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DESIGN PRODUCT NEWS

Medical Engineering

by Mark Sunderland

Dispensers deceptively simple

In a world of complicated technology, the simple solution to a difficult problem gives reassurance that the universal spirit of invention is alive. The apple that fell for Isaac Newton and the kettle that boiled for James Watt now seem to be commonplace events – but they had extraordinary consequences.

The proverbial apple continues to fall every day and one person I know seems to live in a proverbial orchard. Hassan Issa is a professional inventor who doesn't accept that good ideas should live and die within the cranium, nor that they should become strangled by a tangle of business development and laid to rest in a quiet corner of a mold shop. Somehow, Issa can link a commonplace phenomenon to a useful application for the purpose, he says, of applying simple solutions to complicated problems.

ICUC, (the letters speak for themselves) his Kanata, ON-based company stands for Innovations Cleared-of Unnecessary Complexity. As the name suggests, the company specializes in the creation of simple, yet useful, things – so simple in fact that we might hardly notice them.

ICUC was incorporated in September 1999 and has established itself as a business to assist industry in the creation and improvement of new products and processes for the consumer market, and especially for people with physical disabilities. Many products and inventions begin with a prompt – and that is how ICUC began. Issa, expecting to take one peppermint from a box, accidentally released them all on the floor, and following the use of words that we normally reserve for such occasions; Issa began to pick them up. On the floor amongst the spilled mints, he found a florist's conical plastic tube of the type that supports the stem of a single flower. After filling the tube with the mints he noticed, when turning it upside down to release them, that one mint remained

wedged in the cone.

He tried it again. And again, each time with the same result. Then he went to the medicine cabinet and tried it with different sizes of pill – and each time the cone retained only one. It is at such moments that the inventive spirit is aroused. Where some people wouldn't even notice that a pill was stuck, or just flick it loose, the inventor studies it with simian intensity and ponders on what else it can do.

The device (the cone concept) is extremely simple because it employs the basic principle of friction. Somewhere between the walls of the cone one pill, regardless of shape, will

first fully operational prototypes were made – patents were applied for and ultimately granted. Concurrently with product development, a marketing process was underway to establish what form the product would take, and the applications to which it would be best suited. The prototypes had demonstrated considerable flexibility in the overall design but established that the product was primarily a dispenser and not a container – a basic but significant consideration.

Where else is there a need to capture only one of something? Is the technique to form part of a larger system of will it be the principal feature of an advanced form of packaging, or both? These were typical of the early stage questions. There are many cases in which a method developed for a specific application has become a valuable solution for another.

(A recent example, though much more sophisticated, is the magnetic isolation mount that was designed for the MIR Space Station. The technology is also employed as the principal system of stabilization in the sperm to egg process of in-vitro fertilization.)

It is generally acknowledged the simplicity of a product bears no connection to the effort of launching it – many a dream has turned into a nightmare on the way to the market, and part of the success of an R&D company is in recognizing that innovation doesn't end with product development.

As ICUC continues to expand its arsenal of products, it watches and listens to market trends. So rather than stargazing for flashes of inspiration, there's a well-refined analytical process in place.

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Clockwise from above: The Universal flat wheel, Universal wheel cap and two-piece capsule dispensers. In conjunction with a good industrial designer, an inventor can spin off a design "eureka" directly into a series of commercial products or use an idea as a bridge to a seemingly unrelated product design.

get lodged for isolation from all the others.

Having verified that his observation wasn't a fluke, the next step was to incorporate this feature onto a closed container by a means that would allow only one pill to be released on demand. Issa made a couple of crude models to demonstrate the concept and then partnered with Gibson Product Design, an Ottawa industrial design company. This proved to be a successful partnership that now exemplifies how inventors can benefit from professional experience. A good industrial designer can work with the vagaries of an inventor's mind and serve as a valuable guide.

As the concept was refined, the