

Purpose and proper maintenance of a laboratory notebook

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ABSTRACT: *The article discusses the reasons for using a laboratory notebook, with emphasis on documenting patentable ideas. Procedures for maintaining the notebook are described in detail.*

KEYWORDS: *Documents, inventions, laboratories, notebooks, patents, procedures, records, research.*

Individuals who do research, development, and many other types of work should adopt the practice of using notebooks.

Purpose of laboratory notebook

There are many reasons why one should use and maintain a research or laboratory notebook. The notebook provides a means of keeping all of one's thoughts, ideas, and data in an orderly fashion. How often have we written something on a piece of paper, only to misplace it and lose the information? The laboratory notebook overcomes this problem by providing an excellent storage place for important thoughts, records, or ideas. When data are to be entered in the book, we tend to organize our thoughts on the material to be collected or to organize the data in a clear and concise way. Often, when

we are forced to think about something before entry, additional thoughts or ideas may arise. If we have overlooked something, that realization may allow us to take corrective measures in an experiment before it is too late to collect more data.

Very likely, the most important reason for keeping a laboratory notebook is for patent protection. Many countries rely on the "first to file" principle for patents. In this case, the first to file with the particular country's patent office is granted the patent, no matter when the invention was conceived. In the United States, the "first to invent" is still the one who is granted exclusive rights to the invention. This is true even if a patent has already been granted inadvertently to someone else because the patent office was unaware of an earlier inventor. In the United States, the courts decide who has the final right to the inven-

tion. The court recognizes the first inventor based on records supporting the date when an invention was first conceived. Consequently, a properly maintained laboratory notebook is one of the best tools for protection. If you were the first to invent and can prove it, you have the exclusive right to continue to use that idea or invention.

Notebook maintenance

If the research or laboratory notebook is to be accepted in the courts as conclusive evidence for establishing the invention date for a particular idea, it must be maintained according to strict guidelines. Table I summarizes the correct format and manner for maintaining a research or laboratory notebook. This article discusses each of these items in detail.

Bound book. The laboratory notebook must be a bound type of book and not a loose-leaf type of record book. With a bound notebook in hand, the courts will quickly recognize that pages could not be inserted by someone attempting to represent dishonestly the invention date of a possible patentable item or data supporting a potential patent. For the same reason, the pages should be serially numbered by the book manufacturer, as a page could not be added or removed without it being obvious.

Identification. The inclusion of one's name, company name, address,

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I. Recommendations for a proper laboratory notebook

1. Use a bound hard cover notebook.
2. The notebook pages must be serially numbered by the book manufacturer.
3. Include your name, company name, address, telephone and FAX number.
4. Use an ink pen for all entries.
5. Do not erase but cross out undesirable entries where desired with one line so as to still make the entries legible.
6. Write on every line and systematically cross out all blank spaces.
7. Enter all ideas, drawings, experiments, data, and progress.
8. Make reference to and indicate the date of letters, reports and other supporting files concerning ideas or experiments.
9. Do not write that this or that cannot be done or is not possible.
10. Sign and date each entry.
11. If assisted by a co-worker in performing a task, have him or her co-sign and date the entry.
12. Have your supervisor or alternate individual sign and date after the last entry of the notebook on a weekly basis.
13. Have the notebook notarized after the last entry every 6 months but no longer than 12 months.
14. Write an internal patent disclosure on good ideas or inventions.
15. Recommend filing for a patent on good ideas or inventions.
16. Management must have, and insist on, a positive attitude towards the use of a laboratory notebook and patent matters.

telephone number, and FAX number increases the likelihood that the notebook will be returned to the owner if it is misplaced or lost.

Penned entries. An ink pen should be used because it is clearly legible and cannot be erased without it being apparent. Instead of erasing incorrect entries, a single line should be drawn through the undesirable entry. If ink is used and there are no erasures, the courts will conclude that the information in the notebook is correct and properly represents the associated dates leading up to an invention.

Eliminate blank spaces. Every line should be written on, and all spaces should systematically be crossed out so that the court will eas-

ily conclude that information could not be written in the laboratory notebook at some later date.

Thorough entries. All ideas, drawings, experiments, data, and progress should be entered in the notebook. The first mention or entry of an invention is likely to be the entry that establishes the date of the invention. One should not be sparse on the material that is entered. Otherwise, some important fact or item may be omitted.

Establish paper trail. References to indicate the date of letters, reports, and other supporting files concerning ideas or experiments should be made. Such a paper trail supplies further proof that the invention was

invented on the date or during the period claimed.

Maintain project viability. Written statements that something will not work or cannot be done should be avoided. Such statements may invalidate a possible earlier invention date, even though later experiments or work show that the idea was indeed viable at the earlier date.

Sign and date all entries. All entries must be dated to establish conclusively the time when an idea or invention was conceived. In the United States, the person proving the first date that something was invented establishes the individual or individuals who are entitled to the invention. However, the individual maintains this right only if that person shows diligence in furthering the development of that idea.

Co-workers who are assisting in the experiments or task for an invention should co-sign the laboratory notebook. This helps in firmly establishing that the work was performed on the date indicated.

The signature of the individual's supervisor serves to establish a witness to the ideas presented in the laboratory notebook. In addition, the supervisor would be constantly aware that subordinates are maintaining their laboratory notebooks in the manner desired.

Notarize notebook. Have the notebook notarized after the last entry on either a six-month or, at most, a yearly basis. This is another step in legally establishing the credibility of the material and the dates of entry for the courts.

Internal patent disclosure. An internal patent disclosure on good ideas or inventions provides additional proof that the invention was invented on the date indicated. In addition, because witnesses of signatures and the material written in the text were known on the date signed, this further establishes the credibility of the invention.

Communicate with management. If the inventor believes that the idea or invention is a good one,

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management should be prompted to file for a patent. Management often needs to be reminded and prodded to apply for a patent on good ideas or inventions. If management is too narrowly focused on its own responsibilities, it may be unaware of an invention's importance. In addition, management is sometimes reluctant to spend legal and filing fees for a patent. Management may decide not to file for a patent, instead keeping the idea an internal company secret. The advantages of this approach are that (a) competitors would not be taught the technology and (b) the protection can be continuous rather than limited for the life of the patent, which normally is 17 years (14 years for design patents¹). The disadvan-

tage of such a decision is that one risks losing the monopoly provided when a patent exists, and competitors may begin producing the same product or using the same process.

Management support. Management must adopt a favorable attitude toward the use of a laboratory notebook and patent matters if such requirements are to be effective. If management does not demand or expect it, then most individuals are unlikely to adopt procedures that offer protection for good ideas or inventions.

Conclusion

The U.S. patent system still uses the "first to invent" policy to establish ownership of an invention. Thus it is essential to adopt methods that firmly establish the date when the invention was first conceived, tried,

or used. The research or laboratory notebook is an excellent instrument for this purpose.

Because researchers often report their findings at conferences, in technical journals, or other publications, they must be reminded to do so with caution. If a patent is to be applied for, it must be done within one year of the date that the idea or invention is first sold or mentioned in the literature. An individual or company may have an excellent idea but lose all rights to it if a patent is not applied for at the proper time. ■

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¹*Basic Facts About Patents*, Patent and Trademark Office, U.S. Department of Commerce, Washington, DC.