



Tips for the young engineer

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To mark World Intellectual Property Day, Heidi Brun has advice for engineers, gleaned from years of work as a patent attorney.

First and foremost is **Adaptability** - Be prepared to change jobs and even your career over the course of your working life. This is particularly true for women who are likely to grapple with raising children while pursuing a career. This adaptability provides you with new situations, new colleagues and new social situations, from which you can generate new ideas and solutions. Adaptability is a great source for innovation.

Be willing to be annoyed - All of us own many items that don't work as well as we would like. Sometimes we see how to change them to make a big difference in how well we function. For example, adding a fourth shelf to a closet may make it easier to keep our home neat. Or, writing a new "app" to enter data on our phone can save time. Or, using a phone to navigate is much easier than carrying a pile of paper maps. Big changes happen when people are annoyed by small problems and let their creativity lead them to solutions.

Look at problems from multiple sides - As a patent attorney, I have to analyze the idea that an inventor brings to me, to determine what makes it a patentable invention. But how you define the invention depends on the angle at which you view it.

For example, if you are the first inventor of a microwave oven, you might define the invention as "A machine for focusing microwaves on items held within an oven" since your oven may, indeed, be the first oven to focus microwaves. However, there are other ways to describe your invention, such as "A machine to heat food quickly" or "A machine to activate water molecules in food", or even "A new technique for rapidly popping corn". Each of these definitions accurately define a microwave oven, yet each emphasizes a different aspect of the oven.

Similarly, trying to see a problem, project or item from multiple sides is another source of innovation.

Look for the overall problem - Clients often come to me with a number of inventions that are related to each other in some way. We often struggle to write a "generic" definition, or claim, that covers all of the inventions.

Similarly, sometimes inspiration comes when realizing a common source or common aspect of a set of things. For example, when your young child misbehaves and you realize it only happens at nighttime. Or, I had one inventor realize many years ago that telephone networks and data networks had become similar technically, and this led to the VoIP revolution that powers Skype, WhatsApp, and cheap phone calls today.

Switch directions - An ex-patent examiner once told me “A step backward in the art is sometimes inventive”. Sometimes, using an old technology is inventive. There is a great old story about this, which might even be true. Apparently, back in the 1960’s, NASA spent millions of dollars trying to develop a pen that would work reliably in the zero gravity conditions of outer space. The Russians solved this problem with a pencil!

Tell your story - Patent applications don’t have to be dry and boring technical documents. However, they do have to describe an invention sufficiently well that someone else can build the invention from the description in the patent application. But a good patent application tells the story of what the problem was and what the inventor realized would solve the problem.

Solve problems - My favorite inventions are those which solve problems I didn’t even know I had. The perfect example is the nail clipper. The kind I buy nowadays has plastic sides which keep the clipped nails inside the clipper rather than flying all over the place. Until I first bought one of these clippers, I didn’t even realize that I was supposed to be annoyed by flying nail fragments. But, having used the better tool for many years, I can’t imagine going back.

Be willing to start over - Some of my inventors are repeat customers. I first meet them in a company which later fails. But, this doesn’t stop the best inventors. I know that even if their company folds, they will come back to me with another invention via their next company, sometimes in a related field and sometimes in a completely different field.

While these tips may not be always relevant for you, keeping them in mind will keep your ideas flowing.

The author manages the Strategic Patent Department of Eitan Mehulal & Sadot, Advocates and Patent Attorneys. She is an expert at turning complicated concepts into readily understandable patent applications.

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