

## Two Experts' Views on Prototypes Stop talking about it – Just Build It!

By Lawrence J.Udell

A Common dilemma for inventors is *when* and *if* to build a prototype of the “great new idea.” In only rare instances is it difficult to create a working model of a new invention – such as those involving research technologies with large prototypes costs.

Inventors, by and large, are very creative people, and this is true of all ages. You visualize in your mind the brain child you have created, in all its forms and shapes and in a variety of materials, and most important, it is working – it’s actually doing what you thought it would do! Now you must build a working model to convince others, including investors, marketing professionals, and others to whom you must prove its value.

If you assume that the production unit would be manufactured from plastics, that should not prevent you from a prototype from a material you can easily work with, such as wood or metal. If you’re limited in your model making abilities, then by all means seek help from others.

A word of caution: be totally involved in the process! Realize that whoever assists you in making a prototype is using your concept and should not be incorporating their own ideas into you prototype. By being clear about this point, you avoid any claim they might make of ownership rights if the product is successful. However, if they do make a suggestion which you feel is a valuable improvement, then discuss and document it on paper as to how the successful results and money (read that: “profits”) will be shared.

If you do not have access to a qualified model maker, then seek a small job-shop manufacturer in your area; there are a surprising number of them out there. Be straightforward. Try to work with the owner of the company. Approach them with a drawing of your invention/product and clearly express what you need. Make certain that the drawing of the product is as professional as possible (even if it does not reflect the final revised design). A professional presentation puts you in a good negotiating position because as a serious business person. If you cannot render the drawing yourself, contact a high school, college or trade school that has mechanical drawing students. Review their work, determine their ability to do what you need and negotiate a reasonable price (perhaps a \$100 or slightly more).

Be aware that a job shop may be more interested if there’s the possibility of more work with you down the road. Also, do not approach them as an inventor but as a potential “new venture creator” who intends to build a small company around the distribution and marketing of new product. Using this method should provide you with a beautiful working model at a minimum cost.

By making the prototype process an integral part of your planning, you set yourself on the right course.

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**Did you know?**

- That it may have been the inventor of the modern bottle cap, William Painter, who is responsible for our “disposable society”? Seems Painter advised an acquaintance of his – a budding inventor – to invent something the consumer can use, throw away, and buy again. The advice was taken to heart and King Gillette invented the disposable razor.
- That Frank Woolworth opened his first “great 5¢ Store” in 1878 at the age of 26? It lasted all of four months and folded. Undeterred, he tried again in another city; success was immediate. It was not until 1935, 13 years after Frank’s death, that the board of directors voted to remove the five-and-ten cent ceiling on the Woolworth pricing policy that had existed for more than 50 years!
- That power steering was invented by independent inventor Francis W. Davis? As chief engineer of the truck division of the Pierce Arrow Motor Car Company in the 1920’s, Davis knew well how hard it was to steer the heavy vehicles. He left his job, rented a small engineering shop in Waltham, Mass., and developed a hydraulic power steering system.
- That the first central heating existed nearly 2,000 years ago? In the first century Roman engineers developed the hypocaust system which consisted of terra cotta tubes imbedded in walls. The tubes carried the hot exhaust from a basement wood or coal fire.
- That the Slinky toy was the result of a failed attempt by an engineer to produce an antivibration device for ship instruments? The engineer’s goal was to develop a spring that would instantaneously counterbalance the wave motion that rocks a ship at sea. Instead, he developed the Slinky.

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