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NOTEBOOK ENTRIES AS EVIDENCE OF PRIORITY DATE

Jerome Nathan Field

When two or more persons have independently applied to the United States Patent Office for a patent on the same invention, the Patent Office decides which applicant is the first and original inventor in a quasi-judicial proceeding called an interference.\(^1\) Generally speaking, the applicant establishing the earliest date of invention by a preponderance of evidence is granted the patent to the exclusion of all others.\(^2\) The decision of the Patent Office Board of Interference Examiners may be appealed to the United States Court of Customs and Patent Appeals,\(^3\) which hears and determines the priority issue on the basis of the evidence produced before the Patent Office.\(^4\) Alternatively, the issues of priority may be taken to the federal district court by means of a civil suit against the Commissioner of Patents,\(^5\) or it may arise in a patent infringement suit.\(^6\)

Priority of invention is a question of fact made to turn upon proof of conception and reduction to practice. Conception occurs when a person envisions the invention's theoretical character, mode of operation and function.\(^7\) This fact of conception cannot be proved by the inventor's mere allegation in uncorroborated testimony but must be shown by disclosure of the invention to

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\(^*\) B.S., University of Illinois, 1950; LL. B., Chicago-Kent College of Law, 1954. Member of the bars of the State of Illinois and the District of Columbia; patent attorney, Emeryville, California.

\(^1\) 35 U. S. C., § 135.

\(^2\) Phelan v. Green, 71 F. (2d) 298, 21 USPQ 634 (1934); Meigs v. McIntosh, 37 F. (2d) 954, 4 USPQ 331 (1930).

\(^3\) 35 U. S. C., § 141.

\(^4\) Ibid., § 144.

\(^5\) Ibid., § 146.

\(^6\) Holliday v. Pickhardt, 29 F. 853 (1887); Swift v. Jenes, 29 F. 642 (1887); Leach v. Chandler, 18 F. 262 (1883).

others. Reduction to practice, on the other hand, takes place when the invention is reduced to a fixed, practical form. For example, a machine is generally thought of as being reduced to practice when it is complete and used for the intended purpose and a composition of matter is generally considered reduced to practice when it is completely composed.

In the matter of establishing these facts, however, the application made of the rules of evidence, both by the Patent Office and by the courts in cases involving proof of priority, has been criticized by many as being excessively stringent. The rejection of regularly kept notebooks, offered to show conception and reduction to practice but lacking in independent corroboration, has been particularly singled out in this regard. The purpose of this paper is to call attention to the general confusion surrounding the rule relating to the use of research notebook entries in suits concerned with proof of priority and, in so doing, to facilitate a realistic appraisal of this rule.

In its present form, the law holds that notebook entries are insufficient to prove the date of reduction to practice without independent corroboration though they may be admitted under some circumstances to show date of conception. The fact that such entries may be complete and faithful expressions of the experiments they describe and that no doubt is cast on the veracity of the entrant has not altered the rule. Broadly considered, no significant difference exists between the application of this rule in Patent Office interference proceedings and in the federal courts.

The rejection of notebook entries is rooted in the law that an inventor’s testimony, without corroboration, is incompetent to prove date of conception or reduction to practice. The inven-

9 Electric R. R. Signal Co. v. Hall R. R. Signal Co., 6 F. 603 (1881), aff. in 114 U. S. 87, 5 S. Ct. 1069, 29 L. Ed. 96 (1885); Elizabeth v. American Nicholson Pave-
ment Co., 97 U. S. 126, 24 L. Ed. 1000 (1878).
10 Roe v. Hanson, 19 App. D. C. 559 (1902).
12 Collins v. Olson, 102 F. (2d) 828, 41 USPQ 220 (1939).
13 Crane & Start v. Carlson, 125 F. (2d) 709, 52 USPQ 495 (1942).
NOTEBOOK EVIDENCE IN PATENT CASES

tor's testimony is considered incompetent because it is self-serving.\textsuperscript{15} Hence, it has been reasoned that written entries of an inventor, or of one in his employ, are similarly incompetent without corroboration because of their self-serving nature.\textsuperscript{16} To rule otherwise, it has been said, would do violence to the doctrine of consistency. The fear of opening the door to fraud constitutes another reason for the rejection of notebook entries.\textsuperscript{17} It is interesting to note, however, that in criminal cases and in civil suits outside of patent litigation, parties to the proceeding may testify.\textsuperscript{18} It would, then, appear that courts are inclined to recognize a greater degree of credibility in the testimony of one accused of a criminal act than in the testimony of one attempting to prove prior inventorship. A third reason for the rejection of these notebook entries is that to permit these entries to show reduction to practice without independent corroboration would give the corporate research organization an unfair advantage over the individual inventor who is less likely to maintain systematized records.\textsuperscript{19}

Recent decisions also state that the federal statute relating to entries made in the ordinary course of business\textsuperscript{20} was not intended to encompass notebook entries introduced to prove reduction to practice.\textsuperscript{21}

Bearing in mind these enumerated reasons for its existence, the evolution of this rule has here been traced and analyzed. The applicable general rule of law relating to entries made in the ordinary course of business has been similarly analyzed and compared with the rule in patent cases. No attempt has been made to list exhaustively all cases relating to the employment of notebooks to prove priority of invention. Rather, only those cases which best illustrate the origin of the rule, its development, and the reasons for its continued existence have been selected.

\textsuperscript{15} Kinsman v. Dickson, M. S. Dec., Vol. 21, p. 323.
\textsuperscript{17} Jardine & Jehle v. Long, 58 F. (2d) 836, 13 USPQ 254 (1932).
\textsuperscript{19} Senkus v. Johnson, 166 F. (2d) 597, 77 USPQ 113 (1948).
\textsuperscript{20} 28 U. S. C., § 695.
\textsuperscript{21} Teter v. Kearby, 169 F. (2d) 808, 79 USPQ 65 (1948).
The evidentiary rule in patent cases in its present form is concluded to be inconsistent with general evidentiary law. The reasons for this inconsistency are considered inadequate to justify this exception from the general rules of evidence. It is the writer's view that there should be no special "patent law" rendering notebooks or entries therein insufficient to show reduction to practice without corroboration. Rather, the applicable rules of general law should be applied. It is, then, believed that these notebook records should be received in evidence to show date of reduction to practice, subject to attack on cross-examination and to evidence impeaching the recorded dates.

I. Research Notebook Entries

As early as 1859, courts considered the testimony of the inventor or his wife as incompetent in cases made to turn on the issue of priority, with one court saying

"It would be of dangerous consequence to the cause of truth and justice to permit an inventor, whenever a contest about the priority and originality of his claim had sprung up, to go into the market with his own oath, and vend it at the highest price to ignorant or corrupt purchasers. The temptations to perjury in such cases, would often be too great for the infirmity of human nature to resist. The inventor himself being incompetent, his wife cannot be heard, for her interests are always identical with her husband's,"

and with another making the observation that the reason for this rule

is obvious, since the mere conception, while it remains in the mind of the inventor, must perish with him and can add nothing to the world's store of knowledge and it is, moreover, a matter utterly incapable of rebuttal, and were a party permitted by such a mere allegation of conception to establish priority of invention a premium to false swearing would be

offered against which honest inventors could have but little security.23

Moreover, it was realized that the fact of conception of an invention had to be one which could be evidenced by proof rather than the mere allegation of the inventor that, at a given time, it was in his mind. The inventive concept must have taken such definite form that it could be evidenced by description demonstrating its completeness. Mechanical skill might still be necessary to give the conception a workable form but the work of the inventor had ceased and the work of the mechanic had then begun.24

It was in this way that the use of written descriptions appeared in cases involving proof of priority date, but the decisions show an early judicial suspicion of the inventor’s veracity. This judicial suspicion was to develop into a full rejection of the inventor’s testimony in matters relating to conception and reduction to practice in the absence of corroboration.

Though it was early established that, as an interested party, the inventor could not testify as to date of conception and reduction to practice, the inventor’s verbalization at the time of conception or reduction to practice could be testified to by another as part of the res gestae.25 In essence, this meant that statements made by the inventor at the time of conception as disclosures constituted an exception to the hearsay rule. Since invention itself is in essence an intellectual process and, like other expressions of thought, will inevitably be made by speech, coupled with a description of the nature and objects of the invention, such verbalizations would quite logically constitute a valid exception to the rule against hearsay. Accordingly, the proof of invention depended greatly upon corroborating witnesses while testimony of the inventor himself was not considered competent. The heavy burden placed on the corroborating witness is manifest through-

out cases to the present day. Typical is the case of *Garrat v. Davidson*\(^{28}\) wherein the appeal was lost because the witness could not testify to a knowledge either from his own observation or from a detailed statement by the inventor concerning the patentable features of the invention. The sufficiency of corroboration came to be and has continued to be one of the most strategic evidentiary problems in cases turning on proof of date of invention.

It would appear, however, that the courts desired to utilize such corroborating testimony to the greatest extent possible and were, therefore, obliged to give witnesses the greatest latitude. In fact, the statement was once made that

Inconsistencies and incongruities in the testimony of witnesses whose general character for veracity has not been impeached, should be reconciled, when it can be done without violence, especially when there is no extrinsic reason for suspecting error or fraud. And, if the testimony cannot be reconciled, the presumption of reason, as well as of law, will impute the variance to an innocent misconception, rather than to a willful and corrupt misrepresentation, especially when the witnesses are compelled to make their answers to an ingenious and artful examination through the medium of an interpreter.\(^{27}\)

Since that time, however, the courts have become more stringent in dealing with the testimony of corroborating witnesses.

Thus, in *Hisey v. Peters*,\(^ {28}\) appeal was taken from the decision of the Commissioner of Patents in a patent interference proceeding concerning a cartridge loading machine. Hisey claimed to have conceived the invention in April, 1888, though he did not reduce to practice until September, 1889. The proof of his prior conception was the assertion of Hisey himself, coupled with the testimony of a corroborating witness to whom he had shown a sketch of the invention while aboard a ship bound for Europe some four and one-half years before the taking of testimony. The

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\(^{28}\) 3 App. Com'r Pat. 21 (1857).

\(^{27}\) Dietz v. Wade, 3 App. Com'r Pat. 142 (1859).

witness failed to corroborate Hisey's testimony and the sketch was never introduced or its absence explained. The court stated, by way of dicta, that the absence of the original drawing and tracing, together with the lack of explanation for this absence, gave rise to an inference adverse to Hisey's claim. Nothing was indicated as to how the presence of the original drawing would alter the decision nor, in fact, what weight would be given to these informal drawings had they been introduced. It would appear, however, that the value of such writings was recognized in spite of the fact that they were made by an interested party whose own testimony was, as a practical matter, worthless in the absence of corroboration.

The situation was clarified somewhat in *Winslow v. Austin*, wherein the court stated that the inventor may testify as to the fact of priority; that is, his testimony is competent and admissible, but is not to be taken as sufficient to prove conception without corroborating testimony by others or embodiments of the invention in some clearly perceptible form, such as drawings or models with sufficient proof of identity in time. If the rule were otherwise, it was reasoned, no effective means of rebutting or disproving such evidence would be possible. As evolved, the rule of that case has come to mean that the inventor's testimony is admitted but is of no value in proving the fact of priority without corroboration.

The case of major importance as to the employment of notebook entries to prove conception in interference proceedings was the case of *French v. Halcomb*. The interference counts there were directed to high grade steel compositions. The junior party, French, depended in part on a long notebook memorandum to prove conception. French was the only party to read the memorandum. Thus, the memorandum could not serve as sufficient corroboration of French's testimony. Further, some doubt was cast on the actual date of this memorandum by other testimony. It is significant that the lack of disclosure of this memorandum to others was the major reason for its lack of sufficiency as proof of

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conception. That the memorandum appeared to have been segregated rather than a portion of a systematically maintained notebook is also of prime importance. The issue of reduction to practice was not made a controlling issue.

This was not the situation, however, in Robinson v. Thresher. The question of priority in that case was made to turn upon the sufficiency of junior party Robinson’s evidence tending to show reduction to practice on and improvement in electric motors in June, 1902. Robinson was an electrical engineer in the employ of the assignor, General Electric Company. The evidence tended to show that as a matter of ordinary procedure, drawings were carefully and completely rendered and test results fully recorded. In other words, the personnel of General Electric Company made, in the ordinary course of research and development activities, systematic entries of the project contemplated and the work actually performed at the time of its completion. Logically, it might be assumed that the rendering of sketches and more complete drawings could establish reduction to practice. The engineer who made the notebook entries did not testify, however, nor was his absence explained. His unexplained absence, coupled with other factors, cast doubt on the success of the tests. Moreover, the appellant did not attempt to introduce the relevant disclosures which appear to have been regularly kept for the purpose of showing the facts stated therein under the shop-book rule. If regularly kept entries were made from personal knowledge by the entrant and if the entrant’s absence could be explained, a strong argument might have been maintained for the admissibility of these entries to show not only conception but also reduction to practice. Reduction to practice might be legitimately claimed since the entries were made contemporaneously with the completion of the tests rather than constituting recordation of mere speculative ideas.

In 1908, in the case of Horton v. Zimmer, Horton maintained that Zimmer’s test of the electrical device in question was not satisfactorily proved because no record appeared to have been

kept of the test. In other words, it was argued that the lack of notebook records evidenced lack of reduction to practice. The logical sequence would appear to be that the presence of adequate notebook records would necessarily establish the presence of reduction to practice. Adjudicated cases following 1908 did not, however, follow this line of reasoning, though consideration of notebook records had, by then, become common practice.

For example, *Huff v. Gulick* was lost, at least in part, because the appellant testified from books which were not placed in evidence, apparently because they contained confidential information. The court stated that since these books were not placed in evidence, they could not be corroborative. In *Perri v. Thoma*, notebook entries were introduced but were found wanting. The testimony of the senior party was based upon an ambiguous notebook entry allegedly discovered after the testimony of the junior party. What weight would have been given this notebook entry had it been introduced under less suspicious circumstances was not broached. The employment of memoranda as corroborating the inventor’s priority was also argued in *McAfee v. Gray*. The court ruled that the memorandum which was employed for the purpose of refreshing the memory of the witness did not have the effect of corroborating his testimony within the meaning of the rule that the uncorroborated testimony of a party to an interference is insufficient to establish priority of invention. No attempt was made to argue the admissibility of the memorandum to prove the date of reduction to practice.

The status of the law on corroboration of conception was discussed in detail in the case of *Armstrong v. De Forest Radio Telephone & Telegraph Company*. The unsupported evidence of the alleged inventor as to the fact of conception and the time thereof was again said to be insufficient proof. However, it was indicated that a full and accurate description of the invention, either in ade-

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36 280 F. 584 (1922).
quate word disclosure to others or by drawing or model, would be considered sufficient for the law requires only that the evidence of conception be free from ambiguity and such as would enable one skilled in the art to reduce the conception to practice without further exercise of inventive skill. It would appear clear then that regularly kept laboratory notebooks of the type now commonly employed by both large and small industrial and academic research institutions would generally be sufficient to establish the fact of conception but not reduction to practice.

De Forest, as the inventor in the case of United States v. De Forest Radio Telephone & Telegraph Company,37 employed notebook entries as well as the testimony of his instructed assistant to establish conception and reduction to practice. It appears unlikely that De Forest could have established reduction to practice employing his notebook entries alone even though, by that time, laboratory notebooks were customarily kept in research organizations. It is apparent, however, that although used commonly to corroborate conception, no attempt was made to introduce these notebooks under the shop-book rule as a way of showing of reduction to practice, i.e., to show that the acts recited were, in fact, actually performed at the time stated. The absence of an attempt to so introduce these books is clearly evident in the case despite the fact that the notebook entries were of such a nature as to support an argument for reduction to practice. At the same time, the stringency of interpretation of oral evidence presented to establish priority was maintained. The court’s careful scrutiny of testimony intended to prove priority was necessitated by the lack of opportunity to correct fabrication, if present.38 The reason why fabricated testimony by a witness could not be brought to light by cross-examination, as it is in non-patent cases, was not disclosed by the court. It is significant, however, that the court spoke of oral testimony alone as over and against oral testimony coupled with written memoranda.

37 18 F. (2d) 338 (1927).
In *Collins v. Olson*, the court held that reports clearly describing the inventor's acts were not proof of reduction to practice without corroboration though they could serve to show conception. Thus, the inventor's testimony as to reduction to practice is not satisfactory without corroboration and the notebook entries which might reasonably be employed as corroboration must themselves be corroborated. The courts, in other words, have come to look upon both the testimony of the inventor and his written disclosures as being identical for this purpose.

Research notebook entries are made to record the actual work done, whether successfully or unsuccessfully, so that duplications may be performed and the experiment improved upon if successful or a repetition may be expressly avoided if unsuccessful. As recordation is not made in contemplation of litigation but rather serves as an intrinsic part of the systematic attempt to resolve a problem through research, entries of this nature are more likely to be truthful than false. Yet the cases dramatically illustrate the extent to which the courts lack knowledge of the detailed workings of modern research organizations, including the reasons behind the recordation of experiments. The excessive fear on the part of the courts of false entries in research notebooks would, to a great extent, be obviated by apprising judges of the facts surrounding modern research laboratory activity. False entries could be shown up, as they are in general evidentiary law, by cross-examination of witnesses and by the use of impeaching evidence.

The trend of more recent decisions may be seen in *Crane v. Carlsen*. In that case, each of the appellants made entries into his notebook to the effect that the apparatus, an automatic pilot, worked perfectly on August 28, 1935. Moreover, a document en-
titled "Record of Military Inventors," dated September 16, 1935, and witnessed, was introduced into evidence. This document indicated that the first flight and operation of the invention was made on August 28, 1935, and that the results were satisfactory. In spite of the completeness of documentation, however, these notebook entries were not considered corroborative of the appellants' testimony. The fact that the entries were made for the purpose of recording facts as they occurred, that the documents were clearly written in the due course of research activity, that no irregularity of any sort was imputed to them and that the inventors were of impeccable reputation did not alter or modify the decision. No distinction was drawn between entries made in the ordinary course of research activity for the purpose of recording tests made before patent application had been submitted and statements made by applicants after application and for the sole purpose of establishing priority.

In Miessner v. Haschke,42 an interference involving an electrical musical instrument, the court again reiterated the rule that regular notebook entries may be of considerable moment in determining the issue of conception but do not of themselves prove the critical issue of reduction to practice since they are self-serving statements. In spite of the acceptance of the truthfulness of the inventor, the rule was said to be so deeply entrenched that courts were obliged to maintain that "the door should not be thrown open for the occurrence of the evils the rule was designed to prevent."

The major reason for the rule, as reiterated in Manny v. Garlick,43 an interference involving an apparatus for perforating papers, in Shumaker v. Paulsen,44 an interference involving shielding of airplane spark plugs, and in Lichtenwater v. Caron,45 an interference involving a chemical method, declares that notebook

43 135 F. (2d) 757, 57 USPQ 377 (1943).
44 136 F. (2d) 696, 58 USPQ 265 (1943).
45 158 F. (2d) 1011, 72 USPQ 271 (1947).
entries of this type are "self-serving." In Senkus v. Johnson,\textsuperscript{46} however, another reason was voiced for the first time when the court said: "Indeed, if we were to relax the said rule now existing with respect to corroboration merely because of the research systems in large industrial concerns, it would result, in our opinion, in having no corroboration rule at all as far as large industrial business is concerned, but would still require the present rule of corroboration with respect to others."\textsuperscript{47}

Altering the rule of corroboration to allow systematically kept notebooks to prove reduction to practice would clearly not serve an advantage to the corporate research organization as against the individual inventor. Rather, it would serve equally well to all those who maintain systematic recordation of their experiments. In fact, it might be argued that a greater advantage would accrue to the independent inventor who, without corroboration by means of notebook entries, is in a near hopeless position to show his earliest reduction to practice. It is the independent inventor, working alone, who has no opportunity to prove actual reduction. On the other hand, the large industrial research laboratory, in which the inventor is surrounded by research colleagues, may have a satisfactory corroborating witness, particularly so if the work has been performed by a research team. The stringency of the corroboration requirement as presently interpreted by the courts, therefore, still renders proof of actual reduction to practice most difficult for anyone.

In Teter v. Kearby,\textsuperscript{48} it was contended that laboratory notebooks, intended to support the appellant's testimony, were admissible as evidence of the acts recorded therein under the federal statute relating to records made in the regular course of business.\textsuperscript{49} The court, however, held that the notebook entries were not encompassed by the statute. Hence it would appear that

\textsuperscript{46}166 F. (2d) 597, 77 USPQ 113 (1948).
\textsuperscript{47}166 F. (2d) 597 at 600.
\textsuperscript{48}169 F. (2d) 808, 79 USPQ 65 (1948).
\textsuperscript{49}28 U. S. C., § 695, referring to entries made in the "regular course of any business," specifies that the term "business" includes "profession, occupation, and calling of every kind."
only the observations of witnesses could prove the occurrence recited in the notebook entry. In other words, in a routine experiment, it is necessary to have an observer literally watching over the shoulder of the inventor during all stages of the reduction to practice. To much the same effect is the case of *Schering Corporation v. Marzall*,\(^5\) in which the plaintiff submitted laboratory notebooks which were not identified by the person who made the entries, nor by any person who saw these books contemporaneously with the events which they purported to record. The court held that the entries were not admissible because the statute was limited to proof of routine clerical entries made contemporaneously with the event recorded by the person charged with the duty of maintaining the records.

Finally, in 1952, the case of *Allen v. Blaisdell*\(^5\) summarized the reasoning behind the need for corroboration. It was there said:

> It is elemental in patent law that in interference cases a claimant, no matter how honest or truthful he may be, cannot prevail upon the basis of his own oral testimony standing alone. The rule which requires corroborating evidence is inviolable and the tribunals of the Patent Office and the courts may not depart from it. The corroborating evidence may be presented in different ways to be sure,—in diaries, notebooks, written instruments of various kinds, or purely by oral testimony—but there must be such testimony and it must be convincing. However harsh the rule may seem at times, the absolute necessity for it becomes apparent upon reflection. Without it, the patent system might be virtually destroyed by perjury or fraud.\(^5\)

Yet the very means of corroborating the truthful inventor are limited by rules at least as harsh. The result is simply that the inventor is virtually barred from proving his priority date. The

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\(^5\)196 F. (2d) 527, 93 USPQ 428 (1952).
\(^5\)196 F. (2d) 527 at 529.
inventor may not testify; his notebook entries are not corroborative of reduction to practice; and, as a practical matter, a corroborating witness to the entire experiment which constitutes the reduction to practice is rare. That the rule is harsh on the industrial research organization is clear. Injured even more seriously than the large institution, however, is the smaller research organization and the individual entrepreneur inventor. The ultimate question is, then, whether the harshness of the rule is justified and, if not, how it might be modified to provide use of these notebook entries yet safeguard against the very real danger of false ones. The evidentiary rules in the general law relating to notebook entries are most helpful in this regard.

II. ENTRIES MADE IN THE REGULAR COURSE OF BUSINESS

The so-called "shop-book" rule and the evidentiary rule relating to notebook entries made in the regular course of business are closely related to the rule regarding the use of research notebook entries hence, for a clear perspective of the rule in patent cases as to laboratory notebook entries, a general review of the former and the safeguards they provide against the danger of false entries would be in order. Entries in business books may be offered in evidence in ordinary civil litigation in either of several ways. They may be admitted, if the entries are made by a party to the suit, against such person, as admissions against interest. If the entrant is produced as a witness, the entries may be used to refresh his memory or may come in as records of past recollections or as declarations against interest. None of these uses, however, requires the employment of an evidentiary principle peculiar to systematically made records. A rule of this sort is only involved when the business book itself is offered as evidence of the truth of its terms.

The American doctrine governing admissibility of books of account, under which a party litigant who made the entries may

53 Parker v. Priestly, 39 So. (2d) 210 (Fla., 1949).
give his account books in evidence to support his claims, is generally considered to be in derogation of the common law principle that a party shall not be permitted to make evidence for himself. The rule is historically based upon the ground of necessity. Without the rule, the small merchant who kept his books without the aid of a book-keeper was unable to prove sales made to delinquent customers because of his disqualification as a witness. In other words, the common law rule rendering parties and interested persons incompetent to testify in their own behalf necessitated this exception since the business of tradesmen was usually carried out without clerks and since many of these transactions, because of their variety and minuteness, were typically out of the presence of witnesses. Because only the shopkeeper had knowledge of the facts of the sale and because he was, in contemplation of law, incompetent as a witness, he would be remediless unless his books were received in evidence. Consequently, under conditions which the courts conceived would make these books trustworthy, they were admitted to show the facts stated therein. A rule allowing the reception of books of accounts as evidence was in effect in the early 1800's in most American courts then in existence. In all cases, the basis for the rule was "necessity," which necessity as the reason behind the shop book rule had been found present in the English court decisions of about the same period.

Another justification for the admission of regular entries in the books of a business was said to rest in their unusual reliability. In normal business practice, regularly kept records have a comparatively high degree of accuracy because such books are customarily checked as to correctness by systematic balance-striking. The very regularity and continuity of these records was for the purpose of effecting that degree of precision and accuracy upon which the success of a business may, to a significant degree, depend. In like fashion, laboratory notebook entries are also regularly and continually maintained for the purpose of providing an accurate description of the experiments performed.

56 Butler v. Cornwall Iron Co., 22 Conn. 335 (1853); Mitchell v. Belknap, 23 Me. 475 (1844); Vosburgh v. Thayer, 12 Johns. L. 461 (N. Y., 1815). See also 12 Bench and Bar 17.
In addition to the shop book rule, another generally established rule, adopted by statute in some jurisdictions, commonly referred to as the regular entry rule, provides that regular entries made in the course of business by one no longer available as a witness would be admissible in evidence after a proper foundation had been laid. While this rule is closely related to the shop book rule, the two are not identical. The regular entry rule permits the admission of appropriate entries made in the course of business only in the event the entrant is no longer available as a witness whereas the shop book rule sanctions the admission of regular entries made by a party to the suit, whether available as a witness or not. For the purpose of this paper, however, these two rules may be grouped together. The fact that the entrant is a patent applicant who is no longer available as a witness, or that the entry was made by a party to the suit who is available, does not alter the veracity of the entries made in a regularly kept research notebook.

By the early eighteenth century, the special trustworthiness of an entry made by a clerk of a party "in the usual way of trading" was allowed as proof of delivery of the goods after the entrant had been shown to be unavailable.\textsuperscript{57} From this concept developed the modern common law doctrine that regular entries made in the routine of a business, upon the personal knowledge of the recorder or of his employee, and entered at or near the time of the transaction recorded, as a record of original entry, are admissible to prove the recited facts, upon a showing that the entrant is unavailable. The customary accuracy of business records vital to the survival of the business, coupled with the training and experience of book-keepers, furnished the special reliability, and the unavailability of the participants guaranteed the need for the use of this type of hearsay.

The shop book rule, as applied by the American courts after the Revolution, took two distinct forms, \textit{i.e.}, the New York form and the New England form. In essence, the New York form per-
mitted parties to introduce their books in court in all cases if they were proved by the proper preliminary proof. The New England form required a suppletory oath by the party. In either case, the books, if admitted, were allowed to go to the jury as evidence of the truth of entries which they contained.\footnote{Seagrove v. Redman, 4 U. S. (4 Dall.) 953, 1 L. Ed. 779 (Pa., 1797).}

The New York form was based on Dutch practice as it had existed for more than a century prior to the Revolution. In the Dutch colonial courts, according to the explanation provided in \textit{Conklin v. Stamler},\footnote{17 How. Prac. 399 (N. Y., 1859).} the parties appeared before the court and made their own statements. If the parties differed as to a fact which the court thought material, either party might be put to an oath. In this way, objection could be made to this species of evidence, and the entrant could be interrogated in respect to the truth or correctness of each item. This practice of admitting books of accounts, so long observed in the Dutch tribunals, was the recognized usage when New York adopted its constitution so it was possible for the court to say, as it did in the case of \textit{Vosburg v. Thayer},\footnote{12 John's. L. 461 (N. Y., 1815).} that the "usage and necessity of admitting such proof has been so long sanctioned and felt in our courts of justice that it is now too late to question the admissibility of it." Nevertheless, the court could, and did, prescribe the elements necessary to be established for the admission of books of accounts by saying such were not to be admitted "unless a foundation is first laid for their admission, by proving that the party had no clerk, that some of the articles charged have been delivered, that the books produced are the account books of the party, and that he kept fair and honest accounts, and this by those who have dealt and settled with him." No suppletory oath, however, was required.

Under the New England rule, a party wishing to introduce books of accounts kept by himself submitted them to the court for inspection and, if they did not appear to be a register of the daily business of the party and to have been honestly and fairly
kept, they were rejected. If an erasure or alteration in any mate-
rial part appeared, it was necessary to explain the erasure or
alteration before the books could be admitted. If the books passed
the inspection of the court, the party himself was required to make
oath in open court that they were the books in which the accounts
of his ordinary business transactions were usually kept; that the
entries were made at or about the time of the transactions, were
the original entries, and were correctly made; that the goods
therein charged were actually delivered to the defendant, or that
the services were actually performed in the defendant’s behalf;
and that the sums charged and claimed had not been paid.\(^\text{61}\)

The disqualification which formerly precluded a party from
testifying as a witness has now been quite generally removed
so that, at the present time, a party can testify in most states
without any more restrictions being imposed on him than are
imposed upon other witnesses. Notwithstanding this removal of
disqualification, the shop book rule, tracing its origin to a judicial
recognition of a necessity stemming from such disqualification,
has not, except in a few jurisdictions, ceased to operate nor has
any material limitation been placed upon it. Consistency might
seem to dictate the abolition of the rule contemporaneously with
the removal of the reason which produced it; but granting to a
party the right to testify as a witness has, except in rare instances,
had no appreciable influence upon the application of the shop
book rule.

From what has been said, the requirements which must be
met by a business entry before it can be received to prove the
facts stated therein are manifest. To the extent that these re-
quirements apply to safeguard litigants against fraudulent records
in mercantile transactions, they could, with equal force, apply to
laboratory notebook entries presented to prove date of reduction
to practice, once the admission of such entries for this purpose is
sanctioned. That these requirements, where applicable, may be
satisfied by a complete and regularly kept laboratory notebook will

be apparent to those familiar with the routine in large as well as small research organizations.

Generally speaking, in order that the books of a party may be received in his favor, a proper foundation must be laid by proof of their character, authenticity, correctness, and regularity, unless of course the adverse party admits these matters. Statutes governing the admissibility of such books typically prescribe the foundation which must be laid. One of the earliest enunciated requirements of a business book entry which must be met before it may be admitted to prove the facts therein stated is that it must be an original entry or the first permanent record of the transaction. This restriction is based upon the assumption that original entries are more accurate than subsequent copies. In some modes of business, however, it is customary for the daily transactions to be noted upon slips by the employee which slips of memoranda are collected and entered into permanent books. Under these circumstances, the entries in the permanent book sufficiently comply with the requirement that the entries be original. In most research organizations, laboratory notebook entries are regularly made in permanent notebooks. These entries are, ideally, as complete a description of the experiments as is possible and, in many organizations, are dated, witnessed, and sometimes notarized. Though the form of these entries may vary considerably between individuals, the prime purpose is to describe the work being done or immediately contemplated so that reference will be available in the future. In this way, repetitions of successful experiments may be made and unsuccessful experiments be avoided in carrying forward a research program.

Another requirement in some jurisdictions which must be satisfied before books of account may be received in evidence is that the entries must be made on the first-hand observation of

63 Wise, Boles & Bowdoin v. Fuller, 66 So. 827 (Ala. App., 1914).
64 Stark v. Burkitt, 103 Tex. 437, 129 S. W. 343 (1910).
someone whose job it is to know the fact so recorded.\(^{66}\) This first-hand observation constitutes the chief foundation for the special reliability of business records and applies with equal vigor to laboratory notebook entries. In experimentation carried out by research organizations as well as by individual inventors, notebook entries are often made by the inventor himself or by someone working in close collaboration with him or under his immediate supervision. In either case, the opportunity for first-hand observation by the entrant could clearly exist.

Entries, in order to be admissible, must have been made in the regular course of business and as part of a standardized system for the keeping of accounts.\(^{67}\) The fact that entries are made by clerks in the regular routine of their employment is generally considered the safeguard of their accuracy. The courts dwell to a great extent on the precision with which numerous employees record various transactions, together with the absence of any personal motive to misrepresent the facts of the transactions. Accordingly, the modern book of account constitutes a high form of evidence in respect to transactions which are the proper subject matter for a book of account. There would, by comparison, certainly appear to be no form of entry upon which as much reliability could be placed for accuracy and detail as the research laboratory notebook. The very purpose of these records is to set forth the exact conditions and results of an experiment. Intentional inaccuracies at the time of entry would be purposeless, since it is clarity and scientific accuracy which are the primary purposes for the entry. It would appear, therefore, that the weight to be given to the accuracy and veracity of a laboratory notebook entry should be equal to the accuracy and veracity attaching to entries made in ordinary business transactions, provided both are made subject to the same safeguards.

Since the reliability of business records depends to a large extent upon the promptness with which the transactions are recorded, it has become a standard requirement, for evidentiary


\(^{67}\) Aetna Ins. Co. v. Welde, 76 U. S. (9 Wall.) 677, 19 L. Ed. 810 (1870).
purposes, that the entry must be made "at or near the time of the transaction recorded," or "at the time or nearly so of the principal fact," or "at or reasonably near the time of the transaction." Any one possessing familiarity with research techniques knows that it is a general procedure, in research laboratories, to record the experiment while it is being conducted and to record the results immediately upon or soon after its completion. It would seem, then, that the procedures followed in the conduct of a well-ordered laboratory and the keeping of laboratory notebooks should satisfy the requirements of the evidentiary rule relating to entries made in the regular course of business.

III. Summary

In its present form, the law in relation to patent matters holds that notebook entries are insufficient to prove date of reduction to practice of an invention without independent corroboration. This rule has been applied to all forms of notebook entries submitted as evidence of the date of reduction to practice of an invention. The veracity of the entrant and the clarity, completeness and honesty of the entry has not altered or modified the rule. Since the testimony of the inventor must be independently corroborated, it has become inordinately difficult for an inventor to prove his alleged date of reduction to practice. Consequently, the rule requiring independent corroboration of notebook entries for this purpose is considered by many as being excessively stringent.

The shop book rule and the regular entry rule of general law are closely related to the evidentiary rule in patent cases. These rules permit the admission into evidence of regular entries made in the course of business; the first of them whether the party making the entry is available as a witness or not, while the latter is restricted in application to those cases where the entrant is unavailable as a witness. Both rules of general law require that

68 Dameron v. Harris, 281 Mo. 247, 219 S. W. 954 (1920).
69 Anchor Milling Co. v. Walsh, 108 Mo. 277, 18 S. W. 904 (1892).
70 Kamm v. Rees, 177 F. 14 (1910).
the entries meet certain conditions before they can be properly admitted to show the facts they recite. These requirements are designed to mitigate the danger of fraud, but further protection is provided by permitting these entries to be attacked on cross-examination or to be impeached by conflicting evidence.

It is suggested that a change in the existing law relating to patent cases is in order, particularly with respect to the evidentiary value of notebook entries submitted to show reduction to practice. Such a change in present law might best be effected by a statute framed to apply the appropriate general evidentiary rules to notebook entries of this type. Upon satisfying those requirements which might be set up, notebook entries could then be employed to show a valid reduction to practice without opening the door to fraud, particularly so if the privilege to cross-examine and to impeach be preserved. A statute designed to permit the admission of regularly kept notebook entries to show reduction to practice without independent corroboration would obviate to a great extent the injustice resulting from the present harsh rule. It would also place the law relating to notebook entries in patent cases in conformity with established general rules relating to book entries in non-patent cases.