Preparing and filing a patent application is often expensive and cumbersome for the inventor and his employer. Here are suggestions to help you. This article deals with patent preparation, not with prosecution.

Before meeting with your patent attorney, organize all documentation relevant to the product/process that is the subject of the patent. Make sure the documentation is legible and consistent. If different names or references are used for what is the same element, explain it. Avoid terminology specific to your company when you talk to your patent attorney and explain company-specific terminology.

Think hard about the invention before and after you meet with your patent attorney. The invention is broader than the specific product or process that you developed. Ask yourself:

(a) What technical problem did I solve?
(b) How is my solution better than the prior art?
(c) What exactly is the closest prior art?
(d) Have I searched for prior art in my files, in the company library, on the Internet?
(e) Is what I identified actually prior art? Consult your patent attorney; the definition of prior art is legal, not technical.
(f) Capture your invention in one sentence. For instance, "My invention is a crystalline body which emits coherent light (the laser)." "My invention is use of copper for integrated circuit interconnects."
(g) What is the advantage of my invention? The advantages typically are cheaper, faster, or more reliable.
(h) What are variants of my invention? Think broader than the specific technical problem that you solved.
(i) What are applications of my invention besides solving my specific technical problem or in the particular market in which I plan to sell my product?
(j) Is my invention applicable to other technical fields, other than the one I am working in? What are they?

Certain technical developments are inherently weak inventions. For instance, using a known product or process for its intended use but in a new field is probably not inventive. A system or product having several minor improvements over the prior art but no synergy between the improvements also is likely not inventive. (An invention is one significant improvement, not several minor ones.) A product that is essentially the same as prior art but made by a new process is a weak invention. Here, the invention likely lies in the process.

Inform your patent attorney how to make and use the invention and your best mode of carrying it out; this includes optimizations. Failure to include these will result in an invalid patent. The Patent Office has no way of examining these aspects and often ignores them. You must make sure this is in the patent application. Provide your patent attorney a concise, organized technical description of how to make and use the invention. This will also make writing the application less expensive.

Generally in the mechanical and electrical fields, which include software, don’t proliferate embodiments in the patent application if the embodiments are routine variants. Instead, think of the invention generically and include the best embodiment. This advice does not pertain to the so-called "non-predictable arts" which include chemistry and the biological sciences.

When you get your draft patent application back from the patent attorney, check it carefully, especially numbers, parameters and steps. Generally one cannot correct factual errors after filing the patent application.

Avoid proliferating claims. Overseas, claiming is generally limited to one independent apparatus claim and one essentially similar independent method claim per application. In most countries, divisional applications are quite expensive. If you wish foreign coverage, focus on one broad independent claim.

Try to determine how important is this particular patent application compared to other company projects, including other patent applications. Prioritize your invention. The patent attorney, given more resources (time and money), can produce better work product if you want it.