respective non-interest-bearing notes herewith given by second party to first party, the successive sums of and a final payment of .

III. And it is mutually agreed that:

(a) Should second party default in its payment of any note aforesaid first party may at his option upon ten (10) days' written notice of said default delivered at second party's principal place of business cancel this agreement, to take effect at the end of said notice period should said second party fail during said notice period to make good its default, but this right of cancellation shall be alternative with, and not preclusive of, first party's right to maintain the agreement in force and sue in law or in equity for breach thereof or recovery thereunder; and

(b) Should this agreement be canceled under the next preceding paragraph (a) the instant paragraph (b) shall nevertheless remain in full force and effect, to wit, that second party shall and agrees to forthwith upon such cancellation reassign to first party in full all the property, rights, matters and things assigned unto second party by first party under this agreement, and return to first party his patent files and data, and that first party shall retain to his own use and behoof all moneys theretofore received by him under this assignment and that second party's liability for any defaulted payments due before the effective date of cancellation shall not be abated; and

(c) The expenses to be paid by second party under any of the terms hereof shall in no instance include legal services rendered to first party by first party's own counsel, but second party shall pay Government fees hereafter accruing, recording fees and kindred items incurred in perfecting second party's rights under this agreement.

(d) Time where herein stated is of the essence of the agreement, and

(e) This agreement shall inure to the benefit of and be binding upon, first party's legal representatives and assigns and second party's successors and assigns.

IN TESTIMONY WHEREOF the parties have hereunto subscribed as of the day and year first above written.

.....
First Party

.....COMPANY
Second Party

By.....
Its President.

Attest:

.....
Secretary.

State of Ohio }
County of Erie } ss.

On this day of 1921, personally appeared before me of to me personally known and acknowledged that he executed the foregoing agreement as his free and voluntary act and deed.

.....
Notary Public.

State of Illinois }
County of Cook } ss.

On this day of , 1921, personally appeared before me of to me personally known, and acknowledged that as President of the and with due authority he executed the foregoing agreement in behalf of said corporation as the free and voluntary act and deed of said corporation.

.....
Notary Public.

CONTRACT BETWEEN EMPLOYER AND EMPLOYEES AS A GROUP

Employer-Employees Agreement Form

THIS AGREEMENT,

Made and entered into this day of , by and between certain *EMPLOYEES OF THE JOHN DOE COMPANY*, hereinafter referred to as "Employees," and the *JOHN DOE COMPANY*, a corporation of the State of , hereinafter called "The Company" WITNESSETH:

WHEREAS the Company is engaged in the designing, manufacturing, sale and leasing of various types of patented , and in the design, manufacture and sale of patented , patented , patented and patented , and also of , as well as the designing and manufacture of apparatus for the development of manufacturing of any of its products, and

WHEREAS the said products and apparatus for developing the same represent a vast amount of engineering skill, pioneering, experimenting and exploiting, the expenses of which have been borne by the Company, and

WHEREAS many of the individual Employees who are signing this agreement have expended much time and energy in experimentation and exploitation, as well as in the origination and development of the patents herein referred to, and

WHEREAS the said Company has spent for a number of years and is still spending large sums of money in educating the trade in the use of the different patented products manufactured by it, by means of advertising, traveling solicitors, trade publications, the maintenance of a large engineering and sales corps and other means, and has spent and is spending large sums of money in connection with the various experiments and work of engineers, sales and other employees looking toward the perfecting of the different products above mentioned and the apparatus for the manufacture and development of the same, and also the perfection and development of similar products which can be manufactured and marketed by the Company advantageously, and

WHEREAS it is desirable in the interests of both the Company and the undersigned Employees that each of said Employees be fully acquainted with all the work done by the Company, and that he have full access to the Company's shops, as well as to drawings, blue prints and records pertaining to the Company's work; and

WHEREAS many of the undersigned Employees are stockholders in the Company, and all of them are beneficiaries under a Profit-Sharing Plan in force at the time of the signing of this agreement, and it is to the mutual advantage of each of the Employees as stockholders or beneficiaries under the Profit-Sharing Plan, or both, that this agreement be entered into:

NOW, THEREFORE, IN CONSIDERATION of the sum of One ($1.00) Dollar, each to the other paid, as well as in consideration of the mutual advantages to accrue through the execution of this agreement, it is mutually agreed, each with the other, and all of the Employees with the Company—

First: That it is necessary and desirable that the Company protect itself and its business by having the Employees who have subscribed hereto enter into a written agreement which will protect the said Company as aforesaid. This said protection has been fully discussed between the parties hereto, and each of said Employees has expressed his willingness to enter into this agreement;

Second: It is mutually agreed that beside the patented specialties and products specifically enumerated herein, this agreement shall cover any other patented specialties, inventions or designs which the Company may acquire during the term of employment of each of said Employees;

Third: This agreement shall continue in force as regards each individual Employee who has affixed his signature hereto for and during the term of his employment with the Company, and the termination of employment by any one or more of said Employees shall not terminate the agreement as regards the remaining Employees whose signatures have been affixed hereto;

Fourth: It is further understood and agreed that it shall be the duty of the Employee to reveal promptly to the Company any ideas which he may have relating to any of the Company's patented or other patented products, both in order that the Company may determine as to the desirability of applying for Letters Patent thereon, and also in order that the Company may give to the Employee the benefit, assistance, advice and cooperation of its other Employees in the development of such idea; and further for the purpose of applying such improvements or ideas to the improvement of the product manufactured by the Company;

Fifth: Said Employee agrees in connection with any patent, invention or design which he may develop, or which may be conceived by him in whole or part during the time of his employment with the Company relating to any of the patented products which said Company manufactures, leases or sells, such patents, inventions or designs shall be the property of the Company without further consideration than that hereinabove recited in this agreement, and said Employee, upon demand agrees to execute any paper or papers which may be necessary to vest in the Company complete and absolute title in such patent or patents or applications pending therefor, or such invention or design, and to deliver to the Company, upon request, all designs or patterns that the said Employee may have in his possession which belong to the Company or which relate to the patent or patents, inventions or designs which said Employee may have developed or conceived, in whole or in part, as applied to the patented or other patented products manufactured and sold or leased, or to be manufactured and sold or leased by the Company. Said Employee does further covenant and agree that he will upon the termination of his employment immediately deliver to said Company not only all plans, blue-prints and designs mentioned herein, but will also deliver to the Company all price lists or printed or written documents

made or issued by the Company, and all other property of the Company of whatsoever nature which may be in his possession;

Sixth: At any time that the employment of said Employee may be terminated, either by action of the Company or of the Employee, or for any other cause whatever, whether voluntary or involuntary, said Employee does hereby covenant and agree that he will not for a period of three (3) years after the termination of his employment with the Company engage directly or indirectly in a line of business in competition on any of its patented or other patented products, nor will he enter the employ for such period of three (3) years after such termination of any person, firm or corporation engaged in the manufacture, designing, sale or leasing of any of the patented specialties or products manufactured, sold or leased by the Company, it being understood that the territory to which this covenant applies shall be that of the United States and the Dominion of Canada;

Seventh: It is further understood and agreed that the Employee herein is receiving a monthly salary which is a part of the consideration of this agreement, but that any change in salary shall not affect nor annul this contract in any manner whatsoever; that said salary shall be subject to adjustment up or down at the discretion of the Company, and such change or adjustment of salary shall not be considered as a modification of this agreement; on the contrary, all of the covenants and conditions herein contained, except as to change of salary, shall be kept, done and performed by said employee, and shall apply with equal force and effect as the said salary had not been so modified or changed;

Eighth: It is further understood and agreed that the covenants herein contained to be kept, done and performed by said Employee to the effect that he shall not directly or indirectly engage in any business in competition with the Company on any of their patented products within the territory of the United States or the Dominion of Canada, nor shall he enter into the employ of any person, firm or corporation thus engaged during the period of three (3) years after leaving the employ of the Company, is a permanent and lasting covenant to which said Employee hereby agrees, regardless of the length of time that he may remain in the employ of the Company, and regardless of any subsequent or supplemental agreement which may be entered into between said parties hereto with reference to employment of said Employee;

Ninth: It is further understood and agreed that the duties of any of the Employees subscribing hereto may be changed

or altered according to circumstances, and each of the parties hereto agrees, in general, to do and perform such services and to observe such rules and regulations as may be prescribed and required from time to time by the officers of said Company, and that each of said Employees will devote his entire time and energy to the work of said Company;

Tenth: The term of employment provided for in the agreement shall be from month to month, and may be terminated at the option of either party by giving thirty days' written notice to the other party of his or its desire to terminate such employment.

Eleventh: It is mutually covenanted and agreed that additional signatures may be added to this agreement from time to time of employees who may subsequently enter into the employment of the JOHN DOE COMPANY, or of those who by reason of promotion or advancement may be eligible to sign this agreement, without in any way changing or altering the terms and conditions hereof, nor of affecting in any way the obligations of those originally signing the same; the matter of determining what employees may subsequently sign this agreement is hereby delegated to the President of the John Doe Company, or his successor in office, with full power to act in the premises;

Twelfth: Each of the said Employees signing this agreement does for himself individually make, constitute and appoint , the President of the John Doe Company, or his successor in office, his true and lawful attorney with full power in the premises to enforce all of the terms and conditions of this agreement, or to defend the same, as the case may be; to enter suit or suits on behalf of said employees as a party to this agreement and prosecute the same to final conclusion; to defend any suit or suits on behalf of said Employee arising from this agreement to final conclusion; to execute any releases, compromises, compositions, agreements or contracts in his opinion necessary and expedient in connection with any litigation arising therefrom; to commence and prosecute unto final judgment and execution any suit or suits, action or actions which he shall deem proper and necessary for the enforcement of this agreement, and in any suit, suits or actions to appear for said Employee and plead before any Courts or tribunals having prosecution thereof; and generally, to do and perform all matters and things which may be requisite or proper to effectuate all or any of the purposes of this agreement in connection with the prosecution or defense of any suit or suits

in the same manner and to all intents and purposes with the same validity as the said employee could do if personally present;

Thirteenth: It is further understood and agreed that in case of the entire sale of the assets of the Company, or in case of a change of the present controlling interests in the stock of said Company, upon such sale or change of control, this agreement shall be null and void.

JOSEPH SMITH (SEAL)

Witness:

ALICE GABLE

JOHN DOE COMPANY

Seal

By.....
President.

Attest:

RICHARD E. ROE
Secretary

XIV

INTERFERENCE FORMS.

Preliminary Statement—Motion to Dissolve—Notice of Taking Testimony—Affidavit of Service—Opening of Deposition—Certificate for Taking Deposition.

Form of Preliminary Statement for Interference

IN THE UNITED STATES PATENT OFFICE

ALBERT G. ROE
vs.
JOHN W. ARROW

Interference No. 41,800.

PRELIMINARY STATEMENT OF A. G. ROE

State of Maryland }
County of Harford } ss.

Albert G. Roe, of Sandusky, Ohio, being first duly sworn, deposes and says that he is a party to the Interference No. 41,800, declared by the Commissioner of Patents May 10th, 1918, between deponent's application for patent filed February 27, 1918, Serial No. 261,144, for Impression Devices and the application for patent of John W. Arrow; that he conceived the invention set forth in the declaration of interference on or about the 1st day of September, 1915; that he never made any drawings of the said invention; that he never prepared any written description of the said invention; that on or about the 1st day of October, 1915, he first explained the invention to others; that he first embodied his invention in a full-sized machine which was completed on or about October 1st, 1915; and that on or about October 1st, 1915, the said machine was first successfully operated in the town of Sandusky, Ohio; and that he has not made any other models of said machine because he ascertained by experiment that the type of machine according to his model shown in U. S. Letters Patent No. 1,522,005 was superior in all respects.

ALBERT G. ROE

Subscribed and sworn to before me this 15th day of May, 1918.

HARRY U. SIMS
Notary Public, Harford County, Md.

SEAL

Form of Motion to Dissolve

IN THE UNITED STATES PATENT OFFICE

ROE
vs.
ARROW

Interference No. 41,800.

MOTION TO DISSOLVE

And now comes Roe, by his attorneys, and moves that the above entitled interference be dissolved as to counts 2, 3, and 4 on the ground that said counts are not patentable in view of the state of the prior art as shown by German patent to Schmidt issued May 13, 1883, No. 132,344, for Apparatus for Taking Impressions of the Hands, and U. S. patent to Dodd issued May 23, 1894, No. 215,798, for Marking Device.

DISCUSSION

It is notable that owing to the existence of certain prior art classified in the Patent Office in an entirely separate class and division from that to which the applications in this interference are assigned, the above references have doubtless not come within the purview of the examination respecting the applications.

The issue counts are thought to be anticipated by the Schmidt patent alone in view of the common expedient used in printing machines, and many other printing appliances, of causing inking of an inking sheet or member as an incident to movement of said member relatively to an ink-applying part.

The issue counts are believed to be anticipated by the Dodd patent alone because Dodd shows in the modification of his construction, Figures 6 and 7, an inking member movably mounted in a receptacle or frame and made of elastic sheet material, means at D for applying and distributing ink on one side of the inking member, said inking member, which is A, being movable with respect to the said means D, and the support for a sheet to be printed, same being the table or other base upon which the marking device rests. Furthermore, the receptacle which holds the inking member, same being a frame-like device, has an opening of a size to receive an extremity of the human body.

The foregoing is an application of the references to count 2 and the remaining counts are substantially couched in about the same wording, rendering the application of the references read-

ily evident in respect thereto. As showing typical impression-taking devices wherein inking members are made of flexible material and are inked as an incident to relative movement of said members, and a suitable ink-applying and distributing device, attention is called to Jill patent No. 82,168, July 29, 1860; Kost patent No. 1,068,285, March 11, 1914; Jess patent No. 594,513, May 12, 1893; Leach patent No. 51,461, Aug. 25, 1856, which shows an endless belt type inking member; and Kost patent No. 966,166, April 13, 1901, also showing an endless belt inking member inked as an incident to movement thereof relatively to an ink-applying or distributing device.

Respectfully submitted,

DOE & DOE

Attorneys for Roe.

Service of above motion and copy thereof is acknowledged this day of , 1922.

JOHN SCREWBANK

Attorney for Arrow.

Form of Notice of Taking Testimony

(For Interference, Opposition, Cancellation, and Like Proceedings.)

IN THE UNITED STATES PATENT OFFICE

Before the Examiner of Interferences.

ROE & ROE
vs.
ROBERT RAY

Interference No. 40,447

NOTICE OF TAKING TESTIMONY

Cyril Butter, Esq.,
1228 Monadnock Block,
Chicago, Ill.

Dear Sir:—

You are hereby notified that on Tuesday, April 8, 1920, at the offices of Messrs. Ordivay & Shea, Crocker Bldg., Des Moines, Iowa, at 10:30 A. M., before a Notary Public, or other duly

qualified officer, I shall proceed to take the testimony of the following witnesses, and possibly others whose names have not yet been ascertained, in behalf of the parties, Roe & Roe:

Richard E. Roe, Des Moines, Iowa
Samuel Green, Fairfield, Iowa.

The examination will be adjourned from time to time and from place to place, as may be necessary, and you are invited to attend and cross-examine.

J. F. Doe
Attorney for Roe & Roe.

April 5, 1920.
Cleveland, Ohio.

Service of above notice is acknowledged this 6th day of April, 1920.

Cyril Butter,
Atty. for Ray.

Note: Omit service acknowledgment when service is to be made by mail.

Form of Affidavit of Service

Affidavit of Service

State of Ohio,
County of Cuyahoga, } ss.

Angus McDonald being first duly sworn, deposes and says that he is an employee of the firm, Doe & Doe (of which firm John F. Doe is a member) and that on Thursday, April 4, 1920, he placed a copy of the attached Notice of Taking Testimony in a sealed envelope directed to Cyril Butter, Esq., 1228 Monadnock Block, Chicago, Ill., and deposited the said envelope in the United States registered mail, the postage on the envelope having been fully prepaid, and the registry receipt being attached hereto.

Angus McDonald

Sworn to and subscribed before me this 5th day of April, 1920.

(Seal) E. C. Gerstricher,
Notary Public.

Note: To be used when opposing party or his counsel is to be served by mail. Annex to notice and thus make a part thereof.

Form of Opening of Deposition

Richard Roe

IN THE UNITED STATES PATENT OFFICE

Before the Examiner of Interferences.

ROE & ROE
vs.
ROBERT RAY

Interference No. 40,447

Depositions of witnesses examined on behalf of Roe & Roe, pursuant to the annexed notice, at the offices of Ordivay & Shea, 608 Crocker Building, Des Moines, County of Polk, Iowa, on the 13th day of April, 1920, at the hour of 10:30 o'clock in the forenoon as the time of commencement, and completed the same day.

Present: John F. Doe, Esq. on behalf of Roe & Roe; Cyril Butter, Esq., on behalf of Ray.

Richard Roe, a witness produced on behalf of Roe & Roe being first duly sworn, doth depose and say in answer to interrogatories propounded to him by John F. Doe, Esq., as follows, to-wit:

DIRECT EXAMINATION

Q. 1. What is your name, age, residence and occupation? A. Name, Richard Roe, age 43, occupation, mechanical engineer, 1811 College Avenue, Des Moines.

NOTE: The name of the witness should appear at the top of each page of his deposition.

Officer's Certificate for Taking Deposition

IN THE UNITED STATES PATENT OFFICE

Before the Examiner of Interferences.

ROE & ROE
vs.
ROBERT RAY

Interference No. 40,447

NOTARY'S CERTIFICATE.

State of Iowa, }
County of Polk } ss.

I, Adele Sherman, a Notary Public within and for the County of Polk and State of Iowa, do hereby certify that the foregoing depositions of Richard E. Roe and Thomas Engler were taken on behalf of Roe & Roe, in pursuance of the notice annexed hereto, before me, at the offices of Ordiway and Shea, 608 Crocker Building, in the City of Des Moines, in said County, on the 13th day of April, 1920; that said witnesses were by me duly sworn before the commencement of their testimony; that the testimony of said witnesses was written out by me; that the opposing party was represented by his counsel, Cyril Butter, during the taking of said testimony; that said testimony was taken at Des Moines, Iowa, and was commenced at 10:30 o'clock, A. M., on the 13th day of April, 1920, and was concluded on the same day at 3:30 P. M.; that the depositions were read by the witnesses before they signed the same; that I am not connected by blood or marriage to either of said parties, or interested directly or indirectly in the matter in controversy.

In testimony whereof, I have hereunto set my hand and affixed my seal, et al., at Des Moines, in said County, this 13th day of April, 1920.

ADELE SHERMAN,
Notary Public.

My commission expires July 4, 1921.

XV

A TYPICAL MECHANICAL PATENT APPLICATION AS COMPLETELY PROSECUTED*

Petition

To the Commissioner of Patents:

Your petitioner, Richard E. Roe, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga, and State of Ohio, and whose Postoffice address is c/o Roe Machine Company, 21st Street and Euclid Avenue, Cleveland, Ohio, prays that Letters Patent may be granted to him for the improvement in CONTROL DEVICES FOR MIXING-MACHINES, set forth in the annexed specification.

And he hereby appoints Doe & Doe, a firm consisting of F. J. Doe and C. H. Doe, Marshall Bldg., Cleveland, Ohio, Register No. 1236, his Attorneys, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to sign his name to the drawings, to receive the Letters Patent, and to transact all business in the United States Patent Office and United States Courts connected therewith.

Signed at Cleveland, in the county of Cuyahoga, and State of Ohio, this 27th day of September 1920.

RICHARD E. ROE

* See File Wrapper U. S. Patent of Lichtenberg, No. 1,321,460, issued Nov. 11, 1919.

Specification

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN, That I, Richard E. Roe, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga, and State of Ohio, have invented certain new and useful improvements in CONTROL DEVICES FOR MIXING-MACHINES, of which the following is a specification:

Statement of Invention

This invention has to do with the art of concrete mixing-machines, and mixing-machines generally.

In its preferred embodiment the invention is an attachment for concrete mixers and comprises automatic signaling, counting, and mixer discharge-controlling means. While the invention includes the combined instrumentalities above mentioned, I wish it to be understood that I consider the aforesaid means not only combinatively novel, but in so far as I am advised, certain of the devices going to make up such means are new in less combinations than the whole, and some capable of individual use, as will more clearly appear hereinafter.

To fully explain the advantages of my invention I shall refer briefly to the operation of well-known types of concrete mixing-machines. In these machines suitable mixing means, such as a power-driven mixing drum or receptacle, with internal mixing devices, are employed; loading means for the drum, of any suitable nature, are used; and, necessarily, some device of one kind or another is employed to control the discharging of the contents of the mixer after completion of mixing operation. These mixers are ordinarily used for the admixture of cement, sand, and gravel, or such materials, and it is an absolute requirement for effective and lasting construction work, whether such be building or other erection, laying of pavements, or the like, that a proper admixture of the materials be compelled.

In the employment of ordinary concrete mixing-machines

it is customary, in respect to their use on Government and other contract work, to rigidly supervise the operation of the machines to make sure that proper admixture of the plastic materials is performed; in fact, inspectors are regularly employed for this particular work to guard against both carelessness and fraud, the latter arising commonly as an incident to contractors forcing both workmen and machines to such an extent that sufficient time for mixing is not allowed.

With the foregoing in view, this invention provides a means to signal or indicate automatically, after loading the mixer with the materials to be mixed, when the minimum time required for completion of the mixing operation has elapsed. The signaling means, furthermore, is susceptible of adjustment to admit of its application to different types of machines, and to accord with different sized batches of materials handled. In addition, said means is protected against unauthorized tampering, a necessary expedient to make it effective.

Supplementing the advantages afforded by the signaling means, are those derived from utilizing cooperative discharge chute locking means, whereby the discharge of the mixed materials, previous to complete admixture, is absolutely guarded against.

From the viewpoint of the contractor or owner of the machine, it is desirable to have a device for counting the operations of loading the mixer so that the work of the machine each day, or any determinate period of time, may be readily ascertained. As before premised, special means for the last named purpose have been devised and combined with the other instrumentalities of this invention, all of which will be now described in detail on reference to the accompanying drawings, in which:—

Figure 1 is a general view in side elevation of a street paving concrete mixer having the invention applied thereto.

Figure 2 is a fragmentary and diagrammatic view showing the signaling mechanism, the counter, the lock, and controlling

connections forming the essential features of the attachment means comprising the invention.

Figure 3 is a cross sectional view taken vertically through the casing which encloses the signal bell, governor mechanism, and the counter, which casing is locked closed by any suitable means. This view is taken on the line 3—3 of Figure 2.

Figure 4 is a cross section on the line 4—4 of Figure 2.

Figure 5 is a detail view showing more clearly the circuit-closing means controlled by the governor.

General Construction

The term "signal," as used herein, is intended to include an indicator, or any equivalent device, for advising either visibly or audibly, or otherwise, of the completion of the mixing operation.

A very brief description of the concrete-mixing machine to which the attachment of this invention is applied will suffice, since the particular type of such machine is immaterial to the invention which has a wide range of applicability to various kinds of mixing-machines, irrespective of the specific form of the mixing mechanism *per se*.

In the drawings is illustrated what is known as a street or road paving mixer, the same embodying a suitable traveling truck *A* to render the machine portable, a mixing-drum *B* mounted on the truck for rotation in effecting the mixing operation, and a loading means for the drum including a bucket or skip *C*. The bucket or skip *C* is adapted to be raised by means of a cable *D* designed to be operated by suitable power means, and said bucket *C* is supported on the frame of the machine by a pivoting bracket *E*.

The materials may be dumped into the bucket *C* when the latter is in the full line position shown in Figure 1, and by elevating the bucket to the dotted line position, its contents will be fed into the mixing-drum *B*, this being ordinarily done while the drum is rotating. To discharge the drum *B*, I

contemplate the employment of a discharge chute *F* of the type shown in United States Letters Patent to Philip A. Koehring, No. 1,126,487, issued January 26, 1915, said chute being tiltable from a position in which it inclines into the drum *B*, to a position in which it inclines downward and outward from the discharge opening at the discharge end of said drum. In the latter position the chute *F* will discharge the contents of the receptacle *B*, the materials discharged being adapted to be carried off to a suitable point of deposit by means of a boom and bucket attachment including the boom *G*, and bucket *H* which travels back and forth on the boom. A shaft is connected with the discharge chute *F* and is operable by handle *I* whereby to effect the tilting of the chute into discharging and non-discharging positions.

The signaling, counting, and controlling attachment embodying this invention includes a suitable casing or box 1 secured in a suitable position on the frame of the machine, preferably adjacent to the bracket *E*. This box contains an ordinary electric bell 2 forming an audible signal, a counter 3, and a governor 4. The governor 4 may be of any desired type but is comprised, as shown, of a standard formed with horizontal upper and lower arms 5 and 6 respectively, together with a zigzag or tortuous groove 7, the latter being produced in one side of said standard. The arms 5 and 6 are vertically apertured so as to receive therethrough a sliding metal stem 8 to the upper end portion of which is secured a crossbar 9, and to the lower end of which is pivoted the brush or circuit closer 8. On its ends, which are preferably bent downwardly, the cross bar 9 carries the adjustable weights 10, the parts 9 and 10 forming a governor member tending to force the stem 8 downward and hold it in a position at the lower extreme of its free vertical movement upon the standard 4. The stem 8 carries at a point intermediate the arms 5 and 6 of the standard 4, a laterally movable pin 11 the opposite ends of which are headed so as to prevent its displacement from the stem.

The pin 11 is freely slidable transversely relative to the stem 8, through an opening formed in the latter, and one end of the pin 11 is adapted to engage in the groove 7 of the standard 4. The engagement of the pin 11 in the groove 7 is caused by raising the stem 8 in a manner to be hereinafter described, the outer end of the pin 11 striking a curved cam 5′ on the arm 5 and being forced laterally into the desired engagement with the groove 7. Owing to the provision of the governor member 9-10, once the pin 11 engages the upper end of the groove 7, and the stem 8 is left free to gravitate, the gravitating movement of the stem will start, and the speed of such movement is variable by the adjustment of the weights 10, toward and from the point of connection of the member 9 with the stem 8, to accommodate for different sized batches handled by the mixer. Obviously during its downward movement, owing to the cooperation of the pin 11 with the groove 7, the stem 8 and parts 9 and 10 have partial rotative movement in opposite directions.

The counter 3 may be of any conventional type and is intended for the purpose of registering the number of batches of materials fed into the mixing-drum *B* by means of the skip or loading bucket *C*. The counter 3 has an actuating arm 3′ at one end of the same directly actuating the units wheel of the counter, and there will be employed any suitable transfer devices intermediate its units and tens and other registering wheels of higher denominations.

A lever 12 is pivoted at a point within the box 1, preferably on the rear wall of the latter, and with its inner end engaging an offstanding pin 13 at the lower extremity of the stem 8. Said lever 12 extends through a side of the box 1, and has connected therewith an actuating bar 14, which extends upwards from the point of pivotal connection of its lower end with the outer extremity of the lever 12, to a point adjacent to the pivoting bracket *E*, and is pivotally supported intermediate its ends as at 14′. The object of this arrange-

ment of the bar 14 is to enable the bracket E to bump against, or impinge, the upper end of the bar 14 each time the loading bucket *C* is hoisted to supply a batch of material to the mixing drum *B*. Obviously, the impingement of the part *E* with the bar 14 depresses the lever 12 at its outer end, correspondingly raises the inner end of the lever together with the stem 8 and sets the governor 4 to operating. The object is to cause the governor, at the end of its operation, to close the circuit including the bell 2 whereby the latter will be sounded to afford an audible signal. The operation of the governor 4 is timed so that when it is set in motion by the loading means or bucket *C* a predetermined period of time will have elapsed before the signal 2 sounds. This elapsed time is at least the minimum time required for the proper mixing of the batch previously delivered to the drum *B* by the bucket *C*.

The circuit connections used are simple, circuit wires 15 and 16 leading to separated contacts 15′ and 16′, contact 15′ being on the block 17, of a conductive substance, arranged in the box 1 beside the stem 8, and the other contact 16′ being carried by the governor 4, the standard of which is also made of a conducting substance. The wire 16 leads from the contact 16′ to the bell 2, and a suitable wire 18 leads from the bell 2 to a terminal of the battery 19. The circuit wire 15 leads to the battery 19 also, but has connected up in its length the electro-magnet 20. Associated with the magnet 20 is an armature lock 21, said lock being cooperative with a projection 22 on the controlling shaft, which carries the handle *I* by which the discharge chute *F* is tilted into discharging or non-discharging positions.

General Operation of Machine

Bearing in mind that adjacent to its point of pivotal support the lever 12 is adapted to engage the actuating arm 3′ of the counter 3, for tripping the counter each time the outer

end of the lever 12 is depressed, the operation of the entire mechanism will be clearly understood on reference to the following description. Assuming that the parts are in the full-line positions shown in Figure 2, with the discharge chute *F* locked at 22, when the bucket *C* is loaded the operator of the machine will cause elevation of the bucket by suitable controlling means. As the bucket reaches its uppermost position, shown in dotted lines in Figure 1, its contents will be discharged into the drum *B* and the actuating bar 14 will have been impinged and operated by the pivot bracket *E*. The above causes the lever 12 to raise the stem 8 of the governor 4 and the pin 11 engages the cam 5′ and is forced laterally into engagement with the groove 7. The bucket *C* is returned to its downward receiving position for another load, and the governor means, including the parts 8, 9 and 10, are permitted to gravitate. The time required for said members to complete their full downward movement depends upon the adjustment of the weights 9 and 10.

As the stem 8 reaches the lower extreme of its movement the pin 11 engages a cam 6′ on the governor 4, is forced outwards from the groove 7, and leaves the stem 8 free to be quickly forced upwards the next time the bucket *C* is raised and the bracket *E* impinges the bar 14. When the stem 8 approaches said lower extreme of its movement the brush 8′, or circuit closer, at its lower end, contacts with the block 17 and closes the circuit including the several wires 15, 16, 18, battery 19, and bell 2. This causes the bell signal to sound and when the brush 8′ has passed the block 17 the circuit is broken and the parts restored, the signal ceasing operation. The brush 8′ has insulation on its upper side so that on its upward movement the circuit will not be closed. Said brush is pivoted to the stem 8 by a spring hinge 8*a* and swings downward on the upstroke of the stem 8. The signal bell 2 is caused to sound only while the parts 8′ and 17 are in contact, and advises the operator of the machine that sufficient time

has elapsed for proper admixture of the materials previously fed into the drum *B*, whereupon the operator may actuate the handle *I* and turn the chute *F* into a discharging position. The closing of the circuit, as above described, not only causes the operation of the audible signal 2, but energizes the magnet 20, thereby attracting the armature 21 and disengaging the locking portion of said armature from the projection 22. Were it not for this disengagement it will be obvious that the operator would not be able to move the chute *F* to discharge the contents of the drum *B*.

The provision of the members 2 and 21 affords a double precaution or check against the operation of discharging the contents of the mixing drum previous to the proper admixture of the materials therein contained.

I contemplate within the purview of my invention the employment of the parts 2 and 21 combinatively, or either of them alone. When the audible signal 2 is used alone it is very advantageous, in that an inspector overseeing the use of the mixed materials is able to supervise the proper operation of the mixer even though he be some distance away from the place where the machine is located. The operator of the machine is, of course, primarily advised of the completion of the mixing operation by the signal 2, and also advised that the discharge chute is free for operation, owing to the fact that said chute is unlocked simultaneously with the sounding of the signal 2. During the operation of the lever 12 the counter 3 is actuated to register each batch loaded into the drum *B*.

It is contemplated that the casing 1 shall be supplied with a suitable door to enable access to the mechanical devices enclosed thereby, and said door shall be locked by any substantial means whereby to prevent unauthorized access thereto. Owing to the provision of a lock for the discharge chute *F*, it will be clear that the aggregates in the mixer are compulsorily retained therein until lapse of the required time for effecting proper admixture.

Having thus described the invention, what is claimed is:

1. In combination, a mixing machine, means to control its operation, and means to automatically signal a predetermined time of completion of the mixing operation of such machine.

2. In combination, a mixing-machine, means for controlling the operation of said machine, and means adapted to be actuated by the last mentioned means to automatically indicate the time of completion of a mixing operation of the machine.

3. In combination, a mixing-machine, means to automatically signal a predetermined time of completion of the mixing operation of such machine. and means to vary the action of the signal to accord with different conditions of operation of the machine.

4. In combination, a mixing-machine, means to control its operation, means to automatically signal a predetermined time of completion of the mixing operation of such machine, and means to adjust the signaling means whereby to cause its operation to conform with different sized batches of materials to be mixed.

5. In combination, a mixing-machine, means to control its operation, means to automatically signal a predetermined time of completion of the mixing operation of such machine, and means to prevent unauthorized access to said signaling means.

6. In combination, a mixing-machine, means to control its operation, means to automatically signal a predetermined time of completion of the mixing operation of such machine, means to vary the action of the signal to accord with different conditions of operation of the machine, and means for preventing unauthorized access to the two last mentioned means.

7. In combination, a mixing-machine, means to control the loading of said machine for the mixing operation, and means

operable by the last mentioned means to automatically signal when sufficient time has elapsed for the effecting of a proper admixture of the materials operated on by the machine.

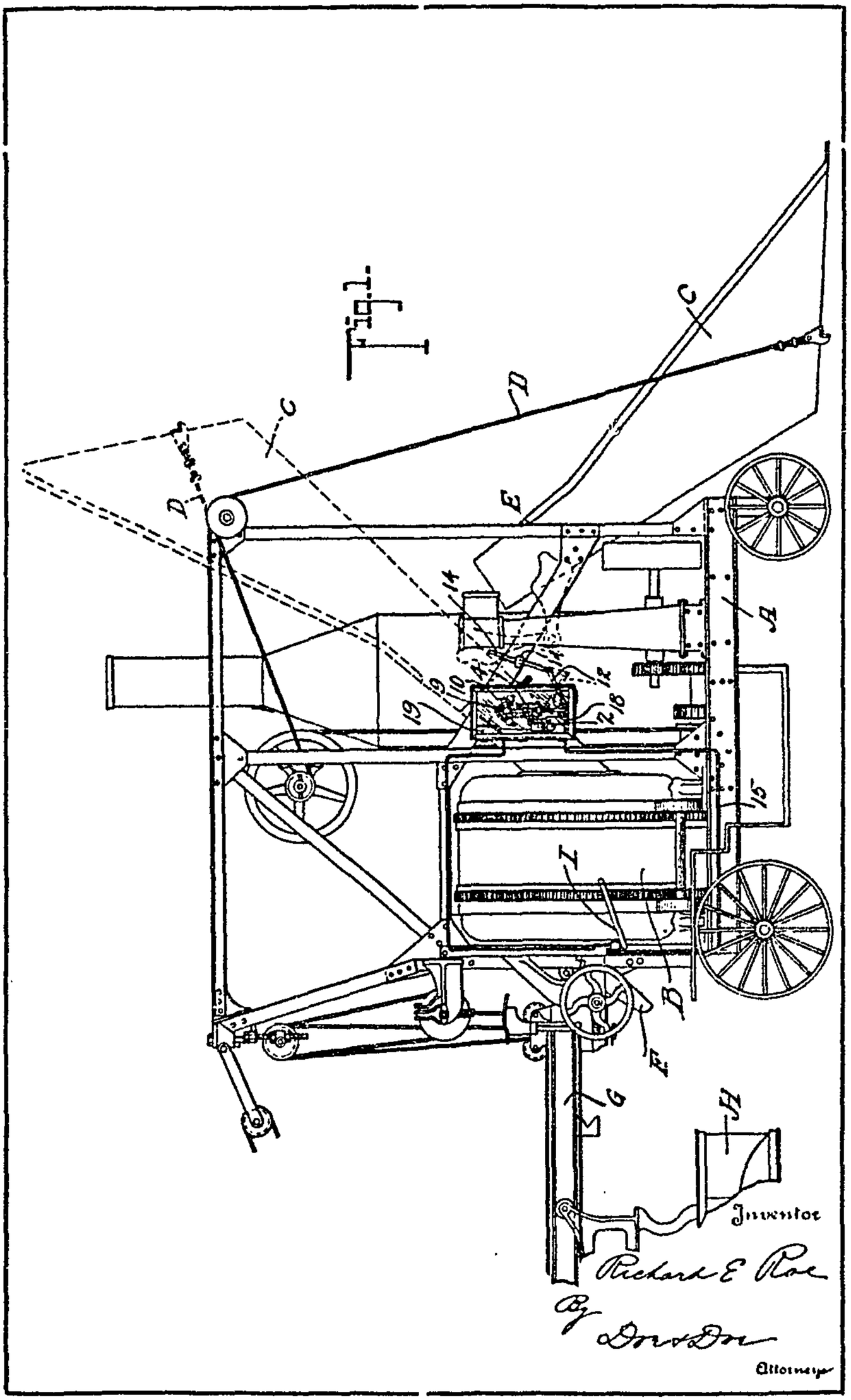
8. In combination, a mixing-machine, means to control its operation, means to automatically signal a predetermined time of completion of the mixing operation of such machine, discharge means, and means to lock the machine against discharge until the operation of the signaling means.

9. In combination, a mixing-machine and means to control its operation, discharge means for the mixed aggregates handled by said mixing-machine, means to lock the discharge means against operation, and means to automatically release said locking means upon lapse of a predetermined mixing time.

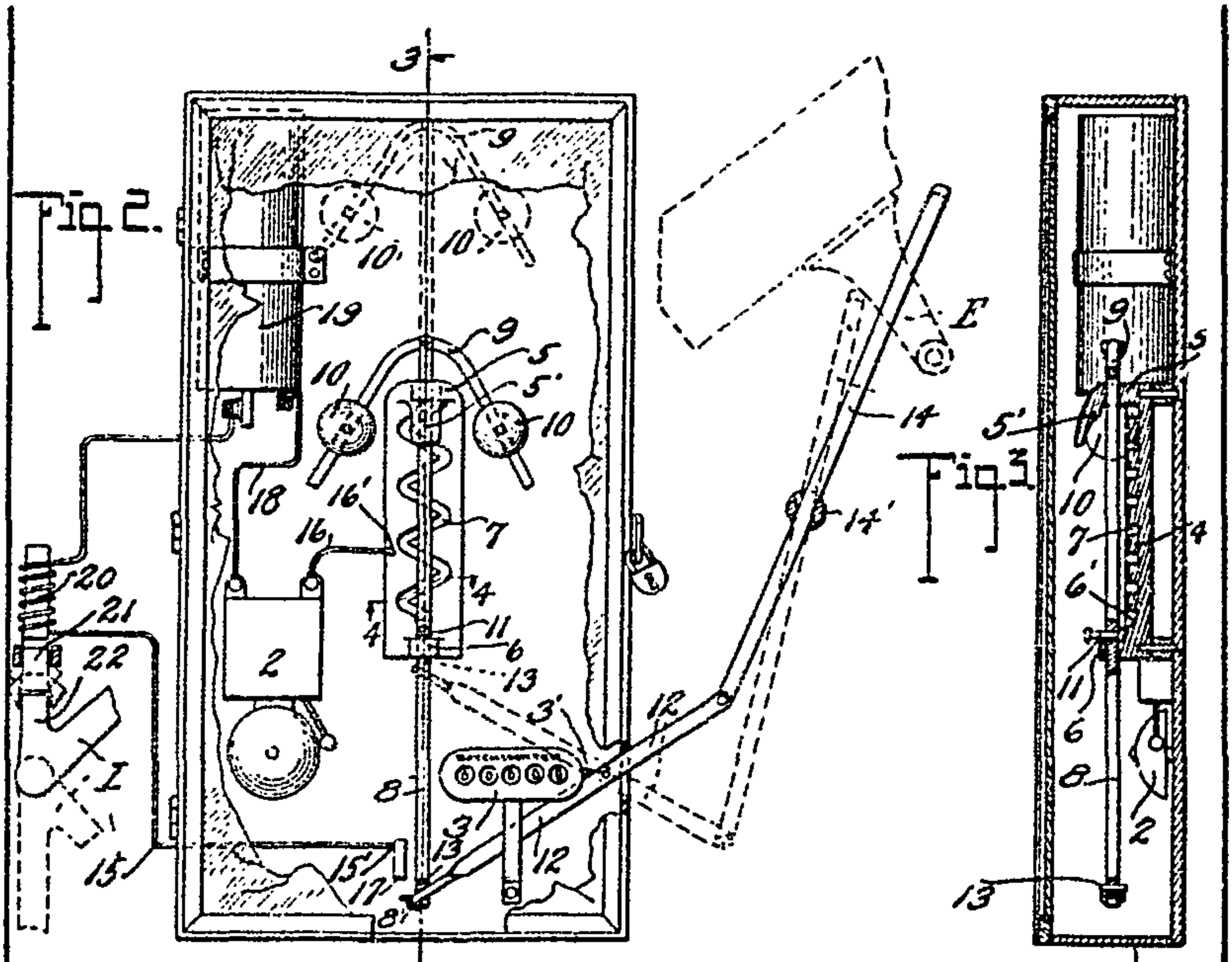
10. In combination, a mixing-machine, means to control its operation, means to automatically signal a predetermined time of completion of the mixing operation of such machine, discharge means for said mixing-machine, means to lock the discharge against operation, and means to automatically release said locking means simultaneously with the operation of the signaling means.

11. In combination, a mixing-machine, means for discharging mixed materials from said machine, lock means for the discharge means, automatic governor mechanism for said lock means to release the same at a predetermined time during the mixing operation, charging means for the mixing machine, and control means for the governor mechanism operable from the charging means.

12. In combination, a mixing-machine, loading means therefor, a signal means automatically operable by the loading means to cause operation of the signal at a predetermined time in the mixing operation, discharge means for the mixing-machine, locking means for said discharge means releasable



MECHANICAL APPLICATION DRAWINGS



MECHANICAL APPLICATION DRAWINGS

simultaneously with the operation of the signal, and a counter operable by said loading means to register each operation of the latter.

13. In combination, a mixing-machine, loading means therefor, a signal, a counter for registering each operation of the loading means, and means intermediate the loading means and said signal and counter whereby to control the operation of the signal and counter automatically.

14. In combination, a mixing-device, means to supply materials to said device to be mixed, a signal to indicate when the mixing operation is completed, a counter to register each operation of the supply means, an electric circuit including said signal, a governor for closing said circuit, means intermediate the supply means and said governor and counter to automatically operate the latter, a casing enclosing said governor and signal and counter, and means to prevent unauthorized access to said casing.

15. An attachment for mixing-machines, the same comprising a signal, locking means to prevent operation of the mechanism of said machine, and means adapted to be operated by other mechanism of the machine for controlling the operation of said signal and locking means.

16. An attachment for mixing-machines, the same comprising a signal, locking means to prevent operation of mechanism of said machine, means adapted to be operated by other mechanism of the machine for controlling the operation of said signal and locking means, and a counter operable incident to the operation of the signal.

IN TESTIMONY WHEREOF, I affix my signature.

RICHARD E. ROE.

Oath

State of Ohio }
County of Cuyahoga } ss.

Richard E. Roe, the above named petitioner, being duly sworn, deposes and says that he is a citizen of the United States of America, and resident of Cleveland, in the county of Cuyahoga, and State of Ohio; that he verily believes himself to be the original, first, and sole inventor of the improvement in CONTROL DEVICE FOR MIXING-MACHINES, described and claimed in the annexed Specification; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, or patented or described in any publication in any country before his invention or discovery thereof, or more than two years prior to this application, or in public use or on sale in the United States for more than two years prior to this application; 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; and that no application for patent on said improvement has been filed by him or his representatives or assigns in any country foreign to the United States.

Richard E. Roe.

SWORN to and subscribed before me this 27th day of March, 1919.

John Doe,
Notary Public.

Address only
The Commissioner of Patents
Washington, D. C.

SERIES OF 1919
No. 618

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, D. C., March 29, 1919.

Sir:

I have to acknowledge the receipt of the petition, specification, oath, and drawing, with first fee of FIFTEEN DOLLARS, of your application for patent for CONTROL DEVICES FOR MIXING-MACHINE.

Your application will be considered in its order, and you will be duly advised as to the examination thereof, through your attorneys.

Very respectfully,
THOMAS EWING,
Commissioner of Patents.

RICHARD E. ROE,
c/o Doe & Doe, Attys.
Cleveland, Ohio.

Div. 25, Room 315. Paper No. 1.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, April 28, 1919.

Doe & Doe,
Cleveland, Ohio.

Please find below a communication from the EXAMINER in charge of the application of Richard E. Roe, Ser. No. 618, filed May 29th, 1919, for CONTROL DEVICES FOR MIXING-MACHINES.

THOMAS EWING,
Commissioner of Patents.

This case considered.

The locking device appears to relate to the movement of a chute and not the mixer; see lines 20 to 23 inclusive, page 3. Signals and indicators are separate devices from mixers and have no patentable combination therewith.

The apparatus shown in Figure 2 of the drawings and partially described in pages 6 to 9 inclusive of the specification appears to be an indicating device for a loader and not for a mixer as the signal (bell) appears to be given only when the

electric circuit (not fully described) is completed by a predetermined number of loads of material being discharged into the drum. From the description it is not clear by what means the time for the governor to operate is indicated nor does there appear to be an operative connection between said governor and the mechanism rotating the drum. More description seems necessary. What "times" the operation of the governor, and what determines the "minimum" time for the mixing of the batch?

Claims 1 to 14 inclusive, each having as an element therein "a mixing-machine" or a "mixing-device" are examinable under Mortar Mixers in Class 83, in Div. 25, while claims 15 and 16 are each for a signal with locking means (adapted for a chute) and means operated by other (?) mechanism (loader) for controlling the signal and locking means, claim 15 having also an indicator therein. Said claims 15 and 16 appear to be examinable under Signals, Class 116, in Div. 42. Division is required.

While no definite action can be had pending the requirement of division, it will be remarked that claims 1 and 2 are vague in the element "means to control its operation." As understood such appear to be either the loading device or the discharge chute, or both, and appear to have no patentable combination with a "mixer." The mechanism which operates or controls the mixer, i.e., its rotating mechanism, does not appear to be affected by either the loading, indicating, signaling, chute locking, or releasing mechanism set forth. What are the "means for preventing unauthorized access to the two last mentioned means" of claim 6? No patentable combination is apparent between the controlling means (?) for the "loading" and the other elements of claim 7. Said claim 7, and also claims 8 to 11 inclusive, appear to be each for an aggregation and not a patentable combination, as both the signaling and indicator devices are connected with and operated by the operation of the loader and not by the mixer; neither do they in any manner operate the mixer.

The invention, if any, appears to be in a specific signaling device, and means for actuating it after a predetermined number of operations of controlling means, and should be so claimed.

It also includes with said signaling device an automatic release lock for a lever and not the application broadly of the connection of a mixer with a signal or an indicator which, owing to the universal use of such devices with all classes of operating mechanism, would not involve patentability.

Signaling devices in connection with indicators are everyday affairs.

Examiner, Div. 25.

IN THE UNITED STATES PATENT OFFICE

RICHARD E. ROE
Control Devices for Mixing-Machines,
Filed March 29th, 1919,
Serial Number 618/19,
Last Office Action April 28th, 1919. Room 315—Div. 25.

Hon. Commissioner of Patents,
Washington, D. C.
Sir:—

Responsive to the above noted Office action, amendment is made as follows:

Page 3, line 12, before "loading" insert *Charging or.*

Page 5, line 15, before "bucket" insert *Charging.*

Page 6, at the end of line 8 insert: *Any suitable means to discharge the mixed materials may be used within the purview of my invention:* line 17, after the comma insert *formed on an arc as seen in the cross section of Figure* 4; line 22, after "a" insert *gravitating and slightly rotative.*

Page 7, line 15, before the period insert *the extent of rotative swing of the weights* 10 *varying according to the adjustment.*

Page 8, after the first paragraph insert:

"As a general thing, under actual conditions of use, the signaling means is intended to be susceptible of adjustment for operation after the expiration of the time fixed for the mixing operation, ranging from three seconds to three minutes. As suggested, the time is dependent upon the size or capacity of the mixing-drum itself, or the amount of materials that may be fixed as the batches to be mixed, for a predetermined operation of the machine, say in accordance with certain specifications. Adjustment of the signal for operation of different elapsed times is controlled by the corresponding adjustment of the weights 10 in a manner described hereinbefore."

Claim 1, line 1, after "machine" insert *comprising a mixing-device;* line 2, after "means" insert *adjustable according to the construction of said mixing-device;* line 3, make "machines" read *machine.*

Cancel claim 2 and substitute:

2. The combination, with a mixing-machine comprising a mixer, means to discharge the same, and charging mechanism, of a signal adapted to indicate when the mixer has completed its operation to effect thorough admixture of the materials operated on thereby, and coacting instrumentalities between the signal

and the charging mechanism, for controlling the signal from said mechanism.

Claim 4, lines 1 and 2, cancel "means to control its operation"; line 3, before "and" insert *means to set the signaling means for operation.*

Claim 4, last line, before the period, insert *in the mixing-machine.*

Cancel claim 5 and substitute:

5. A mixer, discharge means therefor, means for charging the mixer, a signal to indicate completion of a mixing operation of the mixer, and means to set the signal for operation incident to charging of the mixer by the charging means, and means to prevent unauthorized access to the signaling means.

Cancel Claims 6 and 7, and substitute:

6. The combination, with a mixing-machine comprising a mixer, means to discharge the same, and charging mechanism, of a signal adapted to indicate when the mixer has completed its operation to effect thorough admixture of the materials operated on thereby, coacting instrumentalities between the signal and the charging mechanism for controlling the signal from said mechanism, and lock means for the means to discharge the mixer controllable by the signal.

7. The combination, with a mixing-machine comprising mixing mechanism, means to discharge the mixed materials from said mechanism, and charging means for said mixing mechanism, of lock means to prevent operating of the discharge means, and coacting instrumentalities between the charging means and the lock means to control the action of the latter by the charging means.

Remarks

Certain of the original claims have been withdrawn, but applicant wishes to indicate clearly in the record that there is no intention by the cancellation to abandon what is believed to be essential and broadly novel subject-matter of his invention. The cancellation, on the other hand, is merely made with a view to enabling the presentation of claims that more definitely include the subject-matter of the original claims, something which we think is suggested as appropriate according to the official action.

It can not be agreed that applicant's invention, if any,

appears to be in the specific signaling device. The record fails to show a citation that has even the broadest possible bearing upon the invention submitted for protection. Applicant's invention might be briefly characterized as residing in the provision of mechanical instrumentalities, one of which is a signal, or equivalent means, corresponding to or adjusted in one way or another according to the capacity of the mixing device, or the size of the batch of materials that may be acted upon thereby, and the controlling of the operation of such a signal from the charging means forming a part of the mixing-machine, in combinations, and subcombinations; and also in the important lock feature.

The idea in the art of mixing-machinery, of employing some sort of a signal, established of course in proper cooperative relation with respect to the mixing-instrumentalities, for the purpose of apprising the operator of the machine when a thorough admixture of a predetermined batch of materials is completed, is new, and we respectfully ask the cooperation of the Examiner in the grant of protection commensurate with the novelty of the above discovery or idea. The foregoing means, broadly speaking, excepting that lock means for the discharging mechanism of the mixer, either with or without the signal, are employed, is also an entirely new invention, it being our understanding from a personal interview with the Examiner that there are no anticipatory references to cite in this case.

The claims in the application, as now submitted, are thought to more fully define the cooperative relation between the mixing-machine instrumentalities, and the signaling and discharge locking means of the invention.

For the applicant to attempt to claim his attachment *per se* without reference to a mixing-machine would be futile in affording him protection for the combination idea that he has invented. It is in the combination essentially that novelty resides.

As to formalities, it is noted that at the time of the personal interview with the Examiner the suggestion that the electric circuit was not fully described was withdrawn. The specification has been enlarged somewhat to show more fully how the adjustment of the weights 10 actually affords a variation in the time of descent of the member 8, which time, of course, controls the time elapsing after the charging of the mixer before the operation of the signal.

The means for preventing unauthorized access to the governor is referred to in the next to the last paragraph in page 11 of the description.

Further action on the case in view of the foregoing argument and explanation is requested.

Respectfully submitted,

DOE & DOE,
Attorneys for applicant.

Cleveland, Ohio, Nov. 16, 1919.

Div. 25, Room 315 Paper No. 3.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, Dec. 27, 1919.

Doe & Doe,
Cleveland, Ohio:

Please find below a communication from the EXAMINER in charge of the application of Richard E. Roe, Ser. No. 618, filed March 29, 1919, for Control Devices for Mixing-Machine.

THOMAS EWING,
Commissioner of Patents.

In response to amendment filed Nov. 18, 1919.

Claim 1, as amended, is vague and also inapt in the phrase "according to the construction of said mixing-device" in the amendment to line 2 thereof.

New claim 2 seems to be an aggregation of the mixer with the other elements thereof, as such in no way affects either the

function or operation of the mixer. The essential elements of said claim appear to be a loader and a specific indicator and signal.

So far as described there does not appear to be any mechanical connection between the mixer and the other elements set forth in each of claims 3 to 5 inclusive, and these claims are held to be for mere aggregations and not for patentable combinations, hence rejected.

The "signal" of line 3, claim 6, adds nothing to the function of the other elements thereof, neither does it modify in any way the operation of the mixer. For this reason said claim 6 is rejected as without patentability.

Claims which cover a charging or loading device with an accompanying indicator and signal would be examinable in a different division of the office from that in which mixers are examined, being for a separate and independent subject matter.

The "signal means" of each of claims 8 to 10 inclusive add nothing to the patentability of the other elements of each thereof, besides rendering them objectionable as aggregations, hence rejected. If freed from said element claims 9 and 10 would be allowable as at present advised. Claim 8 would need revision.

Examiner, Div. 25.

IN THE UNITED STATES PATENT OFFICE

RICHARD E. ROE,
Control Devices for
Mixing-Machines,
Filed March 29, 1919,
Serial Number 618.
Last Office Action Dec. 27, 1919. Room 315—Div. 25

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

Responsive to the above noted office action, amendment is made as follows:

Rewrite claim 1 to read as follows:

1. In combination, a mixing-machine comprising a mixing device, means to control its operation, and means adjustable according to the capacity of said mixing device to automatically signal a predetermined time of completion of the mixing operation of such machine.

Claim 9, last line after "means" insert *as an incident to the operation of said signal.*

Claim 10, last line, make the period a comma and add *whereby the operator is advised that the discharge means is operative owing to the release of said lock means.*

Claim 13, next to last line, substitute *signaling* for "loading"; last line, substitute *loading means* for "latter."

Remarks

Applicant after thorough consideration of the grounds of rejection of the essential and important claims of record, and also consideration of the controlling authorities involving the questions of combinations of aggregations, is unable to acquiesce in the position of the Office refusing the allowance of said claims.

There are several propositions which are presented by the rejection now of record and which will be fully treated in an effort to promulgate the allowance of protection commensurate with the novelty of the invention submitted.

Claim 13, next to last line, substitute *signaling* for "loading"; what so as to cure the objection, several other claims having also been slightly amended so as to avoid ambiguity, but the majority of the claims are submitted for reconsideration in view of the following remarks, and no disclaimer for lack of novelty is conceded.

A fair statement of the condition of this application is that no reference has been made of record by the Office, having any bearing upon, or in any way negativing the novelty of the combination covered by each contested claim. There appears also to be uppermost in the mind of the Examiner the question of classification and the effort to direct counsel toward a modification of the claims that would necessarily result, perhaps, in further divisional requirements or transfer of the application to an art foreign to the art of mixing machines.

Involved in the question of aggregation is the position of the Examiner now stated affirmatively, though negatively pre-

sented by him, that the action of the mixer must be modified by the other elements of each claim, including such mixer as an element.

We respectfully suggest that there can be little or no question regarding the novelty of applicant's invention. He is the first, in the face of the state of the art of the file record, to invent cooperative signaling—and mixing—apparatus in which the time of completion of the mixing operation of a mixer forming a part of said apparatus is automatically indicated. He is the first to employ locking means as presented. In applicant's specification the commercial advantages of his invention are fully presented and need not be reiterated. The present invention is being used extensively now commercially as a part of mixing-machinery. A new result is achieved in the operation of the invention, and no anticipation of the combinations of the claims as such, nor any suggestion of anticipation of the result attained, can be found in the record.

It is submitted that the regular practise of the Office is not being followed in the examination of this case. Giles in his lectures on Patent Office practise says as follows:

> Under the present practise the Examiners-in-Chief very seldom affirm an Examiner in his decision that a claim covers an aggregation and has been twice rejected for that reason alone. References must be cited anticipating the separate devices making up the alleged aggregations, otherwise the claim will be held to be allowable if the separate devices are capable of conjoint use in the same invention.

It is respectfully maintained that the main and essential result of the present invention has to do, both from the standpoint of construction and commercial practise, with the operation of mixing-machines. By mixing-machines we have in mind a structure involving not only a mixing-drum or mixer *per se*, but the usual adjuncts found in such machines, namely charging and discharging instrumentalities. To attempt to claim the present invention independently of a mixing-machine, at

least in so far as the broadest phase of the invention is concerned, would, we think, defeat the object of the present application which has to do with an advance in the art of mixing-machines, considering the results involving the patentability of the combinations expressed. Applicant does not want a patent on his signal, or a lock, *per se;* nor does he desire protection on any mixing instrumentalities *per se.* It is the cooperative functioning of these parts that must be covered if the invention at bar is to be given the protection of the statute.

That the applicant is presumed to know his invention, and is authorized under the law to himself set the limits and define the novelty of said invention, is supported by ex parte Mumford, 206 O. G., 879, in which the Honorable Assistant Commissioner held:

> In making a requirement of division, one of the elements of a claim cannot be ignored.

The above authority also sustains the practise indicated by Giles as controlling the Examiners-in-Chief in deciding questions of aggregation, in which connection we quote again from ex parte Mumford:

> Claim 12 purports to be for a combination of the cable and the carriage, and the question for the Examiner to determine was whether that combination. assuming it to be a valid one, was for an invention separate from that covered by the remaining claims. If so considered, division could not properly have been required, but if the Examiner was of the opinion that the claim was not patentable because the combination of a cable and a carriage was old and therefore the invention, if any, lay in the carriage, he should have cited references to show the old combination and rejected the claim under the authority of *in re* McNeil, etc.

To a certain extent in the present case, it would appear that the Examiner is holding that applicant's invention resides in his signal, the facts therefore paralleling the condition referred to in the above decision. Our contention, however, is that the

important and new result achieved by applicant has nothing to do with any specific form of signal and cannot reside solely in the signaling means that constitutes a necessary element of the combination. In regard to this position the Commissioner, in the case above referred to, makes the following apt remarks:

> Obviously, if the new element coacts with the other elements of the combination in a different manner from the corresponding elements of the old combination, and a new result is obtained thereby, the decisions referred to do not apply.

The Commissioner in this case, at the time of his decision, had in mind, of course, that a review of the references would be such as to enable a favorable conclusion as to the production of the new result.

Discussing further the question of aggregation as applied by the Examiner to the present invention, we quote from the able treatment of this subject by Mr. Examiner Groesbeck in his paper read before the Examining Corps:

> 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.

The Examiner's position, therefore, is virtually that all applicant has done in this case is to associate a mixing-machine with a signal, and each operates just the same as before they were associated; in other words, each functions independently of the other. Such a position is not sustainable upon a true understanding of the invention as described in the contested claims, which certainly define cooperative functioning of the mixing and signaling parts.

We believe that the conclusion of Mr. Examiner Maxson, adduced from a discussion of the authorities on combination

and aggregation, in his paper before the Examining Corps, is applicable to the claims in the present case, said conclusion being:

> From these it is clear that the patentability of a group of elements does not depend upon 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.

In the present case it is essential that the signaling means be adapted and designed for the mixing-machine, to the extent that said signaling means shall indicate the time of completion of the mixing operation. This is the new result, and it is attained by employing coacting instrumentalities between certain parts of the mixing-machine and the signal. We concede that the signal is not directly operated by the mixer drum, which is only one element of the mixing-machine, but said signal is certainly controlled by parts of the mixing-machine whereby the cooperative functioning necessary to a valid combination of parts is obtained.

We concede, furthermore, in this case, that in no way is the actual operation of either the mixer-drum, or mixing elements (if they be separated from the other parts of the mixing-machine in the sense of this particular argument), modified by the operation of the signal. We speak of this, because the Examiner has reiterated the proposition of the question of whether the mixer is modified in its operation by the signal, in his actions, and seems to understand that it is necessary in a combination such as submitted that the modification of the action of the mixer be obtained. This position we can not acquiesce in, because a valid combination may be predicated upon a structure wherein all parts are not modified in action by one or more other parts, in support of which reference is made to McCormick *vs.* Robinson, 124 O. G., page 2903, where it was attempted to be maintained that there was no proper combination between the casing and the file holder, in

a device in which the indicator was attached to the file holder. The Commissioner held:

> It does not appear that this contention is entitled to any weight. The main object of the invention disclosed by the issue is to provide a device whereby it may be determined which of a number of holders employed in the system of keeping accounts have been opened and used during the day. The casing becomes an essential element as a means for supporting the number of holders which it is necessary to use in the system. While it may be true that there is no direct cooperation between the indicator and the casing in this form of the invention, it is not necessary in a new combination of old elements that each element should modify or change the mode of operation of the others, but only that the combination should produce a new and useful result as a product of the combination. (National Cash Register Co. *vs.* American Cash Register Co. 62 O. G. 449.)

As a matter of fact, in the present case there is no attempt on the part of the applicant, and the result he obtains would make such an attempt futile, to modify the action of the mixer by the signal. The object in view is to secure cooperative functioning between the mixing-machine as a whole and the signal, the signal itself being controlled and operated by certain parts of the mixing-machine, namely the loading or charging mechanism for the latter. In the art of registering machines, in which art the Principal Examiner in charge of this case is an expert, it will be recalled that a number of patents have been granted to combinations of typewriters and adding-machines where the action of the typewriter causes operation of adding mechanism. However, in no one of the machines of the type particularly referred to is the action of the typewriter modified. In fact the typewriter works as it always does, but instrumentalities are provided to secure cooperative functioning of the two mechanisms of the main machine, which is the proposition before the Examiner in this case. We may, therefore, paraphrase the words of the Com-

missioner in McCormick *vs.* Robinson in respectfully suggesting that no direct cooperation between the signal and the mixer in this form of the invention is required.

At the time of a personal interview with the Examiner he very courteously urged counsel to eliminate the mixing-machine element of his claims with a view, perhaps, to broadening them, but the broadest phase of applicant's invention inherently requires, in his belief, the limiting of his main claims to the art of mixing-machinery wherein the important advance believed to be represented by the invention has taken place. The reason for this is that to a large extent the result achieved is locked up, so to speak, with the action of mixing in a mixing-machine and we believe, therefore, that were we to direct the claims of applicant along the lines of the Examiner's suggestion a mistake in defining the subject matter of the invention, having in view the result achieved, would be made and such mistake would not be rectified, owing to the mere approval by the Office, as well settled by the Court in the celebrated grab-hook case.

This case is now submitted in the hope that on reconsideration the claims contended for will be deemed allowable.

Respectfully submitted,

DOE & DOE,
Attorneys for applicant.

Cleveland, Ohio, Feb. 4, 1920.

Div. 10, Room 235 Paper No. 6

2-260

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, April 30, 1920.

Doe & Doe,
Marshall Bldg.,
Cleveland, Ohio:

Please find below a communication from the EXAMINER in charge of the application of Richard E. Roe, filed March 29,

1919, Serial No. 618, for CONTROL DEVICES FOR MIXING-MACHINES.

THOMAS EWING,
Commissioner of Patents.

Responsive to the amendment of Feb. 6, 1920:
Claims 3 and 7 to 9 are rejected in view of the following patents:

Scott, 993,557, March 30, 1911.
Simpson et al., 986,843, February 10, 1914.
Mason, 28,189, May 8, 1860.

Examiner Div. 10.

IN THE UNITED STATES PATENT OFFICE

In re application of
Richard E. Roe,
Control Devices for
Mixing-Machines,
Serial No. 618,
Filed March 29, 1919.

Room No. 315,
Div. No. 25

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

In response to the Office action of Feb. 6, 1920, we hereby amend as follows:—

The claims rejected are submitted as previously of record and reconsideration requested.

The patent of Mason is for a machine for drying sugar. If there is any mixing effect produced by the machine it is merely incidental to the drying operation. Mason's machine is not adapted to mix concrete. Aside from the inadequacy noted, Mason's machine does not meet either of the claims. There is no locking means for the valve which controls the discharge of sugar from the drying chamber.

The patent of Scott is for a tea-blending machine. The machine of this patent may be said to relate broadly to the mixing art, but it is thought not to be adapted for the mixing of concrete. The Scott machine does not respond to the terms of either of the claims. It fails to disclose the signaling means and locking means for the discharge means.

The Simpson & Thompson patent covers a coffee-roasting machine. Any mixing that might take place in the operation

of these machines would be simply incidental to the roasting operation. An essential feature of the machines of the coffee-roasting patent is that there shall be a heating mechanism for the roasting drum, and the drum shall be perforated; at least this is the disclosure of the patent. The feature of construction just referred to would prevent the employment of such machine for the purpose of mixing concrete. Futhermore, if the head *D* of the Thompson patent be regarded as the discharge means of the claims, then the locking means for the head must be the bolt 30 controlled by the thermostat *T*. This control device depending upon the heat for its operation is obviously inapplicable to a concrete mixing-machine. These patents relate to a non-analogous art, and in no way suggest the control features designed by applicant for the art of concrete mixing. There are no coacting instrumentalities between the lock means, and the charging means, to control the actions of the former by the charging means.

The references relied upon are inadequate on which to base a valid rejection of applicant's claims. We, therefore, respectfully ask a reconsideration of the rejected claims, and an allowance. While applicant's invention as presented in this case is in a crude form, instead of the actual commercial embodiment as made to-day, it represents in principle an important advance in the concrete-mixing art as previously pointed out.

Respectfully submitted,

RICHARD E. ROE,

By Doe & Doe,

April 17, 1920. *Attorneys.*

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, May 2, 1920.

Richard E. Roe, Assor.

Sir: Your application for a patent for an IMPROVEMENT in Control Devices for Mixing-Machines, filed March 29, 1919, has been examined and ALLOWED.

The final fee, TWENTY DOLLARS, must be paid not later than SIX MONTHS, from the date of this present notice of allowance. If the final fee be not paid within that period the patent on this application will be withheld, unless renewed with an additional fee of FIFTEEN DOLLARS under the provisions of Section 4897, Revised Statutes.

The Office delivers patents upon the day of their date, and on which their term begins to run. The printing, photolithograph-

ing, and engrossing of the several patent parts, preparatory to final signing and sealing, will require about four weeks, and such work will not be undertaken until after payment of the necessary fee.

When you send the final fee you will also send, DISTINCTLY AND PLAINLY WRITTEN, the name of the INVENTOR, TITLE OF INVENTION, AND SERIAL NUMBER AS ABOVE GIVEN, DATE OF ALLOWANCE (which is the date of this circular), DATE OF FILING, and, if assigned, the NAMES OF THE ASSIGNEES.

If you desire to have the patent issue to ASSIGNEES, an assignment containing a REQUEST to that effect, together with the FEE for recording the same, must be filed in this Office on or before the date of payment of final fee.

After issue of the patent uncertified copies of the drawings and specifications may be purchased at the price of TEN CENTS EACH. The *money should accompany the order.* Postage stamps will not be received.

Final fees will NOT be received from other than the applicant, his assignee or attorney, or a party in interest as shown by the records of the Patent Office.

Respectfully,
THOMAS EWING,
Commissioner of Patents.

Doe and Doe,
Marshall Building,
Cleveland, Ohio.

Ser. No. 618.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, July 17, 1920.

Richard E. Roe, Assor.,
Sir:

You are informed that the final fee of TWENTY DOLLARS has been received in your application for Improvement in Control Devices for Mixing-Machines.

Patent
Aug. 11, 1920
Will Issue

Date of receipt
July 15, 1920.

Very respectfully,
THOMAS EWING,
Commissioner of Patents.

Doe & Doe,
Cleveland, Ohio.

XVI

A TYPICAL COMPOSITION AND PROCESS APPLICATION AS COMPLETELY PROSECUTED*

(Including Appeal to Board of Examiners-in-Chief)

[NOTE: The Petition, Oath, and other papers corresponding to those previously given, are omitted—Author.]

TO ALL WHOM IT MAY CONCERN:

Be it known, that I, Richard E. Roe, a citizen of the United States residing at Montpelier, in the County of Rutland, and State of Vermont, have invented certain new and useful improvements in MANUFACTURE OF POLISHING STONES, of which the following is a specification:

STATEMENT OF INVENTION

This invention relates to the manufacture of polishing stones, and has particular reference to a novel composition of matter for forming stones used to polish marble, and to a novel process of producing the same.

The object of the invention is to produce a polishing stone, by the use of which a fine finish may be given to even the very poor grades of marble, and to so prepare the ingredients that a stone may be produced which will not scratch or in any way mar the surface to be polished.

Further objects are to produce a composition of the above character which will impart a superior finish to the work by the employment of simple and cheap ingredients, and to afford a novel process by which the ingredients are combined in a manner so as to obtain the most satisfactory results.

* U. S. Patent File Wrapper. Patent No. 1099831, issued June 9, 1914, to G. A. Undeen.

To these ends, the composition consists of emery-powder, shellac, and rosin mixed in the proportions hereinafter recited. with or without the addition of a relatively small quantity of sulfur. The process consists in melting a quantity of rosin and maintaining the heating thereof for a period of about two hours; in then mixing the rosin with a quantity of shellac, the fluid mixture being then strained, and in adding emery powder to the fluid mass with the accompaniment of strong stirring, after which the mass may be run into molds and cast into the desired shape.

General Description

Compositions

In effecting the present invention, I employ the following compositions, it being understood that the proportions refer to parts by volume:

Composition A.

Emery-Powder	1 part
Shellac	3 Parts
Rosin	2 parts

Composition B.

Emery-Powder	2 parts
Shellac	1½ parts
Rosin	2 parts

Composition A will be generally used, the proportions therein recited being best adapted for use in connection with the ordinary grades of marble, while Composition B is especially effective for use in connection with the harder grades of marble.

In practise, I use pure Turkish emery-powder No. 3F, while the ordinary commercial grades of shellac and rosin will suffice for the purpose. I will now proceed to describe the manner in which the ingredients are combined for forming the improved polishing stone.

Method of Combining Ingredients

A suitable quantity of rosin is melted and the heating is maintained for about two hours. While I have found that this protracted heating of the rosin is necessary in order to obtain a polishing stone which will not be too hard and gives the desired waxy effect, I am unable to positively state whether there is any chemical change in the rosin as a result of the heating. In view, however, of the superior effect obtained by thus heating the rosin, I am convinced that this step affords a novel and valuable feature of the process. It is likely that certain substances, which in the commercial grades of rosin are found as impurities that may have a deleterious effect on the final product, are volatilized during the heating and are thus eliminated. I then add the melted rosin to the proper quantity of shellac which may be either melted before its addition to the rosin or afterward. The molten mixture is then strained so as to eliminate solid impurities in the rosin and shellac which would tend to scratch, or otherwise mar, the surface of the marble during the polishing operation. The heating of the mixture of shellac and rosin is then continued for a short period, after which the emery-powder is added to the mass, it being necessary to strongly stir the mass during the addition of the powder, and for several minutes thereafter. At any time after the emery-powder has been added, but preferably after the mixture has cooled somewhat, a pinch of sulfur may be added to the mixture, but this is not a necessary feature of the invention. The addition of the sulfur is advantageous, however, in that it prevents the mass from agglomerating, thus rendering the operation of casting easier. After the above operations, the mass is run into molds, where it is allowed to cool and assume the shape desired.

I have found that the inclusion of the rosin prevents the mass from becoming too hard when it is formed into stones, and by the treatment of the rosin above described, that is,

heating it for a considerable period, the desired soft, waxy effect is obtained in the polishing stones.

Having thus described the invention, what is claimed as new is:

1. A composition of matter for forming polishing stones, consisting of emery-powder, shellac, and rosin.

2. A composition of matter for forming polishing stones, consisting of substantially 1-2 parts emery-powder, 1½ parts shellac, and 2 parts rosin.

3. A composition of matter for forming polishing stones, consisting of emery-powder, shellac, and rosin combined in substantially the proportions of one part of the emery-powder, three parts of the shellac, and two parts of the rosin.

4. A composition of matter for forming polishing stones, consisting of emery-powder, shellac, and the product resulting from the heating of rosin for about two hours.

5. A composition of matter for forming polishing stones, consisting of emery-powder, and the product resulting from the straining and heating of rosin and shellac.

6. A composition of matter for forming polishing stones, consisting of one part emery-powder, three parts shellac, and two parts of the product resulting from the heating of rosin for about two hours.

7. A composition of matter for forming polishing stones, consisting of one part emery-powder, three parts shellac, and two parts rosin, and a relatively small quantity of sulfur.

8. The process of manufacturing polishing stones, which consists in heating shellac and rosin, adding emery-powder to the mixture with accompanying stirring, and finally casting the resulting mixture into the desired shape.

9. The process of manufacturing polishing stones, which consists in heating a mixture of shellac and rosin, straining the mass, then adding emery-powder to the mass, and finally casting the mass into the desired shape.

10. The process of manufacturing polishing stones, which

consists in heating rosin for about two hours, adding shellac to the rosin, straining the mixture thus formed, then adding emery-powder to the mixture, and finally casting the mixture into the desired shape.

11. The process of manufacturing polishing stones, which consists in heating two parts of rosin for about two hours, then melting about three parts of shellac and adding same to the rosin, straining the fluid mass, then adding one part emery-powder to the mass with accompanying stirring, and finally casting the mass into the desired shape.

In testimony whereof I affix my hand and seal this 28th day of July, 1912.

GUSTAV A. UNDEEN.

Div. 27, Room 375. Paper No. 2 Rej.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Richard E. Roe,
c/o John F. Doe,
McGill Bldg.,
Washington, D. C.

Washington, April 25, 1912.

Please find below a communication from the EXAMINER in charge of your application No. 688,284, filed April 3, 1912, Manufacture of Polishing Stones.

E. B. MOORE,
Commissioner of Patents.

Claim 2 sets forth a composition that is not disclosed, namely, "a composition containing 1½-3 parts of shellac."

Claim 7 is alternative with claims 3 and 6, which sets forth the composition designated A in the specification.

Claims 1 to 6, inclusive, and 8 to 11, inclusive, are met in the patent to
Tanner, 53,066, Mar. 6, 1866; and
English patents #1615 of 1856 to Fisher, and
#2889 of 1953 to Hannay, Class 51—1.

Examiner.

IN THE UNITED STATES PATENT OFFICE.

Richard E. Roe,
Manufacturing of Polishing Stones,
Filed April 3, 1912,
Serial No. 688,284,
Last Office Letter April 25, 1912. Room 375.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

Responsive to the above noted official action, please amend as follows:

Cancel claims 1, 2 and 3, and adjust the ordinals of claims 3, 4, 6, 7, 8, 9, 10 and 11, to 1, 2, 3, 4, 5, 6, 7 and 8, and add the following claim:

9. The process of manufacturing polishing stones, comprising heating two parts of rosin for about two hours, then melting about three parts shellac and adding the same to the rosin, then adding one part emery-powder to the mass while stirring the same and adding a relatively small quantity of sulfur, and finally casting the mass.

REMARKS

Reconsideration of the holding of claim 7 as alternative with claims 3 and 6 is requested for the reason that the first-named claim appears to differ essentially from the other two claims only in the addition of sulfur. So far as counsel is aware there is no possible ground for objection to claiming a subcombination in the same case with a claim covering a combination of the whole. That is to say, in a structure made up of a combination consisting of A, B and C it seems a well-settled law that applicant is entitled to claim the sub-combination A and B, if such combination possesses utility, and in the same case to claim the entire combination A, B and C. It might be justifiable to call for division, if in the hypothetical case suggested an attempt were made to cover sub-combination A and B, and subcombination A and C, with the general combination A, B and C, because then subcombination A and B may conceivably be a distinct thing from subcombina-

tion A and C, and one or the other might properly be required to be presented in a divisional application. But such condition does not exist in the present case, wherein several elements are all named in one set of claims, and all of the same elements are named in the other claim, with an added element which makes the latter claim merely representative of the general combination including a subcombination. General combinations, and several subcombinations may even be claimed in one case, where the subcombinations are not clearly distinct inventions. Hence, favorable consideration of claim 4, former claim 7, is requested.

Favorable reconsideration of present claims 1, 2, 3, 5, 6, 7, and 8 is requested for the reason that these claims specifically set forth a particular structure and a particular process. If the Examiner will take into consideration the object which applicant proposes to attain, and does attain as set forth in the second paragraph of the specification, he will see that a conglomerate mass of almost an endless number of ingredients cannot well be said to meet the invention claimed which has a specific and particular object in view. It appears that the two foreign patents cited endeavor to set forth a large proportion, if not all of the known bonding substances, with the similar proportionate number of the abrasive substances, and of lubricating substances, without any definite or clear disclosure of any particular combination of given ones of these elements which will produce a specific result. The courts have repeatedly condemned the use of alleged anticipating references which are lacking in exactness or precision of disclosure. In the case of Wood vs. Underhill, 5 How. 1; 12 L. Ed. 23, the Court set forth this rule as follows:

When the specification of a mere composition of matter gives only the names of the substances which are to be mixed together, without stating any relative proportion, undoubtedly it would be the duty of the court to declare the patent void. And the same rule would prevail when it was apparent that the proportions were

> stated ambiguously and vaguely. For in such cases it would be apparent on the face of the specification that no one could use the invention without first ascertaining by experiment the exact proportions.

If, as stated, a patent is void for lack of disclosure when it is ambiguous and does not give proportions, it naturally follows that such a patent is not an adequate reference for anticipating a subsequent inventor. Each of the claims as now retained in the case sets forth specifically the proportions required for giving efficient results, and more than this, certain claims, as for instance claim 2, call for the product of rosin after it has been heated for two hours. Such a specific limitation seems clearly to distinguish the invention from anything hinted at in the art. As set forth in the specification, there is a definite purpose in maintaining the heat of the rosin for the given period, and, while applicant is not able to set forth scientifically the nature of the product so far as its elemental and chemical nature is concerned, he has demonstrated beyond question that the product is far more effective than can be attained otherwise. Hence to anticipate such claims as claim 2, and such process claims as are restricted to the time limit during which the rosin must be heated, the prior art should disclose either a definite time during which rosin is heated or an equivalent of such heating, neither of which appears in the art cited. Claim 5, for example, is limited to the process including mixing and stirring while the shellac and rosin are in a plastic state, this latter limitation resulting as an inevitable necessity to enable the stirring. This step of stirring undoubtedly effects certain elemental changes which could not be attained otherwise, and the step seems to be missing from anything seen in any of the patents cited. The patent to Tanner discloses merely the mixing of sulfur with emery with the possible addition of rosin, but there is no suggestion of the proportionate amount of rosin, and no suggestion that the rosin is heated or maintained molten for

a definite time, or that the parts are stirred while mixed. There is, therefore, in this patent no disclosure of the claimed invention, and while the two foreign patents, as have been suggested, set forth a great variety of elements, they do not set forth anything sufficiently definite and distinct to enable the public to secure the benefits of the invention set forth in the present application, and, therefore, it is believed that the claims as now presented should certainly receive favorable consideration.

Favorable consideration of new claim 9 is requested for the same reasons as set forth in respect to the present claim 4, formerly claim 7, and an early and favorable action is requested.

Respectfully submitted,

JOHN F. DOE,
Attorney for Roe.

Div. 27, Room 375 Paper No. 4 Rej.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, August 7, 1912.

Richard E. Roe,
c/o John F. Doe,
McGill Bldg.,
Washington, D. C.

Please find below a communication from the Examiner in charge of your application.

Manufacture of Polishing stones, filed April 3, 1912, Serial No. 688,284.

E. M. MOORE,
Commissioner of Patents.

Response to amendment filed July 23, 1912.

Claims 1 and 2 are in substance alike, and they, as well as claim 3, are met in the English patent No. 2289 of 1853, of record.

Claim 4 is met in the patents of record in view of the common practise to place sulfur in compounds for polishing stones, as shown by the patents to Mayall, No. 24039, May 17, 1869, in Cl. 51-1, aind for the reason that it is stated in the specification that sulfur may or may not be used, and that it is not a necessary feature of the invention.

Claims 5, 6, 7 and 8 are in substance alike, and are met in the English patent No. 2289 of record.

Claim 9 is met in the English patent, No. 2289, for the reason given in rejecting claim 4.

Examiner.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe,
Manufacture of Polishing Stones,
Filed April 3, 1912,
Serial No. 688,284,
Last Office Letter Aug. 7, 1912. Room 375.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

Responsive to the above mentioned Office letter, please amend as follows:—

Cancel claim 2, and accordingly adjust the ordinals of the remaining claims.

Reconsideration of the claims is requested for the reason that the British patent cited fails to disclose the compound or the process for producing the same in its specific nature as outlined in the claims presented, and for the further reason, with respect to those claims limited to the use or presence of sulfur, that applicant unquestionably has the right to present claims embodying both the combination as an entirety and certain subcombinations.

As to the first ground for the request for consideration, attention is directed to the fact that claim 1 calls for a product, which product is a compound of certain elements not merely juxtaposed, but effectively compounded in a particular and specific manner peculiar to the invention, and not suggested in the British patent cited. That is to say, the structure set forth in claim 1 is limited to materials which have been treated in a specific

manner, namely, rosin which has been heated for two hours, and to the other elements named mixed with the product of such rosin. Nothing in the British patent cited suggests heating any of the substances named in that patent for any definite period. Applicant is able to produce a stone possessing at one and the same time, the requisite tensile strength with the requisite abrasive capacity, neither of which is by any means assured in a product produced from an effort to follow any such vague instructions as are afforded in the British patent. Applicant would not think of contending that it was a new thing to use emery-powder as an element of a compound for a grinding stone, nor would he think of making such contention with respect to shellac or with respect to rosin, and it is not the separate and distinct elements taken alone which make a novel structure of applicant's claimed invention, but it is the combination of all those elements, effected in the manner set forth, which gives the result not attained by the mere assembling of a conglomerate mass of substances, such as listed in the British patent. In other words, the British patent does not afford sufficient information to enable one to produce the stone set forth in the first claim, which stone can be produced only by the assembling of the elements named in the claim after the treatment of rosin in the manner stated in the claim.

The same argument is applicable to claim 2, even with more force, for the composition of matter therein claimed is limited to the precise proportions of elements depended upon for giving the most efficient results, and such proportions vary from anything suggested in the British patent, which added to the fact that the claim is limited to the rosin being a product of rosin, after being heated for two hours, would seem to unquestionably entitle applicant to the allowance of this claim. Vague and indefinite statements in prior patents, which are insufficient to enable a production of the compound or article set forth specifically in a given claim, are not sufficient to anticipate the claim because the claim recites one specific and particular thing, and the reference does not disclose that thing or any other one thing sufficiently definitely to enable the public to deduce information sufficient to produce the claimed thing. Hence, the lack of disclosure as well as the difference in the subject-matter of disclosure in the British patent, is such that the Examiner is requested favorably to reconsider this claim.

With respect to claim 3, the same argument as to the patentable novelty of claim 2 applies, and reconsideration is requested for the same reason, and for the further reason that the claim is limited to the use of sulfur, the use of which in other combinations, such as that of the Mayo patent cited, is certainly

not sufficient to justify anticipation of the claim. To accept the Examiner's apparent theory of rejection would be paramount to admitting it proper under the rules of law to take, in mechanical cases, an element from one machine, another element from another machine, and a third element from a third machine, and so on, and by assembling them after the manner shown in the invention in question, call the resultant assemblage an anticipation. The courts have severely, repeatedly, and continuously condemned this practise, and the practise in mechanical cases is directly analogous to composition or chemical cases, so that the Examiner has no right to select a given chemical from one compound, and another from a different compound and so on throughout a series of compounds, so that they may be united to form a reference for the compounding of these various segregated chemicals, which in itself effects a result not obtained in any of the several compounds from which the respective chemicals have been segregated, with the result that the alleged reference is in fact the product of invention. Hence it is thought that favorable action should be accorded claim 3, so far as the use of sulfur is concerned.

On the question of applicant's right to present such claim, the Examiner seems to be clearly and unequivocally in error in view of the common and uniform practise of presenting various combination claims in a given patent in mechanical cases. By way of example, an inventor of a peculiar hinge would undoubtedly be entitled to a claim for a hinge having an eye in combination with other elements, and in the same patent would be entitled to a claim for a hinge having eyes in combination with other elements, even tho the plurality of eyes might possibly be capable of being dispensed with, and even tho it might be conceded in the specification that a hinge possessed of a single eye would perform some of the valuable functions of the invention. In other words, the fact that a certain element or elements of the combination may be possibly dispensed with, and still a sufficient number of elements retained to afford some valuable results, so that the dispensed elements may be said to be unnecessary in the sense that they are not absolutely requisite, does not preclude an applicant of the right to a claim for those elements which might be dispensed with, so long as those elements actually add something of value to the combination. The fact that sulfur is not a necessary feature of the combination does not mean that sulfur is not an extremely desirable feature thereof, and being desirable may be very properly included in a combination claim presenting the desirable feature as well as the absolutely necessary feature, just the same as applicant would be entitled to the hinge with the two eyes, if the second

eye added any special function over a claim for the same hinge with a single eye.

Reconsideration of the Examiner's holding that claims 4, 5, 6 and 7 (formerly 5, 6, 7 and 8) are alike is requested for the reason that apparently each distinguishes clearly and affirmatively from all others.

Reconsideration of these claims, and also of claim 8, on the question of patentability over the English reference is requested for the reasons set forth in respect to the claim 1, the distinction in the product over the disclosure of said patent being even more pronouncedly apparent in the process.

Respectfully submitted,

JOHN F. DOE,
Attorney for Roe.

September 12, 1912.

Div. 27, Room 375 Paper No. 6 Rej.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, Sept. 28, 1912.

Richard E. Roe,
c/o John F. Doe,
McGill Bldg.,
Washington, D. C.

Please find below a communication from the Examiner in charge of your application—

Manufacture of Polishing Stones, Filed April 3, 1912, Serial No. 688,284.

E. B. MOORE,
Commissioner of Patents.

Response to amendment filed September 14, 1912.

The English patent discloses a composition of shellac, rosin, and emery. The shellac and rosin are heated in a vessel until the mixture is fused, then emery is added. The mixture is thoroughly mixed and incorporated while hot, and then placed in metallic molds of requisite form and dimensions. The steps

disclosed in the English patent in preparing the composition are the same as disclosed by applicant.

No reason is seen for changing the last Office action.

The claims are thought to be fully anticipated by the references of record, and are again rejected.

Examiner.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe,
Manufacture of Polishing Stones,
Filed April 3, 1912,
Serial No. 688,284,
Last Office Action
September 28, 1912. Room 375.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

Responsive to the above noted Office action, please amend the application as follows:

Cancel the claims and insert—

1. A composition of matter for forming polishing stone, consisting of emery-powder, shellac, and the product resulting from the heating of rosin for about two hours.

2. A composition of matter for forming polishing stone, consisting of one part emery-powder, three parts shellac, and two parts of the product resulting from the heating of rosin for about two hours.

3. A composition of matter for forming polishing stone, consisting of one part emery-powder, three parts shellac, two parts rosin, and a relatively small quantity of sulfur.

4. The process of manufacturing polishing stone, comprising heating two parts of rosin for about two hours, then melting about three parts shellac and adding the same to the rosin, then adding one part emery-powder to the mass while stirring the same and adding a relatively small quantity of sulfur, and finally casting the mass.

REMARKS

The claims have been rewritten, not to vary the scope thereof, but to avoid possible confusion from the several amend-

ments, and particularly from the fact that in one of the amendments instructions were given both to cancel a particular claim and to adjust the ordinal of the claim.

Counsel believes that favorable reconsideration should be accorded the claims above presented for the reason that the British patent does not disclose the use of sulfur. It does not disclose the heating of the rosin for two hours. It does not disclose the stirring of the mass when mixing while heated. It does not disclose the relative proportions named. And it does not disclose mixing or compounding the particular ingredients independent of all other ingredients.

Applicant has, by the elimination of an undesirable mass of indefinite selective substances such as mentioned in the British patent, produced a definite and precise product in a peculiar and particular manner, getting results not attainable by the employment of the conglomeration suggested in the British patent, and obtainable only by the exercise of inventive genius in the utilization of substances incidentally named in the said patent. It is certainly a well-settled principle of law that the Examiner has no right to use as a reference the disclosure of a mass of substances, so intricate and involved that no definite or adequate idea of which particular substances could be effectively used for giving a definite and particular result. Applicant was able to particularize only by careful study and long experiment and was able to produce an effective and desirable product not through any information obtainable from the publication cited, but by virtue of studious effort and constant application. The elimination of unnecessary ingredients as named in the British patent, and the substitution therefor of definite proportions, has enabled applicant to obtain his product, and without such elimination no such product could be obtained. It is therefore believed that what applicant did amounts to invention and the claims presented represent patentable subject matter.

It is thought that the Examiner errs in holding that the British patent discloses the steps utilized by applicant. The steps differ as to time, degree, quantity and substances. Greater differences are inconceivable so long as these differences produce differences in result, and of this fact there ought not be question in view of the obvious utility of the product obtained in applicant's compound.

Favorable action on the claims is therefore earnestly requested.

Respectfully submitted,

JOHN F. DOE,
Attorney for Applicant.

October 30, 1912.

Div. 27, Room 375 Paper No. 8. F. R.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, Nov. 15, 1912.

Richard E. Roe,
c/o John F. Doe,
McGill Bldg.,
Washington, D. C.

Please find below a communication from the Examiner in charge of your application—

Manufacture of Polishing Stones, Filed April 3, 1912, Serial No. 688,284.

E. B. MOORE,
Commissioner of Patents.

Response to amendment filed October 31, 1912.

The claims are met in the references and reasons given in last office letter, and are rejected.

The claims being in substance the same as those previously rejected, this action is final.

Examiner.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe,
Manufacture of Polishing Stones,
Filed April 3, 1912,
Serial No. 688,284,
Last Office Action
November 15, 1912. Room 375.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

Responsive to the above noted Office action, please amend the application as follows:

At the end of page 4 add the following:

By experimentation I have demonstrated that the above theory regarding the volatilization of substances from the rosin by maintaining the same in a molten condition is correct, as I have, by boiling rosin for a period of two hours more or less, found that I have been able to drive off a certain oily substance, by which I largely eliminate the production of a gummy compound, as usually results from the employment of rosin from which the oily substance or other impurities have not been volatilized. As a matter of demonstration, I have boiled rosin for a period approximating two hours, varying with the grade of rosin employed, and have otherwise carried out the process as above stated, with the result that a polishing stone has been produced capable of giving the finishing polish and starting the gloss on marble. On the other hand, I find that the mere melting of rosin, without volatilization therefrom of the foreign substances, and the making of the stone by the employment of rosin with an abrasive compound, which rosin has only been melted, results in the production of a stone having a tendency to gum and adhere to the marble, producing smears and spots, which difficulties I have been able to overcome by the carrying out of the process as above set forth.

While there is no exact or definite period of time during which the rosin must be boiled, I find that approximately two hours is the correct time, and the best simple method of testing whether the volatilization has been carried out to the required extent is by the introduction of a small stick into the molten mass, and the withdrawal of the stick and cooling of the adhering rosin. Preferably the cooling for this test is accomplished by pouring cold water on the rosin-coated stick. When cold, if the coating is hard enough to break easily when the stick is bent, the vola-

tilizing process has been carried out sufficiently, but if when the stick is bent the coating of rosin appears gummy and pliable, then the heating process must be continued until the requisite extent of brittleness is attained. This is obviously only one simple test, and other tests may be utilized as preferred, the essential feature of the process, so far as the treatment of the rosin is concerned, residing in the fact that the rosin is heated to the volatilizing point and maintained at such point for a length of time giving it a consistency which will avoid the tendency on the part of the completed stone to spot or otherwise discolor the marble being polished or glossed.

Cancel claim 5 and insert:

5. The process of manufacturing polishing stone comprising mixing molten rosin, shellac and emery, the rosin being, previously to the admixture, heated to and maintained at a temperature of volatilization for a period sufficient for rendering the finished stone free from spot-producing plasticity.

AFFIDAVIT

State of Vermont }
County of Rutland } ss.

Richard E. Roe, the applicant named in the above entitled application, being first duly sworn, deposes and says that he is familiar with the various known processes of manufacturing polishing- and gloss-stones for finishing marble; that it has heretofore been common to produce such stones by the employment, among other ingredients, of rosin which has been commonly melted and mixed with the other ingredients, but stones thus produced have given rise to difficulties by virtue of the fact that they usually produce spots and smears on the marble or other stone being polished and glossed; that such spotting affiant has ascertained has been due largely to adhesion of the rosin because of its pliable and adhesive nature; that affiant in the carrying out of his process as set forth in the above identified application has found that by maintaining rosin heated sufficiently for volatilizing foreign substances therefrom for a period of about two hours, or until such foreign substances are substantially all volatilized, the bulk of the rosin is reduced approximately twelve per cent and the resultant rosin is characterized by its brittleness; that when such rosin is compounded with powdered emery and shellac the resultant product is a stone which will finish the polishing of a piece of marble and begin the gloss thereof without producing spots or smears on such marble; and that a simple and efficient test for determining whether the rosin has been

maintained at the volatilizing point for a sufficient length of time consists in cooling a small quantity of rosin on a flexible or resilient support and bending the support, whereupon, if the rosin has acquired the proper degree of density, its brittleness will be manifest by the breaking of the rosin, but if the volatilization has not been carried out sufficiently such condition will be indicated by the lack of breaking of the rosin and the manifest pliability thereof.

RICHARD E. ROE,

Subscribed and sworn to before me this 24th day of April, 1913.

.....
Notary Public,
Rutland Co., Vermont.

REMARKS

The foregoing amendment is presented solely for the purpose of appeal, and applicant will prosecute the appeal just as soon as the amendment is entered. It is hoped that the Examiner will not object to the slight alteration in the terms of claim 5, this alteration having been made to more clearly bring out the distinction which counsel contends exists between all of the claims and the prior art cited. It is noted that the final action was taken by the Examiner in the face of the fact that new claims were presented, on the ground that the new claims were substantially the same in substance, and it is hoped, therefore, that recognizing the similarity in substance the Examiner will not object to the entry of the foregoing amendment.

While counsel would not urge the Examiner to reconsider his previous action of final rejection, he is requested to reconsider the same, if he is so inclined, in view of the affidavit herewith filed which may help to throw light on the contention which counsel has been making to the effect that the references cited all embody merely generic disclosures of processes, which in their specific adaptations are very probably essentially different from that claimed, and most certainly do not include the one essential step of volatilizing foreign substances from the rosin and maintaining the rosin at such heat as to continue

the volatilization until the rosin acquires a distinct and desirable state of density, freeing the same from the objectionable smearing effect which frequently follows with the use of stones the rosin in which has not been so treated. The accompanying affidavit makes this point clear and it is believed to be proper at this time to submit the affidavit in order that when the case goes before the Board of Examiners-in-Chief all of the facts may be readily recognized as established in the record, thus avoiding any necessity for the filing of proofs after appeal.

Respectfully submitted,

JOHN F. DOE,
Attorney for Applicant.

Div. 27, Room 375 Paper No. 12.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, June 14, 1913.

John F. Doe,
McGill Bldg.,
Washington, D. C.

Please find below a communication from the Examiner in charge of the application of

Richard E. Roe, for Manufacture of Polishing Stones,
Filed April 3, 1912, Serial No. 688,284.

E. B. MOORE,
Commissioner of Patents.

Response to amendment filed April 26, 1913.

Claims 1, 2, and 5 are met in the English patents to Hanmay, of record, and 2193, Coles, Aug. 2, 1862.

Claims 3 and 4 are met by Coles.

The claims are met in the references cited in the last Office action and are rejected.

Examiner, Div. 27.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe,
Manufacture of Polishing Stones,
Filed April 3, 1912,
Serial No. 688,284,
Last Office Letter
June 14, 1913. Room 375.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

In response to the above mentioned Office letter, please amend as follows:

Claim 1, line 3, after "rosin" insert—*to the volatilization point*—.

Claim 2, line 4, after "rosin" insert—*to the volatilization point*—.

Cancel claim 3, and insert:

3. A composition of matter for forming polishing stone consisting of emery-powder, shellac, and rosin, from which rosin spot-producing matter has been removed.

Claim 4, line 2, after "rosin" insert—*to the volatilization point*—.

REMARKS

Reconsideration of all the claims is requested for the reason that the essential feature of the invention is obviously absent from the art cited. Both the time, and the degree of heat to which the rosin is subjected, are essential characteristics of the invention. As the prior art has failed to disclose or suggest a means for obviating the spot-producing propensity of polishing or finishing stone such does not anticipate the claims and on receipt of final action on the claims as now submitted appeal will be promptly taken.

Respectfully submitted,

JOHN F. DOE,
Attorney for Roe

June 20, 1913.

Div. 27, Room 375. Paper No. 14. Rej.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington, July 10, 1913.

John F. Doe,
McGill Bldg.,
Washington, D. C.

Please find below a communication from the Examiner in charge of the application of—

Richard E. Roe, for Manufacture of Polishing Stones.
Filed April 3, 1912, Serial No. 688,284.

E. B. MOORE,
Commissioner of Patents.

Response to amendment filed June 21, 1913.

Claims 5 and 6 are in substance alike. All the claims are met in the reference of record, and are finally rejected.

Examiner.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe,
Manufacture of Polishing stone,
Filed April 3, 1912.
Serial No. 688,284.

APPEAL FROM THE PRINCIPAL EXAMINER
to the
EXAMINERS-IN-CHIEF

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

I hereby appeal to the Examiners-in-Chief from the decision of the Principal Examiner in the matter of my application for Letters Patent for an improvement in Manufacture of Polishing Stones, filed April 3, 1912, Serial No. 688,284, which on the 10th day of July, 1913, was rejected a second time and finally.

The following are the points of the decision on which appeal is taken:

1. The Examiner erred in holding the rejected claims anticipated by the art cited.
2. The Examiner erred in finally rejecting the last submitted claims.

The appeal fee of Ten Dollars is enclosed herewith.

RICHARD E. ROE,
By John F. Doe,
His Attorney.

August 20th, 1913.

18. Paper No. 18.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
September 18, 1913.

Richard E. Roe,
Manufacture of Polishing Stone,
Filed April 3, 1912,
Serial No. 688,284.

On Appeal
to the Board of
Examiners-in-Chief.

EXAMINER'S STATEMENT.

The following claims are appealed:

1. A composition of matter for forming polishing stone, consisting of emery-powder, shellac, and the product resulting from the heating of rosin to the volatilization point for about two hours.
2. A composition of matter for forming polishing stone, consisting of one part emery-powder, three parts shellac, and two parts of the product resulting from the heating of rosin to the volatilization point for about two hours.
3. A composition of matter for forming polishing stone, consisting of emery-powder, shellac, and rosin from which rosin spot-producing matter has been removed.
4. The process of manufacturing polishing stone comprising heating two parts of rosin to the volatilization point for about two hours, then melting about three parts shellac and adding the same to the rosin, then adding one part emery-powder to the mass while stirring the same and adding a relatively small quantity of sulfur, and finally casting the mass.
5. The process of manufacturing polishing stone comprising mixing molten rosin, shellac and emery, the rosin being, previously to the admixture, heated to and maintained at a temperature of volatilization for a period sufficient for rendering the finished stone free from spot-producing plasticity.
6. The process of manufacturing polishing stone comprising heating rosin to and maintaining it at a temperature of volatili-

zation for a period sufficient to render the finished stone free from spot-producing plasticity, then mixing with such molten rosin, shellac and emery, and straining the mixture for freeing the same from remaining impurities.

The claims were rejected upon the following patents:

Mayall, 24,039, of May 17, 1869,
English Patents 1,615 of 1856, Fisher,
" " 2,889 of 1853, Hannay, and
" " 2,193 of 1862, Coles et al. (Cl. 51—1).

The claims cover a composition for a polishing stone and the process of making the same. The composition consists of emery-powder, shellac and rosin, and as stated in the specification a small quantity of sulphur, may or may not be used. The rosin is melted and heated for two hours, then the rosin is added to a proper quantity of shellac, the mixture is then strained, after which the emery-powder is added, and a pinch of sulfur may or may not be added.

The patent to Coles discloses a grinding tool consisting of pulverized gritty or cutting ingredients with a preparation of oxydized or other oil and sulfur, with or without the addition of resinous, gummy, mucilaginous or albuminous matter. See lines 21 to 23, page 3.

The patent to Mayall shows that the use of sulfur in polishing stones is old.

The patent to Fisher discloses a grinding tool consisting of corundum mixed with plastic or glutinous substances, such as rosin, oil, shellac, Venice turpentine, etc., reduced to a melted state, forming, when cold, a hard substance.

The patent to Hannay discloses a grinding-wheel made by mixing shellac with rosin to which heat is applied so that the mixture is well fused, then about two and one-half to three times the weight of the mixture is to be added of emery or other grinding substance. The grinding substance is heated to a temperature as high as that of the mixture which forms the bond. The whole is thoroughly mixed and incorporated while hot and while in the heated or soft state is placed in suitable molds. See lines 5-7 and 25-35, page 2 of the specification.

As the patents cited disclose a composition of shellac, rosin and emery, the shellac and rosin being heated in a vessel until the mixture is fused, then emery added, it is thought that they fully anticipate applicant's composition of matter set forth in claims 1, 2 and 3, and the process set forth in claims 4, 5 and 6.

Respectfully submitted,

.....
Examiner.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington

September 20, 1913.

Sir:

The case of Richard E. Roe
Serial No. 688,284, will be heard by the Examiners-in-Chief on the 15th day of December, 1913.

The hearings will commence at one o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;

Motions, thirty minutes, each side;

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,
THOMAS EWING,
Commissioner of Patents

To John F. Doe, Atty.,
McGill Bldg.,
Washington, D. C.

IN THE UNITED STATES PATENT OFFICE

Richard E. Roe, Manufacture of Polishing Stone, Filed April 3, 1912, Serial No. 688,284.	On Appeal Before the Board of Examiners-in-Chief.

APPELLANT'S BRIEF

[Here follows a complete restatement of the arguments advanced before the Primary Examiner. The brief was divided

for intelligent discussion of the whole case under the following headings:

The Invention.
The Examiner's Concession of Novelty of Driving Off Spot-Producing Matter.
The Claims.
Conclusion.

To reiterate the arguments would add nothing to this work and such is therefore not done.]

Revision and reversal of the judgment of the Primary Examiner are accordingly earnestly requested.

Respectfully submitted,
JOHN F. DOE,
Attorney of Record.

October 11, 1913.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington

February 28, 1914.

Sir:

Inclosed find copy of decision this day rendered by the Examiners-in-Chief in the ex parte case of—

Richard E. Roe, Serial No. 688,284.

By direction of the Commissioner:

Very respectfully,
W. F. WOOLARD,
Chief Clerk.

Mr. John F. Doe, Atty.,
McGill Building,
Washington, D. C.

UNITED STATES PATENT OFFICE

Appeal No. 6843. Feb. 28, 1914.

Before the Examiners-in-Chief, on Appeal.

Application of Richard E. Roe for a patent for an improvement in the Manufacture of Polishing Stones, filed April 3, 1912, Serial No. 688,284.

Mr. John F. Doe, attorney for appellant.

The applicant has appealed from the action of the Primary Examiner finally rejecting the following claims:

[Here follow the claims appealed.]

The references cited are:

Mayall		24,039, May 17, 1869,
Hannay,	British	2,889, of 1853,
Fisher,	"	1,615, of 1856,
Coles, et al.	"	2,193, of 1862.

We do not understand that the Examiner contends that any of the references suggest the heating of the rosin for a period of two hours or thereabouts. Nor do we understand that the Examiner questions the useful results which are alleged in the amended specification and affidavit of record as attendant upon such heating. Under such circumstances it would seem that claims 1, 2, and 4, which are limited to the heating of the rosin for two hours or thereabouts are clearly allowable.

Claims 3, 5 and 6 are not limited to the heating of the rosin for a period of two hours or thereabouts. They set forth no definite minor limit for the period of heating. Claims 5 and 6 state that the rosin shall be made free of spot-producing characteristics by heating the same. Claim 3 states that spot-producing matter shall be removed, but is not limited to any characteristic whatsoever of the manner in which the removal of the spot-producing matter is secured. Under all the circumstances of the case we believe that the applicant is not entitled to these claims. In the first place, his application does not teach or even suggest any other way of removing the spot-producing matter than by heating the rosin for about two hours. In the second place, it is not established on the record and we are not aware that such heating of the rosin as is provided for in the various references will not, under certain circumstances, or with certain qualities of rosin, result in a product which is free from spot-producing characteristics.

The action of the Primary Examiner is reversed as to claims 1, 2, and 4, and is affirmed as to claims 3, 5, and 6.

FAIRFAX BAYARD,
FRANK C. SKINNER,
Examiners-in-Chief.

(Third member absent.)

XVII

A TYPICAL REISSUE PATENT APPLICATION FILE WRAPPER CONTENTS AND DRAWINGS*

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

In the matter of application of Richard E. Roe, for reissue of Letters Patent No. 1,063,268, filed herewith, we request that an abstract of title duly certified as required in such cases be furnished and attached to said application.

Reissue fee of thirty dollars ($30.00) and twenty cents for said abstract are remitted herewith.

Respectfully,
DOE & DOE,
Attorneys for Roe.

PETITION

To the Commissioner of Patents:

Your petitioner, RICHARD E. ROE, a citizen of the United States and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, whose post-office address is Germania Building, Milwaukee, Wisconsin, prays that he may be allowed to surrender the Letters Patent for an improvement in CONCRETE-DISTRIBUTER, granted to him June 3, 1913, whereof he is now sole owner, and that Letters Patent may be reissued to him for the same invention upon the annexed amended specification, and he hereby appoints MESSRS. DOE & DOE, Southern Building, Washington, D. C., Registry No. 7987, his attorneys, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent when reissued, and to transact all business in the Patent Office

* See File Wrapper U. S. Patent to Kochring, Reissue No. 13617, September 16, 1913.

and U. S. Courts connected therewith, hereby revoking any and all former powers of attorney given in connection with the original application.

An abstract of title, duly certified as required in such cases, has been ordered from the Patent Office and it is requested that it be attached hereto.

Signed at Milwaukee, county of Milwaukee, and State of Wisconsin, this day of , 1913.

RICHARD E. ROE.

SPECIFICATION

To all whom it may concern:

Be it known that I, PHILIP A. KOEHRING, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Concrete-Distributers, of which the following is a specification.

The object of my invention is, more especially among other things, to provide a device to be used in laying walks and street pavements in connection with a concrete mixer for receiving the mixed concrete as it is discharged from the mixing drum and conveying it to the place of deposit in the walk or pavement which is being laid, and the same is explained by reference to the accompanying drawings, in which,

Figure 1 represents a side view thereof in connection with the supporting frame of an ordinary concrete mixing machine. Fig. 2 is a detail showing an end view of the cable operating mechanism by which the conveyor of concrete is operated. Fig. 3 is a diagrammatic view in perspective of the cable supporting rollers and pulleys which are employed in moving the conveyor. Fig. 4 is a detail plan of the turn-table and operating mechanism. Fig. 5 is a top view and Fig. 6 a vertical section of the concrete receptacle. Fig. 7 is a side view of the discharge-controlling operating device.

Like parts are identified by the same reference numerals throughout the several views.

1 is an ordinary concrete mixing drum, and 2 represents a portion of the end frame from which the drum is supported in connection with my concrete conveyor.

3 is a swinging jib or boom which is provided upon its side with a track 4 upon which the carriage 5 is supported and operated, said jib and its supporting parts including the frame 2 constituting a crane of special design.

6 is a receptacle into which the concrete is discharged from the drum 1 through the stationary trough 7. The receptacle 6 is connected with the inwardly canted or inclined carriage 5 through the vertical hangers 8, and the carriage 5 is provided with a plurality of rollers 9 adapted to operate on the track 4 as the receptacle 6 is moved forwardly and backwardly along the boom 3 from the mixing drum to the place of deposit. This operation is permitted because the form of the carriage 5 is such that the receptacle 6 may readily be moved to the position below the axis of the boom 3 and the delivery end of the trough 7. The boom 3 is supported from the vertical frame 2 through the bracket 10, trunnion 11, turn-table 12, vertical lugs 13 and pivotal bolt 14. The trunnion 11 is supported at its lower end from the bracket 10, while its upper end is centrally connected with the turn-table 12 with which trunnion the turn-table performs a partial revolution as the boom 3 is swung to the right and left. The receptacle 6 which is adapted to be moved longitudinally on said track 4 may be brought to any desired point of deposit within the radius described by said swinging boom

15 is a worm shaft which is revolubly supported in suitable journal bearings on said bracket 10 and is adapted to engage in the teeth 16 formed in the edge of the turn-table 12, whereby as the shaft 15 is turned forwardly or backwardly, the turn-table 12 and the boom 3 supported therefrom are caused to describe a partial revolution to the right or left.

17 is an operating crank, which is rigidly connected with the worm shaft 15 by which the same is manually operated. While the

worm shaft 15 may be manually operated with a crank, a belt or pulley, or equivalent mechanism may be substituted therefor.

19 is a cable by which the carriage 5 and receptacle 6 supported therefrom are drawn forwardly and backwardly upon the boom. One end of said cable 19 is connected with the carriage 5 at the point 20, and it extends from thence around the outer end of the boom and passes over and upon the pulley 21 from thence around the pulley 22, from thence over the drum 23 and from thence backwardly and forwardly between the drum 23 and drum 24 around which drums it passes a plurality of times whereby the required friction is produced between said cables and the drum 24 to prevent it from slipping, when the cable passes from the pulley 23 partially around the pulley 25, from thence around the pulley 26 and from thence to the other side of the carriage 5 with which it is connected at the point 27. The pulleys 22, 25 and 26 have journal bearings in plates secured to the boom 3 at its rear end.

The drum 23 has journal bearings in the hangers 44, which hangers are suspended from the upper end of the frame 2, while the drum 24 has journal bearings in the bracket 41, and said bracket is supported from said frame 2. Thus it is obvious that as said cable is moved in one direction by revolving the drum 24, the carriage 5, together with the receptacle 6 will be moved to the outer end of the boom 3, when by a reversed movement of the drum 24 the cable 19 will be moved in the opposite direction, whereby the receptacle 6 will be drawn back from the outer end of the boom to the point shown in Fig. 1, beneath the discharge end of the trough 7. From the foregoing it will be understood that by the swinging movement of the boom and the

horizontal movement of the carriage along such boom the receptacle 6 may be conveyed to and its contents discharged at any point within the radius described by the boom.

Motion is communicated from the mixing drum 1 to the cable 19 either forwardly or backwardly through the gear wheel 28, pinion 29, shaft 30, pinion 31 and reversely revoluble gears 32 and 33 and the drum supporting shaft 34. The gears 32 and 33 are adapted to revolve freely upon their supporting shaft 34, and motion is communicated from either one of said gears 32—33 to the drum 24 at the will of the operator through the clutch mechanisms 35 and 36. The clutch mechanisms 35 and 36 are respectively connected with the supporting shaft 34 and adapted to revolve therewith. When, however, the clutch mechanism is brought into engagement with either one of said gears 32—33, motion is communicated from said gears through said clutch mechanism to said shaft 34, and from said shaft to the drum 34′, whereby said drum is revolved. When the clutch mechanism 36 upon the right is clamped to the gear wheel 33, the drum 34′ is revolved in one direction. When, however, the clutch mechanism 35 upon the left is brought into engagement with the gear 32, the drum 34′ is revolved in the opposite direction. When, however, both clutches are thrown out of engagement with said gears, the drum is permitted to stand at rest. Thus it will be obvious, that while the driving shaft 30 and gears 32 and 33 are continuously revolved in the same direction, the drum 34′ and the cable operated thereby, may be at the will of the operator, be moved in either direction or permitted to stand at rest.

37 and 37 are slidable collars supported upon the shaft 34, and said collars are provided with outwardly diverging bearings 38—38, which are adapted to contact with the arms 39—39 of the clutch mechanism as

said collars are moved inwardly, whereby said clutch mechanism is operated and caused to impinge against the bearings of said gears 32 and 33. The collars 37 are respectively provided with radial flanges 39'—39' formed for the reception of the operating levers 40. The operating levers 40 are pivotally connected to the bracket 41 by the bolts 42, while the free ends of the levers serve as handles for operating said clutch mechanisms.

To produce the required tension and friction of the operating cable 19, the upper drum 23 is adjustably supported from the upper end of the frame 21 through the shaft 43, vertical hangers 44—44, movable journal bearings 45 and adjustable screws 46, which adjustable screws 46 have threaded bearings in the lower ends 47 of said hangers 44, whereby by turning said screws 44 upwardly and downwardly the tension of the cable 19 may be increased or diminished at pleasure.

The outer end of the boom 3 is supported at any desired angle or elevation above its pivotal support 14 by the cable 48, one end of said cable being connected with the outer end of the boom through the bracket 49 and bolt 50, when it passes from thence over the pulley 51 and from thence over the pulley 52, and from thence to the drum 53. The pulley 51 is connected with the top of the frame 2 through the bracket 54, pivotal bolt 55, link 60 and pivotal bolt 61, while the pulley 52 is connected with the outer end of the boom through said bracket 49 and bolt 50, the drum 53 being centrally supported from and connected with the boom 3 through the bracket 62 and drum supporting bolt 63. 64 is a crank by which the drum 53 is revolved. 66 is a ratchet wheel connected at one end to said drum, and 67 is a pawl operating on said ratchet wheel and serves to hold the drum at any desired point of adjustment. The pawl 67 is piv-

otally supported at its lower end from the boom 3 upon the bolt 68, and its upper end is adapted to engage the teeth of said ratchet. Thus it will be understood that when desirous to raise the outer end of the boom the crank 64 is revolved from left to right, whereby the cable 48 will be wound upon the drum 53 until the boom is brought to the desired point of adjustment, when it will be retained at such point by the drum retaining pawl 67. By the reversed movement of the crank 64, the cable 48 is slackened and the boom 3 is lowered.

For convenience in discharging the contents of the receptacle 6, the bottom of said receptacle 6 is formed in two parts 68—68, which are pivotally connected with the sides of the receptacle by the bolts 69—69, and the opposing edges of said bottom members are supported in their closed position from the carriage 5 through the rods 70, bolt 71, link 72, bolt 73, crank arm 74 and shaft 75.

76 is a crank by which the shaft 75 is turned in its bearings. When the crank 76 is in the position shown in Fig. 1, the bottom members 68—68 are retained in their closed position. When, however, the crank 76 is turned toward the right, the crank arm 73 is carried past the vertical above the shaft 75, when it is permitted to turn beneath said shaft, whereby the bottom members 68—68 are moved from their closed to their open position, when the contents of the receptacle 6 is permitted to flow therefrom to the place of deposit.

Having thus described the invention, what I claim as new is:

1. In a device of the described class, the combination of a vertical frame, a *boom* pivotally supported near one end from said frame, *manually actuated means for revolving said boom* a partial revolution about its pivotal support, a track carried by the boom, a carriage mounted upon said track, *a cable operating along said boom and connected with the carriage*, a receptacle suspended from said carriage, means for communicating a forward and backward movement to said carriage, and means carried by the boom for raising and lowering the same.

2. In a device of the described class, the combination of a vertical frame, a plurality of *drums connected with the frame*, *a cable passing about said drums*, means for raising and lowering *one of the drums*, supported from the upper end of said frame, and thereby regulating the tension of the cable, a *boom* pivotally supported at one end from said vertical frame, manually actuated means for revolving *said boom* a partial revolution around its pivotal support, a track carried by said boom, a carriage mounted on said track, *the aforesaid cable being connected with the boom and with the carriage*, a receptacle *suspended from the carriage*, a *drum* mounted on the boom, a pulley connected with the upper end of the vertical frame, a cable connecting said last mentioned drum and pulley and a crank for revolving said drum whereby as said drum is revolved in opposite directions, said boom is adapted to be raised and lowered, all substantially as and for the purpose specified.

3. In a device of the described class, the combination of a vertical frame, a boom pivotally supported near one end from said frame, means for revolving said boom a partial revolution about its pivotal support, a track carried by the boom, a carriage mounted upon said track, a cable extending along said boom and connected with the carriage, a

receptacle suspended from said carriage, means for operating the cable and thereby communicating a forward and backward movement to said carriage, and means on the boom for causing raising and lowering movement thereof.

4. In a device of the described class, the combination of a vertical frame, a boom pivotally supported at one end from said frame, means for revolving said boom a partial revolution about its pivotal axis, a track carried by said boom, a carriage mounted on said track, and inclining downwardly and inwardly toward the axis of the boom to permit a receptacle supported by said carriage to move beneath said axis, a receptacle suspended from the carriage, means for communicating a forward and backward movement to said carriage, and means for raising and lowering the boom.

This specification signed and witnessed this day of , 1913, at .

RICHARD E. ROE.

Witnesses:

1. .....

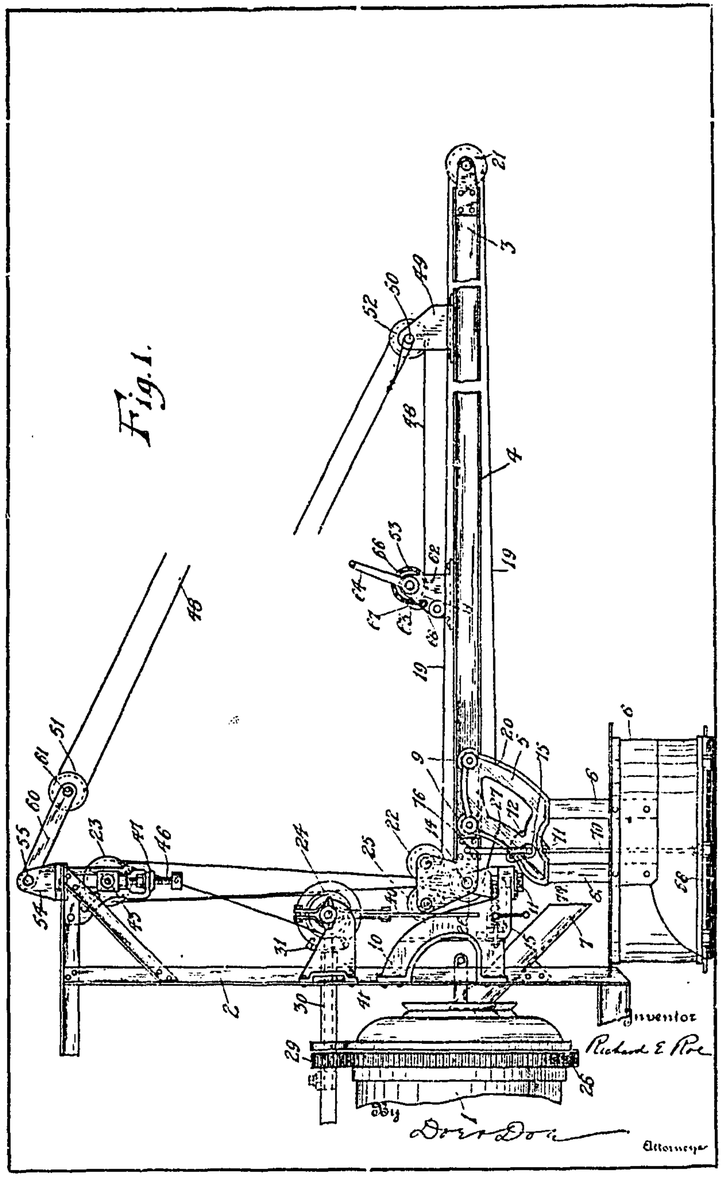
2. .....

OATH

County of Milwaukee, }
State of Wisconsin, } ss.:

Richard E. Roe, the above named petitioner, being duly sworn, deposes and says that he verily believes himself to be the original and first inventor of the improvement set forth and claimed in the foregoing specification and for which improvement he solicits a patent; that deponent does not know and does not believe that the said improvement was ever before known or used; that deponent is a citizen of the United States, and resides at Milwaukee, in the county of Milwaukee and State of Wisconsin; that deponent verily believes that the Letters Patent referred to in the foregoing petition and specification and herewith surrendered are inoperative and invalid, for the reason that the specification thereof is defective and insufficient and that such defect

Fig. 1.



Inventor
Richard E. Roe
By Dodge & Dodge
Attorneys

REISSUE APPLICATION DRAWINGS

Fig. 3.

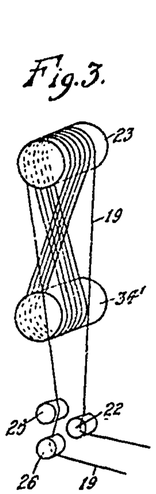
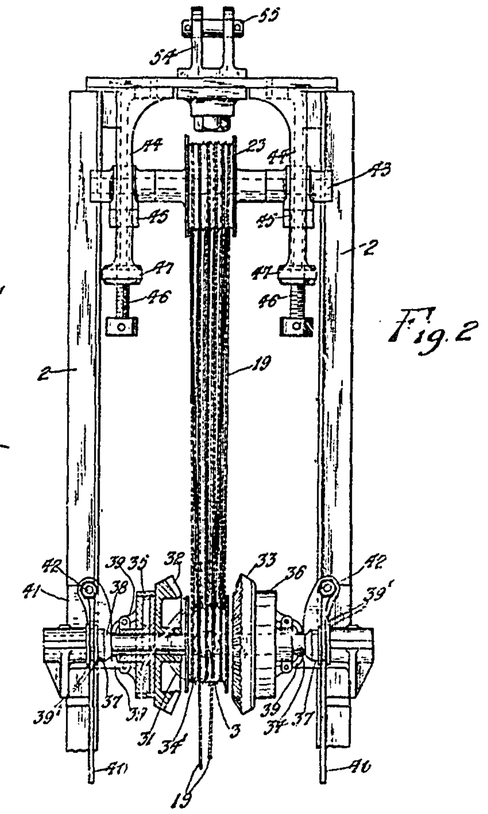


Fig. 2



Inventor
Richard E. Roe
By Dodge & Dodge
Attorneys

REISSUE APPLICATION DRAWINGS

Fig. 4.

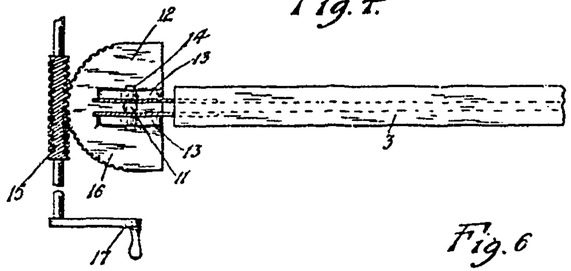


Fig. 6

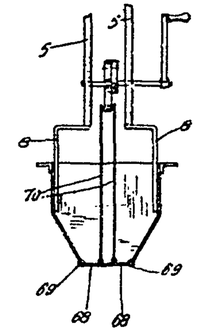


Fig. 5

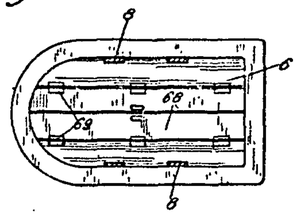
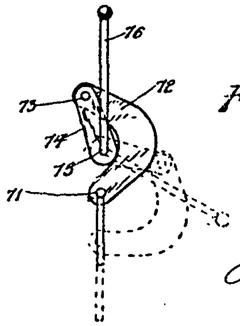


Fig. 7.



Inventor
Richard E. Roe
By Dodge & Dodge
Attorneys

REISSUE APPLICATION DRAWINGS

and insufficiency consists particularly in the failure to properly define the invention described and illustrated in the claims of the patent, which claims are drawn in terms which are not readable upon said invention, and therefore unintelligible, invalid and insufficient to protect the subject matter disclosed in said patent; the failure to completely describe the construction of the carriage supported by the swinging boom, and to claim the specific form of said carriage in combination with associated parts with which it cooperates; and deponent further says that the errors which render such patent so inoperative and invalid arose from inadvertence, accident and mistake, and without any fraudulent or deceptive intention on the part of deponent; that the following is a true specification of the errors which it is claimed constitute such inadvertence, accident and mistake, relied upon:

1. The erroneous recitation in claim 1 of "manually actuated means for revolving said frame"; the erroneous claiming of "a cable suspended from said carriage"; and the erroneous claiming of "a receptacle suspended from said cable," none of the above features being disclosed in the specification and drawings of deponent's intention.

2. The erroneous recitation in claim 2 of "a plurality of pulleys connected with the respective ends of the frame, means for raising and lowering the pulleys"; the erroneous recitation of "manually actuated means for revolving said frame"; the erroneous recitation of "a cable suspended from said carriage"; and the erroneous recitation of "a receptacle suspended from said cable;" none of the above features being disclosed in the specification and drawings of deponent's invention.

3. The omission from the specification of deponent's patent of a specific and distinct claim or claims to the parts, improvements and combination which he regarded as his invention and discovery.

4. The absence from the specification of description developing the peculiarly inclined or canted formation of the carriage whereby said carriage is movable in order to bring the receptacle 6 into a position adjacent to the mixing drum 1, as set forth in line 51 of page 1 of said specification.

5. The failure to claim the specific construction of the carriage 5 in combination with associated parts of the general distributing mechanism or crane.

6. The failure to claim specifically the utilization of an operating means mounted on the boom 3 for raising and lowering said boom, combined with the general instrumentalities controlling the swinging of said boom and the movement of the carriage and receptacle longitudinally of the same.

That the errors so particularly described arose as follows:

The original patent herewith surrendered was procured by deponent through attorneys who had exclusive charge of the framing of the specifications, claims and drawings for the application upon which said patent issued. At the time of filing the application of said patent deponent avers that the specification, claims and drawings of his invention properly disclosed the same so far as he was able to judge without being skilled in the preparation and construing of patent cases. During the prosecution of the said patent by deponent's attorneys, various alterations in the claims of the original application appear to have been made and in no instance were said alterations or amendments submitted to deponent for his consideration or approval. At a certain period in the prosecution of the aforesaid application the claims of the patent appear to have been made of record and defined deponent's invention in terms which are not readable upon the disclosure of said invention in the patent specifications and drawings. The incorrectness and inadequacy of the claims of said patent appear to have been due to accident or mistake and inadvertence upon the part of said attorneys in the preparation of said claims and the prosecution of deponent's invention.

Deponent further says that within a few days after receipt of his patent Number 1,063,268 he reviewed said patent with the aim of studying the same and obtaining a general understanding of the subject matter of the claims granted in said patent. During said review deponent was led to believe that the claims of said patent embodied terms which were not applicable to the machine disclosed therein, whereupon deponent, on June 14th, 1913, instructed his attorneys, Messrs. Doe & Doe of Washington, D. C., to make a report as to whether the claims of his patent properly covered the subject matter of his invention. As a result of the foregoing instructions deponent was promptly advised by the last named attorneys that apparently through inadvertence, accident, or mistake the Letters Patent aforesaid were inoperative and invalid to cover the invention disclosed thereby and that in order to protect properly the said invention it would be necessary to reissue said Letters Patent. Deponent therefore immediately began instructions to his attorneys to prepare this reissue application so that no time might be lost in the preparation of the same and its lodgment in the Patent Office at Washingon, D. C.

Deponent further says that the accompanying amended specification and drawings have been fully and carefully examined by him and that they are correct and give an accurate disclosure

of his invention as it was originally made and which it was deponent's purpose to have protected by his original patent.

.....

Sworn to and subscribed before me this day of , 1913.

.....

Notary Public, Milwaukee County, Wis.

NOTE: In respect to this form of reissue the following comments will be instructive:

The specification actually used is a copy of that of the printed grant suitably cut up and provided with interlineations in typewriting readily showing to the Examiner, and to a court if later necessary, the alterations and additions incorporated.

No attempt has been made to alter the original, respecting choice of language of the applicant's first attorneys, except regarding the selection of totally inapt terminology, for it is desirable not to change an original patent by reissue save in absolutely necessary particulars.

The new terminology is italicized in the first two claims.

The original claims, two in number, are given to show the amendments made thereto by the reissue and relation of certain entirely new claims inserted in the reissue, namely claims 3 and 4.

CLAIMS OF ORIGINAL PATENT OF THIS REISSUE
(These are supplied to show defects)

1. In a device of the described class, the combination of a vertical frame, manually actuated means for revolving said frame a partial revolution around its pivotal support, a crane pivotally supported at one end from said frame, a track carried by said crane, a carriage mounted upon said track, a cable suspended from said carriage, means for communicating a forward and backward movement to said carriage, and means carried by said crane for raising and lowering the same.

2. In a device of the described class, the combination of a vertical frame, a plurality of pulleys connected with the respective ends of said frame, means for raising and lowering the pulleys, supported from the upper end of said frame, and thereby regulating the tension of a cable, manually actuated means for revolving said frame a partial revolution around its pivotal support, a crane pivotally supported at one end from said vertical frame, a track carried by said crane, a carriage mounted on said track, a cable suspended from said carriage, a receptacle suspended from said cable, a drum mounted on said crane, a pulley connected with the upper end of said vertical frame, a cable communicating between said drum and pulley, and a crank for revolving said drum, whereby as said drum is revolved in opposite directions, said crane is adapted to be raised and lowered, all substantially as and for the purpose specified.

The drawings were exact duplicates of the original except for the signatures.—Author.

XVIII

A TYPICAL SPECIMEN OF FILE WRAPPER CONTENTS OF A DESIGN PATENT APPLICATION INCLUDING PETITION FOR EXERCISE OF SUPERVISORY AUTHORITY OF COMMISSIONER*

(Exemplifying prosecution of such application)

PETITION

To the Commissioner of Patents:

Your petitioners, Edwin O. Roe and Edwin W. Roe, citizens of the United States, and residents of Saginaw, in the County of Saginaw, and State of Michigan, and Yuma, in the County of Yuma, and State of Arizona, respectively, whose post-office addresses are 707 Lyons Street, Saginaw, Michigan, and Box 82, Yuma, Arizona, respectively, pray that Letters Patent of the United States may be granted to them for a term of three and one-half years, for the new, original and ornamental design for a COMBINATION STUDY CHAIR set forth in the annexed specification.

And they hereby appoint

Messrs. DOE & DOE (a firm consisting of J. F. & H. C. Doe), Southern Building, Washington, D. C., Registration Number 7987, their attorneys, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to sign their name to the drawing, to receive the patent, and to transact all business in the United States Patent Office connected therewith.

Signed at Saginaw, in the County of Saginaw, and State of Michigan, this 10th day of March, 1914.

EDWIN O. ROE.

Signed at Yuma, in the County of Yuma, and State of Arizona, this 15th day of March, 1914.

EDWIN W. ROE.

* See Klemm & Schreiber, Design Patent No. 47464, June 15, 1915.

Specification

To all whom it may concern:

Be it known that we, Edwin O. Roe and Edwin W. Roe, citizens of the United States, residing at Saginaw, in the County of Saginaw, and State of Michigan, and Yuma, in the County of Yuma, State of Arizona, respectively, have invented a new, original and ornamental Design for A COMBINATION STUDY CHAIR of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

Figure 1 is a front perspective view of a combination study chair embodying our design; and

Figure 2 is a rear perspective view of the same.

We claim:

The ornamental design for a combination study chair as shown.*

Edwin O. Roe.
Edwin W. Roe.

Oath

State of Michigan, }
County of Saginaw, } ss.:

State of Arizona, }
County of Yuma, } ss.:

Edwin O. Roe and Edwin W. Roe, the above named petitioners, being duly sworn, depose and say that they are citizens of the United States, and residents of Saginaw, in the County of Saginaw, and State of Michigan, and Yuma, in the County of Yuma, and State of Arizona, respectively; that they verily believe themselves to be the original, first and joint inventors of the design for a combination study chair, described and claimed in the annexed specification; that they do not know and do not believe that the same was ever known or used before their invention thereof, or patented or described in any printed publication in any country before their invention thereof, or more than two years prior to this application, or in public use or on sale in the United States for more than two years prior to this application; that said design has not been patented in any country foreign to the United States on an application filed by them or their legal representatives or assigns more than four months prior to this

*A better form of claim might read: The ornamental design for a combination study chair, a typical form of which is shown.

Fig. 1.

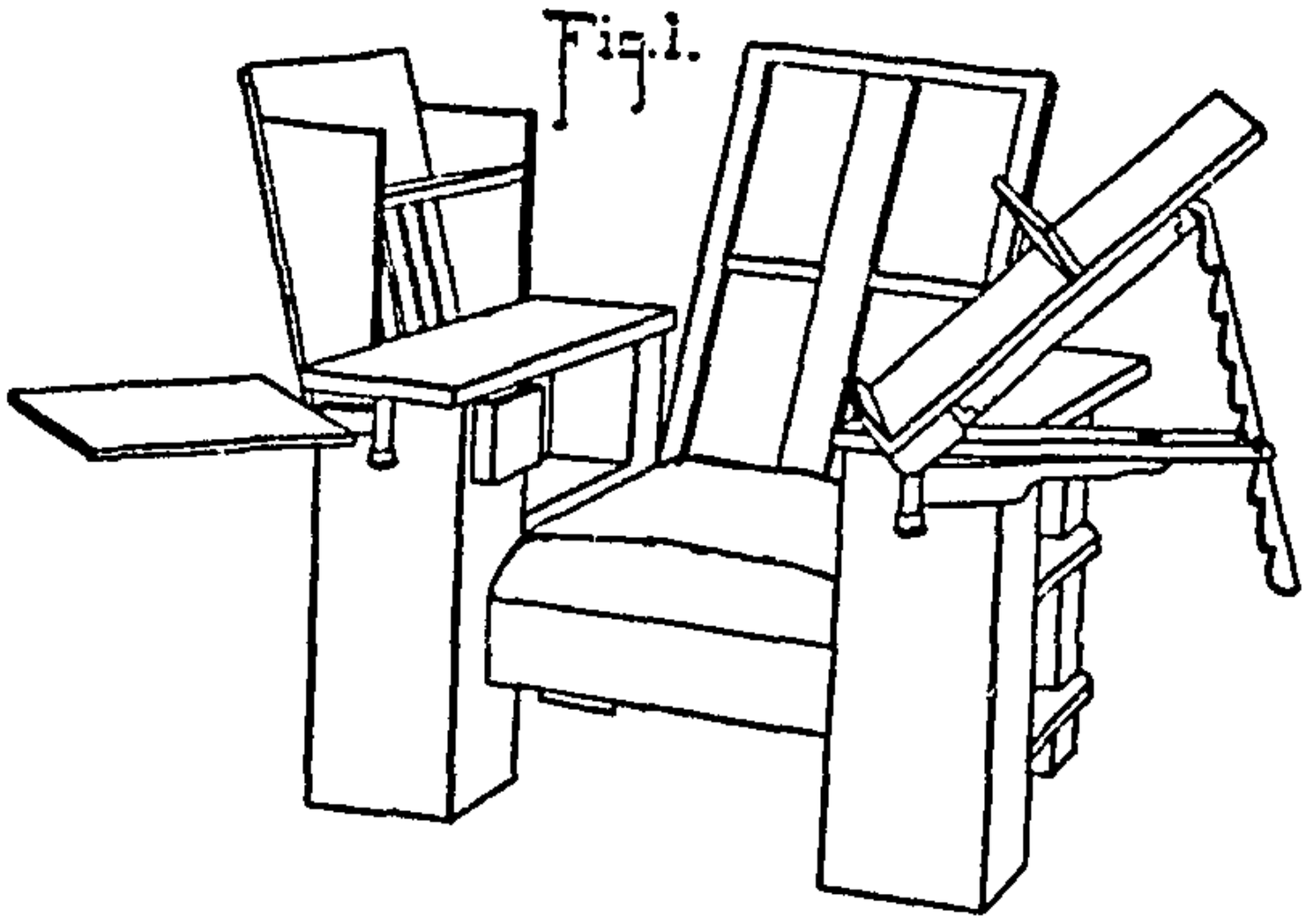
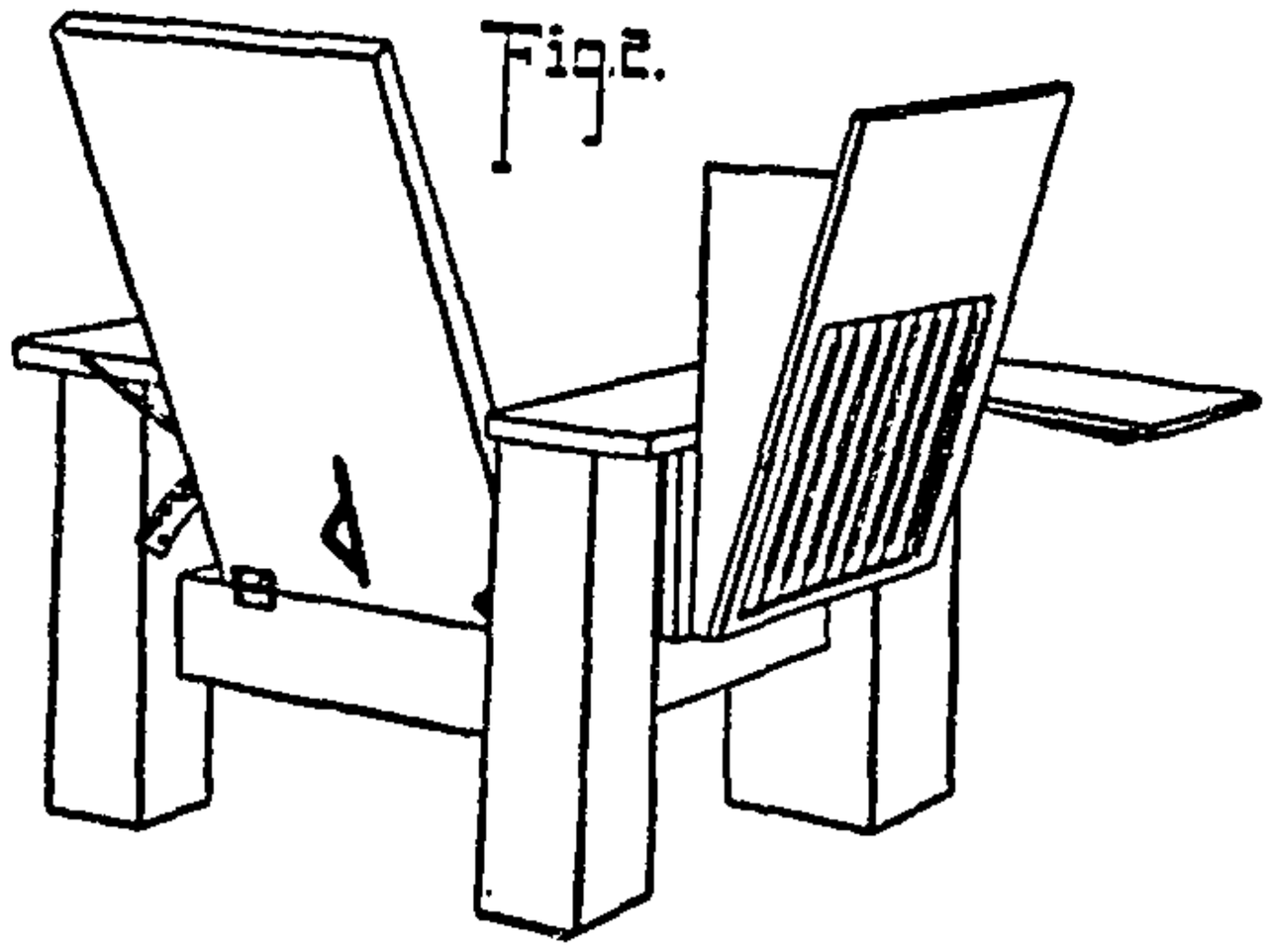


Fig. 2.



Inventors

Edwin O Rose
Edwin H Rose

By Dorr Dorr

Attorneys

DESIGN APPLICATION DRAWING

application, and that no application for patent on said design has been filed by them or their representatives or assigns in any country foreign to the United States.

EDWIN O. ROE.
EDWIN W. ROE.

Sworn to and subscribed before me by Edwin O. Roe this 10th day of March, 1914.

GERTRUDE ROEHER,
Notary Public.

(Seal)

Sworn to and subscribed before me by Edwin W. Roe, this 15th day of March, 1914.

JACKSON TALCOTT,
Notary Public.

(Seal)

Room 163. Paper No. 2. Rej.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington

April 29, 1914.

Doe & Doe,
Southern Building,
Washington, D. C.

Please find below a communication from the EXAMINER OF TRADE-MARKS AND DESIGNS regarding the application of Edwin O. Roe and Edwin W. Roe, for design for Combination Study Chair, filed Mar. 21, 1914, Serial No. 826,419.

THOMAS EWING,
Commissioner of Patents.

The design disclosed by applicant is held not to present proper subject-matter for design patent protection for the reason that it illustrates an article made up of numerous movable or adjustable parts. It is believed that, as shown, this case falls within the class of cases inhibited in the following decisions: ex parte Kapp & Kapp, 83 O. G., 1993; ex parte Tallman, 82 O. G., 337; ex parte Smith, 81 O. G., 969; ex parte W. S. Adams, 84 O. G., 311; and ex parte Steck, 98 O. G., 228. It is believed that the article forming the subject-matter of applicants' case presents novel features, although in its present form it is held that same is not patentable under the design section of the statute for reasons above pointed out.

The claim is therefore rejected and a patent refused. This application would seem to be allowable when the objection above pointed out has been remedied.

.....,
Examiner of Trade-Marks and Designs.

IN THE UNITED STATES PATENT OFFICE

E. O. Roe, and E. W. Roe
Design for Combination Study Chair
Filed March 21, 1914
Serial No. 286,419
Last Office Letter—April 29, 1914 Room 163.

Hon. Commissioner of Patents,
Washington, D. C.
Sir:—

Counsel have given very careful consideration to the official action above mentioned, as well as the decisions therein mentioned, and respectfully request that the case be given the Honorable Examiner's reconsideration having in view the following remarks.

It is noted that the Examiner holds that the present design illustrates an article made up of numerous movable or adjustable parts but does not make the statement sufficiently specific to enable counsel to adequately consider whether the Examiner has a true conception as to what is movable and what is not movable in the article. The purport of all the decisions which the Examiner cites, and of his rejection of this case, appears to be that merely because the article consists of such movable parts, it is, therefore, not subject-matter for design protection.

Counsel are, however, unable to reconcile either these decisions or the present rejection with the practise of the Office as disclosed by the grant of patents extending over a considerable period of time subsequent to the rendition of these decisions. Furthermore, as the Examiner will appreciate, the movement of elements of the articles of the design can only be apparent because there is no specific mention or suggestion in the claim or application that parts of the device have any movement. It may be mentioned that one of the leading decisions cited by the Examiner states:

> In the case of a single article of manufacture there may be some relative movement of the parts without changing the appearance of the article or taking it outside of the design law.

This would appear to counsel to support the contention that the present design is a single article of manufacture, and that a slight relative movement of one or more of its members would not prevent grant of patent therefor. In connection with the above remarks, counsel refer the Examiner to the fact that patent after patent has been granted for designs for stoves, as an instance, and there can be no question that said design patents show doors which are movable, and, when opened, would certainly alter the design in a very much more significant manner than if one of the stands connected to the chair of applicants' article were moved forwardly or backwardly, assuming that such could be done. Counsel's contention is that to move a stand on this chair does not in any way change the contour or the design involved. Many other patents might be referred to along this line but particular mention is made of the patent No. 45,746, for a cabinet brush, just granted. This brush consists of a body portion having a cover which is hingedly connected thereto, and which is shown in the drawing to be movable into a position opening the receptable in the body of the brush. It is too significant to point out particularly how clearly this patent shows a part which is movable, and once moved, considerably changes the design of the article of manufacture. There can be no question that when the cover of the brush is closed there is an entirely different design from that disclosed when the cover is open, so that the grant of the patent indicates clearly that applicants' article of manufacture is also within the practise warranting the grant of design patent therefor.

It is hoped that in view of the foregoing remarks favorable consideration will be granted the present application, but should the Examiner take a contrary position, he is respectfully requested to make specific his objection in regard to the parts so that proper action may be taken in the case.

Respectfully submitted,
DOE & DOE,

Attorneys for Roe and Roe.

May 22, 1914.

ROOM 163 Paper No. 4 B.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington

June 4, 1914.

Doe & Doe,
Southern Bldg.,
Washington, D. C.

Please find below a communication from the EXAMINER OF TRADE-MARKS AND DESIGNS regarding the application of Edwin O. Roe and Edwin W. Roe, for design filed March 21, 1914, Ser. No. 826,419.

THOMAS EWING,
Commissioner of Patents.

This case has been further considered in connection with the argument filed May 22, 1914.

In response to applicants' request that the Office point out the particular features deemed to be objectionable in the disclosure of the design in the several figures of the drawing, the Examiner would say that, in his opinion, the adjustable book rest and shelf shown as mounted opposite each other at the front of the chair just below the side arms are objectionable in view of the reasons and decisions noted in former Office letter. The objections urged in former Office letter are accordingly repeated.

The claim is therefore rejected and a patent refused. This application would seem to be allowable when the objections pointed out above have been remedied.

A Typical Specimen of a Petition to the Commissioner of Patents in Person for Exercise of Supervisory Authority*

(Inclusive Examiner's Statement, Briefs and Decision)

IN THE UNITED STATES PATENT OFFICE

Roe & Roe
Design for Combination Study Chair
Filed March 21, 1914
Serial Number 826,419

PETITION TO THE HONORABLE COMMISSIONER OF PATENTS

from the

HONORABLE EXAMINER OF TRADE-MARKS AND DESIGNS

Your petitioners respectfully aver:

First: That they are the applicants in the matter of the above entitled application for design letters patent.

Second: That on April 29, 1914, the Examiner of Trade-Marks and Designs made the following action on said application, i.e.,

> "The design disclosed by applicant is held not to present proper subject-matter for design patent protection for the reason that it illustrates an article made up of numerous movable or adjustable parts. It is believed that, as shown, this case falls within the class of cases inhibited in the following decisions: ex parte Kapp & Kapp, 83 O. G., 1993; ex parte Tallman, 82 O. G., 337; ex parte Smith. 81 O. G., 969; ex parte W. S. Adams, 84 O. G., 311; and ex parte Steck, 95 O. G., 228. It is believed that the article forming the subject-matter of applicants' case presents novel features,

* See ex parte Klemm & Schreiber, 218 O. G., 603.

> although in its present form it is held that same is not patentable under the design section of the statute, for reasons above pointed out.

Third: That petitioners made prompt response to the official action above noted requesting the Examiner to point out just which parts of petitioners' design should be deleted to conform with the Examiner's ideas of the requirements of the practise. Furthermore, petitioners at the same time argued for a waiver of the Examiner's ruling that petitioners' design was not submitted in proper form for the grant of Design Letters Patent on the main grounds that the practise of the Patent Office in recent years does not support the official objections, and that the latter are inconsistent with the true spirit and intent of the design patent law.

Fourth: That on June 4, 1914, the Examiner for a second time asserted the objections entered against the petitioners' design as presented in the drawing of their application, and while conceding the allowability of said design, the deletion of certain features was again required, from which requirement this petition is taken for the exercise by your Honor of your supervisory authority to remedy the chaotic condition of the design practise of the Patent Office.

The following are assigned as the grounds for this petition:

A The Examiners' objections in this case are based upon certain decisions of the Patent Office, namely,

Ex parte Kapp & Kapp,	83 O. G., 1993
Ex parte Tallman	82 O. G., 337
Ex parte Smith,	81 O. G., 969
Ex parte W. S. Adams,	84 O. G., 311
Ex parte Steck,	95 O. G., 228

B The above decisions are inconsistent with one another, and not in conformity with the spirit of the design patent law of the Revised Statutes of the United States.

C The above decisions have been so frequently ignored or misconstrued, during the thirteen years since the last one was rendered, that patent after patent has been granted in non-conformance with the said decisions, until to-day the prospective applicant for a design patent is confronted with a condition absolutely preventing an intelligent determination of the patentability of *designs for articles of manufacture comprising more than one*

part. (Reference is directed to copies of design patents annexed to appended brief as indicative of the inconsistencies of legal construction incidental to the grant of such patents at the present time.)

D The design patents noted below, all granted during the period of pendency of petitioners' application, namely within the last few months, establish either that the decisions relied upon as a basis for the objections to petitioners' disclosure are of no force and effect, or that there is one design patent law for one applicant, and a different law for another. Reference is made to design patents

No. 45,746 June 23, 1914
No. 45,977 June 23, 1914
No. 46,120 July 21, 1914
No. 46,109 July 21, 1914
No. 46,187 July 28, 1914
No. 46,150 July 21, 1914

(N. B. Copies of these patents are annexed to petitioners' brief filed herewith.)

E The only decision of the United States Courts that appears to have been rendered touching on the issue in this case is Chandler Adjustable Chair & Desk Co. *vs.* Heywood Bros. & Wakefield Co., 91 Fed., 163, and this authority completely overrules the Patent Office decisions of ex parte Tallman, ex parte Smith, ex parte Adams, relied on by the Examiner to support his objections in this case, along with a few other decisions of practically the same import.

Wherefore, your petitioners respectfully pray:

First: That the Examiner be advised that petitioners' design for Study Chair, as exhibited by their patent drawing, is as a whole a patentable design for a single article of manufacture, and may therefore be allowed without deletion of any portion or portions thereof; and

Second: That the future practise of the Patent Office should be in accord with the decision in Chandler Adjustable Chair & Desk Co. *vs.* Heywood Bros. & Wakefield Co., 91 Fed., 163, wherein the Court held as follows:

The broad proposition advanced by the defendant that section 4929 of the Revised Statutes was not intended to apply to structures having movable parts is not supported by the citation of any judicial decision; and though certain rulings of the Patent Office (ex parte Tallman, ex parte Adams,

ex parte Smith, ex parte Brower) are presented to support this proposition, I am of the opinion that such a construction of the statute calls for an unwarranted and unreasonable limitation of the terms "manufacture" and "any article of manufacture" and leads to absurd and unjust results. For instance, such a construction would defeat claims like those in Burton *vs.* Town of Greenville 3 Fed. 642, and Britton *vs.* Manufacturing Co. 61 Fed. 94. To the objection of the defendant that the parts have no necessary single, infallible, and fixed relations to each other, it is sufficient to say that the complainant *describes* and shows in his drawing a single and definite arrangement of parts. Therefore, even upon the narrowest construction of his patent, he is *prima facie* entitled to the design, configuration, or shape, resulting from that special arrangement of parts exhibited in the drawing.

It is requested that a date be set for an oral hearing on this petition.

Respectfully submitted,
EDWIN O. ROE & EDWIN W. ROE.
By Doe & Doe,
Attorneys.

Washington, D. C.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington
Sept. 3, 1914.

Sirs:

The case of Roe & Roe,
Combination Study Chair } Petition.

Serial No. 826,419, will be heard by the Commissioner on the 10th day of September, 1914, at 10:15 A. M.

The hearings will commence at ten o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;

Motions, thirty minutes, each side;

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,

THOMAS EWING,
Commissioner of Patents.

(N. B.—This hearing will be held before Mr. Newton.)

To Doe & Doe,
Southern Bldg.,
Washington, D. C.

JHC.—F. Paper No. 7.

UNITED STATES PATENT OFFICE

Application of Edwin O. Roe and Edwin W. Roe Design for Combination Study Chair Filed March 21, 1914 Serial No. 826,419 Southern Building Attorneys: Doe & Doe Washington, D. C.	Before the Commissioner on Petition

EXAMINER'S STATEMENT

This is a petition by the applicants from the refusal of the Examiner to allow this application on the ground that the device shown in the drawing is not proper subject-matter for a patent, by reason of the practise announced in the following decisions:

Ex parte	Brower,	4 O. G.,	450
Ex parte	Haggard,	80 O. G.,	1126
Ex parte	Smith,	81 O. G.,	969
Ex parte	Tallman,	82 O. G.,	337
Ex parte	Brand,	83 O. G.,	747
Ex parte	Steck,	98 O. G.,	228
Ex parte	Kapp & Kapp,	83 O. G.,	1993

At the outset it may be stated by the Examiner that the decision on this question is one which, it is believed, relates to the merits and in the first instance is appealable to the Examiners-in-Chief; that is to say, it is not petitionable to the Commissioner. (See, for instance, ex parte Goldsoll, 189 O. G., 523.) It is noted, however, that the applicants seek the exercise of supervisory authority by the Commissioner. It will therefore be treated by the Examiner on its merits.

From the decisions cited above, it is gathered by the Examiner that the general rule is that the structure embodying a design must be a unitary one; that is to say, the several parts thereof must not have a relative movement with respect to each other. When the present Examiner first had occasion to consider this question, he found that the rule had been interpreted by his predecessors in such a way that it could not be easily understood. Moreover, it seemed to the Examiner that there was a tendency in the division to construe the rule somewhat strictly. After careful consideration and discussion, the present Examiner concluded that the rule laid down in these cases was not intended to apply except where the relative movement of the several parts was such that the design as a whole was substantially different when the several parts were moved to their maximum extent. In such a case, where the effect produced on the eye was different, an attempt was made to apply the rule. In practise, it is exceedingly difficult to draw the line and practically impossible to be consistent in all cases. Nevertheless, the fact remains that under the practise announced in these decisions cited, some line must be drawn by the Examiner. In the case here under consideration, it is believed that it falls within the rule announced in the decisions *supra*, interpreted as explained above.

The Examiner joins with the applicants in hoping that some way may be found by the Commissioner to render the practise simpler and less difficult of application. This is not the first time that the Commissioner has been called upon to consider this question. Such a case was ex parte Clarence H. Dunlap, Ms. D. 113, p. 191. In that case the Examiner requested that:

> either the decisions be overruled, or that a practise which the Commissioner believes to be in accordance therewith be indicated for the instruction of the Examiner.

The First Assistant Commissioner, in granting the petition, stated in part as follows:

> It is difficult to lay down a hard and fast rule in cases of this character and the Examiner should be governed by the statute, rules and decisions and the fundamental principles upon which the statute is founded.

It is believed that the action of the Examiner in refusing this application was proper.

Very respectfully,

CARNES.

Examiner, Trade-Marks and Designs.

Sept. 5, 1914.

IN THE UNITED STATES PATENT OFFICE

Roe & Roe
Design for Combination Study Chair
Filed March 21, 1914
Serial Number 826,419

SUPPLEMENTAL BRIEF IN SUPPORT OF PETITIONERS

It is desired, after a review of the Examiner's statement disclosing matters unknown to counsel, to draw your Honor's attention to the fact that the Examiner himself joins with the applicants or petitioners in this case in hoping that some way may be found by your Honor to render the practise simpler and less difficult of application.

This petition has not been brought in any spirit of criticism of the Examiner of Designs, but merely with the aim of establishing, if possible, definiteness of the practise. As noted by the Examiner it appears that some recent case has been decided bringing up certain questions raised by this petition and in that particular case the Examiner asked that the decisions in view of which this petition is taken be overruled. Certainly it would seem time to take the above step because the practise does not follow the decisions in question and nearly all of them are virtually dead in so far as applicability to present conditions is concerned.

We failed to reach the conclusion of the Examiner, in his statement that the rejection of this application was proper for the very reason that said conclusion is not based upon what we believe to be a proper premise, something which is conceded by the Examiner himself.

Finally, in respect to the suggestion of the Examiner that the rule laid down in the cases hereinbefore mentioned is not intended to apply except where the relative movement of several parts is such that the design as a whole is substantially different, affords no basis for the grant of certain of the design patents, copies of which were submitted with our main brief filed with the petition. In other words, in several of the prior design patents recently granted, if the parts are moved to their maximum extent the whole general appearance of the design would be destroyed, something which can not be alleged to the design of applicants' STUDY CHAIR.

Respectfully submitted,

DOE & DOE,
Attorneys for Roe & Roe.

September 10, 1914.

IN THE UNITED STATES PATENT OFFICE

Roe & Roe
Design for Combination Study Chair
Filed March 21, 1914
Serial Number 826,419

Before the Honorable Commissioner of Patents

BRIEF IN SUPPORT OF PETITIONERS

The questions presented by this petition relate solely to that type of design inventions which are composed of a plurality of parts. We deem these questions to be especially serious owing to the present condition of the design patent practise, which as outlined in the formal petition filed herein, must be conceded to be in a very chaotic condition such as to render it impossible for even the most expert practitioners before the Patent Office to arrive at intelligent conclusions regarding the patentability of designs of the class referred to.

The first and foremost object in view in the presentation of this petition for your Honor to exercise your supervisory authority, is the establishment on the part of the Patent Office of some uniform procedure in respect to the grant of patents for articles of manufacture comprising a number of parts.

Where an article of manufacture consists of a single part only, the practise is well settled that if the construction of such an article of manufacture is such as to appeal to the artistic sense, and has required the exercise of the inventive faculty in its conception, its patentability must be conceded. Relative to such articles of manufacture as embody a plurality of parts, however, there appear to be other conditions than those incidental to determining the patentability of an article of manufacture embodying a single part or unit.

Counsel for petitioners have made a very faithful review of the entire line of decisions controlling the particular subject now presented to your Honor for determination, and a survey of all of said decisions whether they are for or against the contentions of petitioners which may be hereinafter advanced, will be given after a brief consideration of the applicants' design invention.

APPLICANTS' DESIGN

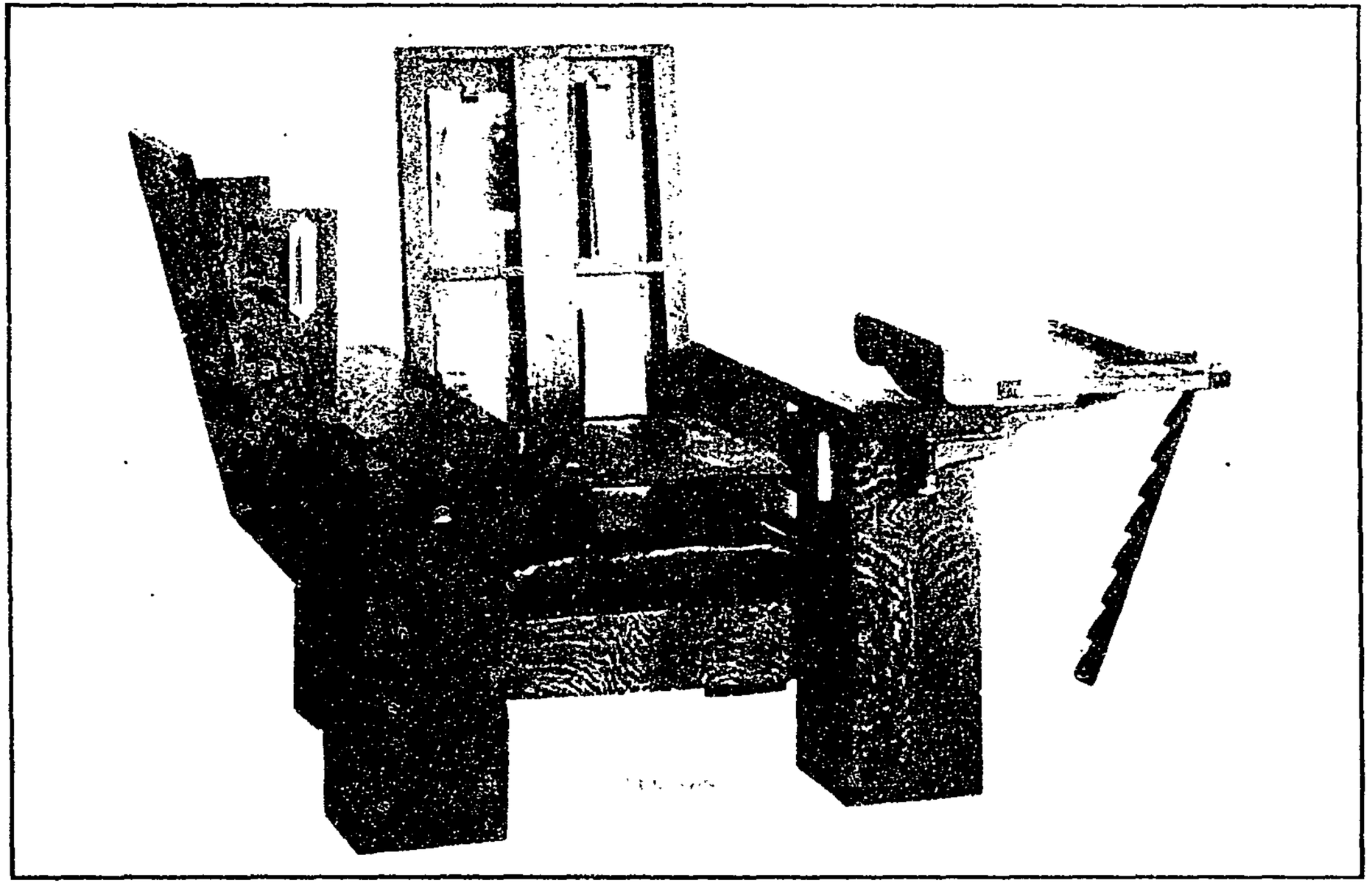
The design of petitioners consists of what is called a study chair and is an article of furniture having some similarity to what is known as the ordinary Morris chair. The design is depicted by two views on a single sheet of drawings, looking at the chair from the front and from the rear. In his actions on this

case the Examiner of Trade-Marks and Designs concedes the patentability of applicants' design for chair as a chair, with the exception, however, that objection is raised to the inclusion in the design of a certain stand carried by the right arm or pedestal of the chair and projecting outwards therefrom, and with the further exception of a book support or rest structure mounted upon the left arm or pedestal of the chair, reference being made to the front perspective view of the drawing. On the right arm or pedestal of the chair is mounted a movable drawer, and the back of the chair is of the adjustable type permitting of reclining of the occupant when desirable. The Examiner in stating his objection says as follows:

> the adjustable book rest and shelf shown as mounted opposite each other at the front of the chair just below the side arms are objectionable in view of the reasons and decisions noted in former Office letter.

It is suggested by the Examiner that if these objectionable features be removed the application would be allowable.

The question before your Honor for determination in brief, therefore, is: Does the petitioners' chair as shown in the drawings comprise a single article of manufacture within the contemplation of the design patent law and is it susceptible of protection as such? Certainly it is true that the chair of the design of petitioners is a complete article of manufacture designed for a particular purpose, namely with a view to having all accessories required for the purposes of facilitating study, the accessories comprising primarily supports of different kinds for books, papers, etc., and the absence of any one of which supports would create incompleteness of the article of manufacture. Figure 1 of the drawings discloses the use of an adjusting brace for the book support at the left and while no claim is made for any moving parts, in accordance with the latest design patent practise, petitioners would not attempt to maintain the assertion that it is not contemplated that the book rest be susceptible of slight adjustments determinable possibly by the size of the person sitting in the chair, and other considerations of comfort or the like. WE DO RESPECTFULLY MAINTAIN, HOWEVER, THAT IF THE BOOK REST OF THE STRUCTURE SHOWN IN PETITIONERS' DESIGN IS MOVED UP A FEW INCHES OR DOWN A FEW INCHES THE GENERAL DESIGN OF THE CHAIR, HIGHLY ARTISTIC IN EVERY RESPECT, IS PRACTICALLY UNCHANGED, SEE ANNEXED PHOTOGRAPH. While the book rest is being used, it, of course, is maintained at some inclined adjustment.



DESIGN AS COMMERCIALLY BUILT

It is contemplated, of course, that in packing the chair for shipment the book-rest as a whole might be taken off of the chair proper and this is true in respect to the typewriter stand on the right pedestal of the chair.

The Prior Decisions

The Examiner has based his objections to petitioners' design on certain decisions of the Patent Office, all of which were rendered by the several Commissioners involved, on petitions taken by applicants for the exercise of the Commissioner's supervisory authority. It is for this reason, primarily, that we have filed a petition to your Honor in this case, the questions involved being thought to be of such a serious and acute nature as must require the ultimate consideration of Your Honor and the sooner they are raised the better, for reasons now to be presented.

Practically all of the decisions referred to are quite old, the last one being rendered by Honorable Commissioner Allen in 1901, so that in so far as we are advised there has been no recent adjudication of the points now raised nor do we believe that the conditions of the practise have required such an adjudication until comparatively recent years, during which the proposition of the protection of articles of manufacture embodying a number of parts has been again and again presented to the Patent Office.

About the first decision to which reference may be made is that of ex parte Smith, 181 O. G. on petition by Acting Commissioner Greely and involving a design for atomizer. The specification described "handle 5 and rod 6 which may be more or less withdrawn or forced into the body of the atomizer and to this extent will vary the appearance of the instrument." In this case the Examiner called the atomizer a "highly organized machine" and the Commissioner held:

> The elements of any design should be of an unchanging character, since any change in these changes the shape or configuration of the whole . . . . the movable handle in this case should not be made an element of the design.

The design patents of Farlow, Fernandez, Apple, Simenson, Webb, and Webb, copies of which are appended hereto, certainly can not be said to be granted on the authority of the above decision. The atomizer held unpatentable as a design by Commissioner Greely would have maintained a far more unchanging character of configuration, on movement of its parts, than would be true in the case of any of the patents above mentioned.

Again, in ex parte Tallman, Commissioner Greely held:

> The design law was never intended to apply to structures having movable parts.
> The effect of a movable part . . . . is to change the form or contour of the structure as the part is shifted.

There is no possible ground for equivocation as to the meaning of the above decision which was rendered in reference to a can-opener, the only movable part of which was a blade holder which could not possibly have changed the general configuration of the device by any movement.

The grant of all of the design patents, copies of which are appended hereto, is an infraction of the Commissioner's ruling in the above decision which was supplemented by a further holding as follows:

> If his (applicant's) intention were to make the device all in one piece, as by casting, a claim for the structural design might be proper; but it is obvious that at present as the knife is shifted the form or contour of the article will be changed.

In the case of ex parte Kapp & Kapp, Honorable Commissioner Duell held that the applicant instead of inventing a pair of tongs really was entitled to protection for one of the members or jaws of the tongs, and required the description and the design to be limited accordingly, stating:

> In requiring this limitation applicants have not been deprived of any of their rights.

The foregoing is entirely true where a pair of tongs is involved in which both of its members are identical, but the grant of every one of the design patents of recent date above referred to is an infraction of this decision also.

In connection with the foregoing decisions counsel desire to bring out the fact that the Examiner is insisting upon the present petitioners adhering to said decisions whilst patent after patent is being granted inconsistent with said decisions.

There is another case, ex parte Brand, 83 O. G., 747, not mentioned by the Examiner, where the Commissioner held:

> A design must be a single unchangeable article of manufacture and must not be made up of independent detachable parts.

The doctrine above established is not adhered to to-day in the practice in any sense whatever and certainly may be considered as dead law.

Honorable Commissioner Allen in ex parte Steck held:

> A machine is not patentable as a design. Under the express provisions of the law a design patent is limited to an "article of manufacture" and there is no warrant for granting such a patent upon a machine whose parts bear certain functional relations to each other.

By any ordinary acceptation of the word "machine" it must be held that the Farlow, the Wright, the Apple, Bump, Simenson, Webb, and Webb patents embodying as they all do parts bearing certain functional relations, relatively movable, etc., are grants of design protection in absolute derogation of the doctrine pronounced in the last quoted authority. In said decision there was a limitation of the breadth of the Commissioner's meaning according to his following statement:

> In the case of a single article of manufacture there may be some relative movement of the parts without changing the appearance of the article or taking it outside of the design law; but nothing which amounts to a machine can come within the law whether or not the motion of the parts materially changes the appearance of the device as a whole.

The Only Pertinent Adjudication of the Courts Controlling the Proposition Herein Discussed

We refer for your Honor's careful consideration to the decision mentioned in the petition, Chandler Adjustable Chair & Desk Co. *vs.* Heywood Bros. & Wakefield Co., 91 Fed. 163, wherein was involved apparently the question of infringement of a design patent. The defense offered by the defendant was that the revised statutes were not intended to cover constructions embodying movable parts and therefore complainant's patent was invalid. The patent adjudicated was design patent No. 21,272 issued in 1897. The Court's decision was rendered in overruling a demurrer of the defendant and was as follows:

> The broad proposition advanced by the defendant that section 4929 of the Revised Statutes was not intended to apply to structures having movable parts is not supported by the citation of any judicial decision; and though certain rulings of the Patent Office (ex parte Tallman, ex parte Adams, ex parte Smith, ex parte Brower) are presented to support this proposition, I am of the opinion that such a construction of the statute calls for an unwarranted and unreasonable limitation of the terms "manufacture" and "any article of manufacture" and leads to absurd and unjust results. For instance such a construction would defeat claims like those in Burton *vs.* Town of Greenville 3 Fed. 642, and Britton *vs.* Manufacturing Co. 61 Fed. 94. To the objection of the defendant that the parts have no necessary single, infallible, and fixed rela-

tions to each other, it is sufficient to say that the complainant *describes* and shows in his drawing a single and definite arrangement of parts. Therefore, even upon the narrowest construction of his patent, he is *prima facie* entitled to the design, configuration, or shape, resulting from that special arrangement of parts exhibited in the drawing.

One of the adjudications referred to by the Court, namely Burton *vs.* Greenville 3 Fed. 642, involved the validity of a design patent No. 10,497, February 19, 1878, copy of which is also appended hereto. This design patent covered a street or park lamp wherein the lamps were supported for vertical movement on a post and carried by chains that are hidden by the post. The lamp in other words was practically a machine in that the lamps proper were susceptible of raising and lowering and when lowered certain parts were exposed to view not exhibited when the lamps were raised. Nevertheless, this patent was sustained, and the adjudication maintaining its validity, as well as the decision above quoted at length, are practically the only adjudications of the courts that have been rendered on points involved in this petition, and certainly sustain the position of petitioners that they are entitled to a design patent for the study chair as submitted in their application, without elimination of any parts of the construction thereof.

Conclusion

In conclusion we respectfully represent to your Honor that there is no basis in law or in reason for the arbitrary limitation of the scope of a design patent according to the prior decisions of the Patent Office which the Examiner of Designs presses as applicable to this case, but which decisions have not been followed in any fair sense whatever by the actual practise of the grant of design patents. There is no reason why a design patent should not as well cover a machine, or a structure composed of detachable or movable parts, as any other organization of parts. The test of infringement of a design patent is similarity in form or artistic design between the articles of the design patent and that alleged to infringe same. Certainly a machine constructed with a view to an appeal to the artistic or aesthetic is as much entitled to design patent protection as any other article of manufacture in the absence of any contrary provision of the law, and the purposes of the law may be just as well subserved in the protection of such designs as other designs of a more conventional nature in respect to unit construction. It is believed that the condition of the design patent practise to-day is such that the Examiner of Designs must indeed find himself in a difficult position to know just what

limitations he must place upon himself in the grant of design patents, and just how far he is entitled to go in extending the protection of the design law to machines or constructions embodying a number of parts but organized especially with a view to the artistic and the aesthetic. For the foregoing reasons, it is earnestly hoped that your Honor will consider this petition favorably and will lay down in a positive and unmistakable manner your interpretation of the law such that the present chaotic condition of the design practise may be removed, and a practise based on clear-cut construction of the law and on principles equitable to the public established.

Respectfully submitted,

DOE & DOE,
Attorneys for Petitioners.

Washington, D. C.

NOTE: Briefs on petitions of this character are filed at the oral hearing or with petition.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Washington

May 4, 1915.

In the matter of the Application of Roe & Roe Design for Combination Study Chair; Filed March 21, 1914 Serial No. 826,419	Petition.

Sirs:

Please find enclosed herewith a copy of a decision of the First Assistant Commissioner in the above entitled case.

By direction of the Commissioner.

Very respectfully,

W. F. WOOLARD,
Chief Clerk.

Roe & Roe,
Care of Doe & Doe,
Southern Building,
Washington, D. C.

Hearing: September 10, 1914. SET

IN THE UNITED STATES PATENT OFFICE

Ex parte Edwin O. Roe and Edwin W. Roe

Application for Design Patent

PETITION

Combination Study Chair

Application filed March 21, 1914, No. 826,419.

Messrs. Doe & Doe for applicants.

This is a petition from the rejection by the Examiner of a design claim for a chair having relatively fixed seat, arms, and legs, but an adjustable back, book rest, etc., the refusal being based on the ground that the device covered has relatively moving parts.

The rejection is appealable to the Board of Examiners-in-Chief, but since the Examiner has joined with applicants in requesting a ruling on this point, the petition will be considered on its merits.

I find a divergence in the trend of recent decisions of the Patent Office and those of the courts on this point. Symons on Patents for Designs, page 29, correctly gives the substance of the Office decisions as follows:

> In ex parte Smith (81 O. G., 969; 1897 C. D., 170), it was decided that an atomizer was not proper subject matter for protection under the design statute because of the presence of movable parts which when moved changed the appearance of the device. It apparently was the view of the Commissioner that if the movable handle was removed it would not be objectionable as presented and a patent was subsequently issued on this application for an atomizer body. (Design Patent No. 30,293, DeWane B. Smith.) In the case of ex parte Tallman (82 O. G., 337, 1898 C. D., 10) a design patent for a can-opener was refused on the ground that the knife forming a part of it was a movable part and when shifted the shape or contour of the article was changed. A patent for a can-opener body was subsequently issued on this application (Design Patent No. 28,232, Tallman). A pair of tongs consisting of two members of the same shape pivoted together is an operative device and not within the purview of the design laws. (Kapp, 83 O. G., 1993; 1898 C. D., 108.) In this case the Commissioner stated:
>
> If applicants have invented and produced anything that is novel, it is not a pair of tongs, but the shape or configuration of a member or jaw of a pair of tongs. The description and claim should be limited to this.

> In the case of ex parte Adams (84 O. G., 11), and ex parte Steck (98 O. G., 1228) a design for truck side frames and for a frame for water towers, respectively, were held not patentable in that they were apparatuses having movable parts.

On the other hand, Judge Brown in Chandler Adjustable Chair and Desk Co. *vs.* Heywood Bros. et al., 91 Fed. Rep. 163, in passing on design patent No. 27,272, held:

> The broad proposition advanced by the defendant, that section 4929 of the Revised Statutes was not intended to apply to structures having movable parts, is not supported by the citation of any judicial decision; and, though certain rulings of the Patent Office (ex parte Tallman, 82 O. G. 337; ex parte Adams, 84 O. G., 311; ex parte Smith, 81 O. G., 969; ex parte Brower [1873] C. D., 151) are presented to support this proposition, I am of the opinion that such a construction of the statute calls for an unwarranted and unreasonable limitation of the terms "manufacture" and "any article of manufacture," and leads to absurd and unjust results. For example, such a construction would defeat claims like those in Burton *vs.* Town of Greenville, 3 Fed. 642, and Britton *vs.* Manufacturing Co., 61 Fed. 94.

The design statute, Section 4929, provides that:

> Any person who has invented any new, original, and ornamental design for an *article of manufacture*, . . . may obtain a patent therefor.

There seems to be no good reason for laying down a hard and fast rule that design patents can not be granted to cover devices with relatively movable parts. It is a well known fact, for example, that carriage, buggy and automobile builders are constantly striving to produce graceful and pretty designs for carriages, buggies, and automobiles as entireties, including the wheels. Pump makers exercise as much invention in producing new and artistic designs for pumps, including their relatively movable handles, as do stone workers in producing new designs for tombstones. According to sound principles of construction, the design statute should not be so construed as to deny protection to the former and extend it to the latter unless its terms are clearly to that effect, and they are not.

It is always easier to practise by rules than by the spirit of a statute, but the latter produces more equitable results and there are no great obstacles in applying the spirit of the design and mechanical sections of the patent statutes to inventions as they are presented to determine whether they fall under one statute or the other. The patentable characteristics of a design protectable under Section 4929 are found, weighed and valued by the

test of ornament. Those of a mechanical device protectable under Section 4886 are recognized by what they contribute to the performance of the function of that device, and the Office should only grant design patents for the former and mechanical patents for the latter unless the device includes both ornamental and useful characteristics, in which case probably both design and mechanical patents may be granted for the same device just as in some cases separate patents may be granted for a machine and a process practised through the instrumentality of the machine or as separate patents may be granted for a process and its product (ex parte Knothe, 102 O. G., 1294).

It has been urged that design patents should not be granted on devices with movable parts because those parts may conceivably be so moved as to produce another design. Admitting this to be true, it is only an apparent and not a substantial reason against this practise, for a design patent only purports to cover the device as shown. The decisions are uniform to the effect that modifications must not be illustrated, but patentees must leave it to the courts to say what modifications (ex parte Remington, C. D., 1905, 28). Similarly, it should be left for the courts to determine when relative movement of the parts of a design produces a different design.

In the present case, I can see no good reason for refusing a design patent on applicants' chair merely because its back may be raised or lowered, or the book support relatively moved, or even that the parts may be so moved as to produce a different design. It may be, however, that these relatively movable parts are intended primarily to produce a useful result as distinguished from an aesthetic result, and if so, the chair should be the subject of a mechanical patent, instead of a design patent. I only decide at this time that simply because it has moving parts should not preclude the grant therefor of a design patent, and to the extent indicated the petition is granted.

J. T. NEWTON,
First Assistant Commissioner.

May 4, 1915.

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