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Inventique

The newsletter of Wessex Round Table of Inventors October 2003

Balfour Beatty backs AutoCone

INVESTMENT AND 'FIRST OPTION' BREAKTHROUGH

WRTI MEMBER Brian Flynn has gained the backing of international civil engineers Balfour Beatty in his four-year bid to get his AutoCone idea to market.

The industrial giant has injected development capital into the project and placed an option on the first set of machines to be manufactured.

"This is great news for us," Brian enthused. "It means we can now pursue a Smart Development Grant and enter the Small Firms Guaranteed Loan Scheme in order to get up and running properly."

Brian's design team – which includes his brother John, who flew over from Australia to help build the prototype at Southampton Institute – has refined his novel automated system for the placing and retrieval of road traffic cones.

'Whole-life' cost savings have been built into the device by developing a unique lifting mechanism incorporating computer logic control units, allied to state-of-the-art pneumatics which have also improved its design flexibility.

Innovation generation

"There are innovative aspects of the Autocone's design which I obviously can't talk about yet," said Brian, "– but I believe it's a real winner!"

Target markets for the machine include large corporations involved in the construction and maintenance of main trunk roads and motorways – of which there are twelve in the UK alone.

"We have spoken to two of them at length," Brian revealed. "They are very excited at the thought of making this dangerous, laborious procedure safer, faster and totally mechanical."

He added: "We intend to develop and consolidate the UK market first, then penetrate the northern European market in the second year of production."

Preliminary discussions have also taken place with investors on Wall Street prior to seeking a manufacturing licence in the USA.

"I wouldn't be this far along the road if it hadn't been for the WRTI in general and David Nicholas in particular," said Brian. "I'm also extremely grateful to Southampton Institute, Business Link Wessex, and the Small Business Service for their Smart Feasibility Study award." ■

info@autocone.com

www.autocone.com

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Brian Flynn, inventor of the AutoCone, is pictured (right) introducing his concept at a Kingston University lecture earlier this year.

Congratulations... to DAVID NICHOLAS MBE on being made Visiting Professor to Kingston University. David quipped: "No cap-and-gown invention strategy is required, thank goodness!"

WRTI diary date

WEDNESDAY 12 NOVEMBER

Guest speaker: Rod Drew on fire retardent materials.

SEPTEMBER'S GUEST speaker, ex-airline pilot Andrew Gibbs, presented his design project for the White Diamond Microlight (right), *writes John Gibbs*. Andrew has created a fast, comfortable microlight incorporating unique features such as the raked biplane configuration with joined wing-tips. The ensuing debate over the White Diamond's unusual configuration, the principles of flight, and close analysis of Andrew's excellent schematic drawings, made the lecture just fly by! ■

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VIEW FROM THE CHAIR

AUGUST WAS A SIGNIFICANT month for me in two ways. Firstly I celebrated my 65th birthday and secondly I changed my working arrangement to a four-day week. (My wife, June, thinks that's a farce: she says I still work a seven-day week but now only get paid for four.)

The one thing that doesn't change is the flood of e-mails. I get around 40 a day and they all have to be read. I accept the huge benefits that the world wide web brings but the result is that I seem to have far less time to think.

And thinking is what inventors seem to do differently to anyone else. Has anyone actually been able to explain the 'flash of inspiration' that sparks the idea, which becomes an invention? [See BBC TV's *The Human Mind* on Wednesdays – Ed.]

I've also found that I have to spend more time preparing presentations. Last weekend I talked to the Rotary District conference in Eastbourne, which had 450 people in the audience. (I decided to try to brighten up proceedings by having a jocular title: 'Do inventors make the case for Euthanasia?'. Thankfully the audience realized that this was meant to be funny!) My next talk will be to a group at the University of Lodz in Poland, where I'll spend a few days as their guest, meeting people interested in the invention process. Then home to INTECH to speak briefly at the DTI's annual innovation lecture – merely as a supporting act, I hasten to add!

Your committee continues to work hard to ensure that members get good service from our club. I'm sure that you, like me, appreciate their efforts.

Sincerely,

David

PROFESSOR DAVID NICHOLAS MBE, Chairman

INVENTORATOR Kit Grundy

The Patent path

NOT SURE WHERE IT LEADS? HERE'S A GUIDE

THE PATH to being granted a Patent is a lengthy one, *writes Kit Grundy*. But the steps an inventor can take along it can be summarised as follows:

Step 1 An application is filed at the Patent Office giving provisional protection for the idea for twelve months. This gives a so-called 'Priority Date'.

Step 2 After twelve months a request for search is made. The Patent Office sends the search results after three or four months.

Step 3. Six months later (eighteen months after the original filing date), the application is published and made public for the first time.

Step 4. Within six months of publication, a request for examination is made when it is argued that your invention is new and inventive over any patents found in the search.

Step 5. If successful in Step 4, you receive a granted patent.

Foreign Patents. At the same time as entering Step 2, you can file a patent application in almost any other country, and any foreign patent application becomes back-dated to your priority date. Each foreign patent application will usually be subjected to procedures similar to Steps 2 to 5 above.

Top patenting tips.

- Do not disclose your idea publicly or to a third party (other than with signed confidentiality agreements) until you have filed a patent application.
- Undertake an initial search through the British Patent Office website www.patents.gov.uk before spending any money, to see if somebody else has filed a patent for the same idea. (Once on the Patent Office website front page, click on 'Patents', then click on 'Search our Records', then click on 'esp@cenet', then finally click on 'CLICK HERE'. You can then search through past patents by entering relevant keywords.)
- It is strongly recommended that you seek professional assistance in preparing your patent application.
- Use the first 12 months to find out if your invention is commercially viable. You can then enter Steps 2 to 5 and any foreign patent applications with the knowledge that the cost is justifiable.
- Even after filing a patent application, keep all disclosures of your invention confidential, if possible. You may then be able to re-file the application – thus buying a further twelve months of time – if required.
- Wherever possible, enter Step 2 based on a patent application relating to the product likely to be sold, not on the first conceptual idea of the product.
- Once your invention is published by the Patent Office (Step 3) *you cannot file any foreign patents*. So think carefully before allowing your UK patent to be published.

The whole subject of Patents is a complicated one. The above is not an exhaustive guide for obtaining a patent but an outline plan which is often practical for inventors and small companies to follow.

You are strongly advised to seek seek professional assistance in preparing your patent application ■

● *Kit Grundy is Managing Director of Patent Plan, an IPR, patent and protoyping centre based in East Wittering.* **www.patentsandprototypes.co.uk**

USING TRIZ PRINCIPLES

GRAHAM RAWLINSON CONTINUES HIS SERIES ON HOW TO INVENT (ALMOST) ANYTHING

TRIZ (pronounced 'trees'), is an acronym from the four Russian words 'Teoriya Resheniya Izobretatelskikh Zadatch', which stands for the Theory of Inventive Problem Solving – a theory developed by Russian patent officer, Genrich Altshuller, who noticed similarities in invented solutions from different fields.

In analysing over 200,000 patents, Altshuller discovered that most patented ideas use a number of objective principles and are based on a finite number of physical, chemical and geometric effects, so he developed 40 TRIZ Principles as being common to many inventions. Using one or more of these Principles as tools can help solve any inventive problem.

HERE ARE A further seven of the 40 TRIZ Principles developed by Genrich Altshuller, for you to include in your problem-solving matrix.

22. Convert harm into benefit Sometimes harmful or undesired effects, such as the creation of waste, result from the process. A simple conversion of harm to benefit is when the heat from a vehicle engine is used to warm the people in the car. Many industries were born from inventively looking at how waste can be not only recycled but also put to good use. If something does not work well, ask 'where else would this limited effect be useful'. You can even increase the harm to create benefit, such as making enough flammable waste gases to heat the building.

23. Feedback Feedback is taking or sensing the output of a system and using this to change events which happen before, such as a thermostat being used to control temperature. You can also reverse feedback, perhaps to exaggerate or accelerate change or to cancel out an undesirable effect. Pop stars use positive feedback to create howling guitar noises. People who like silence can use noise-cancelling feedback.

24. Mediator Sometimes you need an action carried out which cannot easily be done by the system as it is. In this case, you have the option of either adding a new part or temporarily bringing in something to perform the action. To removed liquid from a vessel, you can build in a tipping mechanism or bring in a pump when needed.

25. Self-service Can your device do things for itself, even occasional actions such as maintenance or testing? To create a hole into which a tube must fit very snugly, you might be able to get the tube to drill the hole itself by heating or sharpening the end. Perhaps in combination with another principle such as vibration.

26. Copying Rather than use the expensive, delicate or inaccessible original, can you use a simple copy? This may be done physically or optically, such as using an image of some sort. Once you have a copy, you can change it in different ways to achieve the desired benefit. Image intensifiers work by taking a copy of the light available and amplifying it. It may, for example, be easier to measure a copy of an object than the object itself.

27. Inexpensive short life When something is relatively expensive or causes other problems, you might be able to replace it with something cheaper that works for the moment. This is a principle that has been used many times to create a disposable society. From Gillette's razor blades onwards, many inventors have found that a lucrative income can be created with cheap devices that people buy regularly.

28. Replacement of a mechanical system Mechanical inventors sometimes get trapped by their discipline and opportunities arise for those with knowledge of other subjects to improve the system. You can even replace physical systems with invisible effects, for example replacing wheels on a train by a magnetic lift system. You can also create different effects by varying fields such as using high frequencies or pulsing.

Next month: Principle 29-36. ■

triz@dagr.demon.co.uk www.triz.org

● *Innovation consultant Dr Graham Rawlinson is co-author with David Straker of* How to Invent (Almost) Anything, *ISBN 1 904298 87 7*

HUMORESQUE

from Dave Challice dchallic@bournemouth.ac.uk

1. If at first you don't succeed, skydiving is not for you.
2. Generally speaking, you aren't learning much when your lips are moving.
3. There are two theories about arguing with someone. Neither one works.
4. Good judgment comes from bad experience, and a lot of that comes from bad judgment.
5. Experience is something you don't get until just after you need it.

Inventique@hotmail.com

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"Imagination is more important than knowledge." – Albert Einstein

CENTRE OF EXCELLENCE Technical Commercialization

Data monitor, USA

REPORTER OF WORLD INNOVATION EXPENDITURE

THE BIG PICTURE is what editor Neil MacDonald paints for monthly subscribers to his *Technology Commercialization*, the innovation-and-industry watchdog.

Here's where you'll learn that the University of California earned $100m from licences in 2002, enters into 1,000 non-disclosure agreements every year, and has received more patents than any other university in the world (2,502 US; 2,051 foreign). And then there are the *other* eight pages of information to absorb...

As well as covering life sciences, including medicine and biotechnology, *TC* reveals industry-sector advances which won't be seen in the market for another decade. Global cybernet, advanced multifunctional materials or non-lethal weapons, anyone? ■

● **Contact: Editortekcomm@aol.com**

Technology Commercialization

BIG FIGURES IN EUROPEAN STUDY OF 'INTANGIBLES'

Over $10-billion royalties lost in UK alone due to inadequate IP regime, report says.

"Deficiencies in the current [European Union intellectual property] system are costing Europe dear," Clark Eustace of PRISM claimed at a meeting in London this month.

Delegates at the July 4 event heard findings of an 18-month-long study of issues resulting from the growing importance of intangible assets (IP, r&d, know-how, reputation and human capital).

The study has been funded by the European Commission's Information Society Technologies programme.

"It's a matter of urgency for the European Commission to address [these deficiencies] if it's to deliver on its Lisbon objective," Eustace said.

He claimed that the current IP regime works in a fashion that "clearly favours" large companies over SMEs in patents.

Condensed from the July 2003 issue, North America Edition, Vol.13 No.7

WEBSITE OF THE MONTH

www.ideas21.co.uk

A conduit for up-to-date information about inventions and innovation (awards, competitions, exhibitions, IPR, new inventions etc).

MEMBER SERVICES

Entries in this column are free to WRTI Members, who should mail their details to the Editor (see panel at foot of page).

CONCEPT TO MANUFACTURE. Help with presentation, prototyping, technical & manufacturing issues. Contact: Innovate Product Design, 01722 410 295

EDITOR/DESIGNER/JOURNALIST 30 years book, magazine and partwork experience. Contact: Frank Landamore, 01273 475 184 **franklandamore@hotmail.com**

ELECTRONICS CONSULTANT with 30 years experience, specialising in wireless and positioning technologies. Contact: Mike Overy, 01420 562378 **mike.overy@zen.co.uk**

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INNOVATION CONSULTANT and trainer specialising in TRIZ, author of *How to Invent (Almost) Anything.* Contact: Graham Rawlinson 01403 871321 **Graham@dagr.demon.co.uk**