



Idea: shed some light on your braai. Experiment: lash a torch to a pair of braai tongs. Prototype: encase an LED in posh-looking tongs that you'd expect to find at upmarket home stores.

### Don't trip yourself up

Common mistakes that novice inventors make are, according to Gauteng patent attorneys Smit & van Wyk (see "Patent pitfalls", September 2006):

- Disclosing the invention prior to filing a patent application.
- Mistakenly believing that the "poor man's patent" – mailing themselves the details in a sealed envelope – is an adequate substitute for the real thing.
- Not carrying out patent infringement searches before starting up.

# DESIGNED to succeed

> BY ANTHONY DOMAN

*Coming up with an invention is the easy part. It's then that the hard work really starts.*

**LIKE most of us,** Roelf Mulder likes nothing better than to savour the tantalising aroma of sizzling chops and wors, swirling up through the smoke over glowing coals.

Lately, though, he's been harder than ever to dislodge from his spot at the grill. It seems his cooking skills have improved dramatically, and it's all thanks to a simple invention.

"I simply can't braai without it," says Mulder.

It's an invention that – please excuse the pun – sheds new light on the dark art of braaiing: a stylish-looking set of tongs

with a built-in torch. Now Mulder can actually see what he's burning.

Disarmingly straightforward – aren't many of the best ideas like that? – the tongs illustrate not only Mulder's new-found cooking prowess, they also show off the design process. And Mulder should know: in his day job as boss of ...XYZ Design, he takes bright ideas and turns them into products that make consumers reach for their wallets.

If the process is followed correctly, the inventor also gets to experience commercial success. Of course, for many inventors, things don't always turn out that way.

Thinking up the braai tongs that nobody can do without is just the start of a long, complicated – to say nothing of costly – process. It's a process that focuses as much on the actual invention as on protecting the inventor's brainchild.

"You can't ignore the legal aspect," Mulder says. "The question is, how do you protect intellectual property rights?"

Before you even think of spending money on developing the better braai tongs you've just dreamed up, you should invest some time and cash in finding out whether or not it's worth the investment.

"You'll have to spend some money on patent searches," says Mulder. The key is: does "your" invention actually already exist anywhere in the world? And if it does, can you actually use it to make money?

And while you're searching, don't always look for the obvious. Case in point: the condom applicator developed by Mulder's team. "An unlikely-sounding but important search term turned out to be 'condom donning device'," he says.

#### This little widget went to market

People come up with an idea, and think they have invented a product. Wrong, says Mulder: "They're two entirely different things."

By the way, if you think inventing is all about making great breakthroughs with

totally new concepts, Mulder opens up the cold tap full blast.

"Most of today's inventions are aimed at comfort. The idea is not necessarily making things cheaper, but making them more convenient. For instance, taking an existing idea such as a car's windscreen wipers and developing that into wipers able to switch on and off automatically depending on whether it is raining."

The braai tongs are an obvious example of the convenience factor. It started with an idea: direct light on what's being grilled. A torch strapped to a pair of tongs confirmed the idea's soundness, even if execution was a little dicey; besides being big and expensive, conventional options lacked robustness, light output, and battery life. Conclusion: nice idea, a little short on commercial potential. But throw in today's high-power LEDs and the scenario changes. Now you've got a prototype that is true as possible to the final product.

So, you've proved that your idea is new, works, and can potentially be put into production. All you have to do is find an investor to buy into your idea and do all the hard (and expensive work) for you while you reap the benefits. Well, dream on.

In the real world, now's the time to take out a provisional patent, which will give you protection – read breathing



**Don't be stumped by problems, says Roelf Mulder: design them out.**

space – for about a year while you keep refining your widget. "What is nice about the provisional patent is that there is a lot of leeway," Mulder says. "Basically, it is all about the central idea – the 'major claim'."

The snag is, he says, your search and subsequent application for a patent may run into delays because all the patent offices across the world are "a little behind". Oh, and seeing that you're



The main purpose behind this condom applicator was to encourage the use of condoms, particularly to combat the spread of sexually transmitted diseases, including HIV. Says Roelf Mulder: "The invention was one thing... marketing it was quite another. Marketing was far more important than the invention."

have discovered that if you just add some sort of radio, you can have a different product – say a timer for feeding – then we will take a stake in the development of that," Mulder says.

As well as developing a concept, the company tests it, both in its patentability and in its environment, using an in-house design and innovation centre and working in conjunction with specific test laboratories around the world. In South Africa, it might be testing for electromagnetic interference; Canada, acoustics; and Switzerland, mobile phone testing.

Their framework is a PRS – a product requirements specification document, detailing – among other things – compliance with various statutory requirements.

"During the invention/discovery process you often get stumped by problems," says Mulder. "I firmly believe that the best way to overcome those problems is to design it out."

The solution could be as simple as optimising the shape or position of a control, like the wind-up radio that Mulder's company worked on. "The invention is the constant-torque spring. When you wind it up, it is always under tension." Part of the design input is the clever way the knob on the winder fits into the rear panel.

Although he runs an ideas factory of sorts, Mulder emphasises that work has to be done within budget and time constraints. Fortunately, funding mechanisms are now offered along with the design, via government seed funding and venture capitalists.

Inventing sounds like awfully hard and expensive work. Is genius really, as Edison so aptly put it, 1 per cent inspiration and 99 per cent perspiration?

Says Mulder: "I like to think it's a lot to do with experience. It's not necessarily nice being inventive; you have to be constantly at it. You have to be disciplined to relax."

PM



sensible and have engaged a patent attorney, your bill has already reached R4 000 to R8 000, depending on the complexity of your application.

Take the process internationally, under the conventions and treaties covering patents, and you'll be presented with comprehensive search reports – and comprehensive bills. "Now we're in the R15 000 to R30 000 region." If you're looking to market your idea or product to the world, you'll need to go through a national phase, with separate patent applications, many having to be translated. "Taking just the 'Big 10' countries covering the US, EC and so forth, you are looking

at a cost of about a half a million rand," says Mulder. And did we mention competitors who might engage you in litigation?

### The ideas factory

Clearly, there's a long road from basic idea through feasibility study to patent viability and brand building. And because ideas people aren't necessarily marketing people, companies like ...XYZ Design exist. Non-disclosure agreements are standard, as are ways of dealing with spin-off *aha!* moments.

"Say we have designed a baby monitor for a client, but through that process