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EDUCATION FOUNDATION

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American Slovenian Education Foundation (ASEF) – Inaugural Lecture

*Invention and Patents: Thinking like
an Inventor*

September 8, 2014

“American-Style” Disclaimer

- Nothing in this presentation is legal advice – only your personal lawyer can provide that.
- Disclosing your ideas and inventions without a written confidentiality agreement can legally prevent you from obtaining patent protection. So, please do not discuss your new ideas with third parties (including us) in the absence of a confidentiality agreement.
- Our views are our own – not the views of the ASEF or any other entity.

Personal Introduction

- Richard C. Fuisz, M.D., a medical doctor with over one hundred and fifteen issued US patents in drug delivery systems, medical devices, e-commerce, web browser functionality and other areas (rfuisz@fuiszmail.com)
- Joseph M. Fuisz, Esq., a lawyer with over twenty eight issues US patents (jfuisz@fuisz.com)
- Premkurje, Slovenian descent and both Slovenian citizens.
- We principally work alone – with occasional use of specialized consultants – so we hope that our experience will be relevant to independent inventors and small enterprises in Slovenia.

Village of Krog, Slovenia



Bethlehem Steel



**Our First Inventor – Anton Fuisz --
Charcoal for treating Coccidiosis (not
patented)**

Fuisz Antona Meat Market

NÁJFINEJSE MESZOU ZA NÁJNIZSISO CEJNO

Poiscsite me ednook gori i ogvüsate sze od zadovolnoszti
Vékse ordere domou pripelamo



10 E. FOURTH STREET

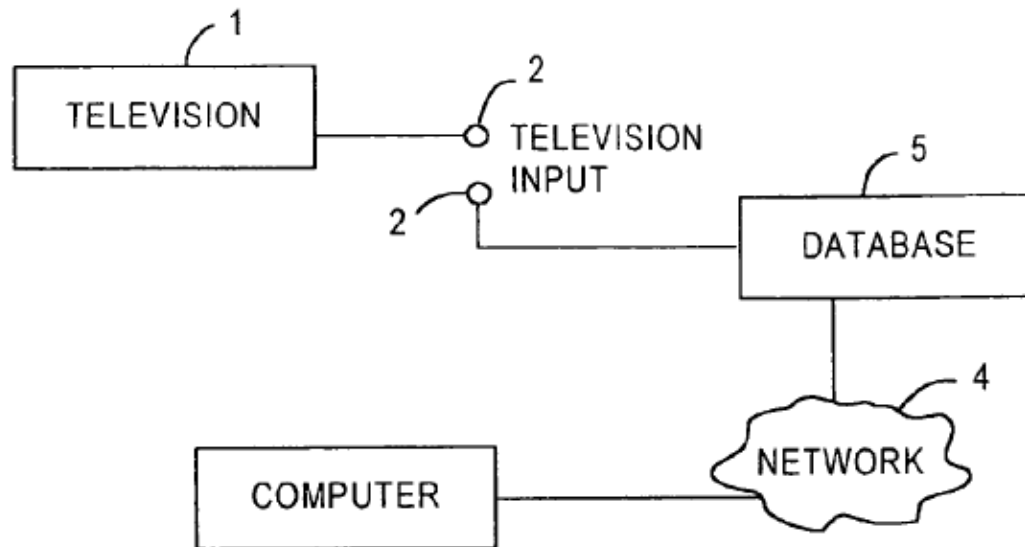
BETHLEHEM, PA.

(VU BUCHINOVOJ ZELENYA BAOTI)

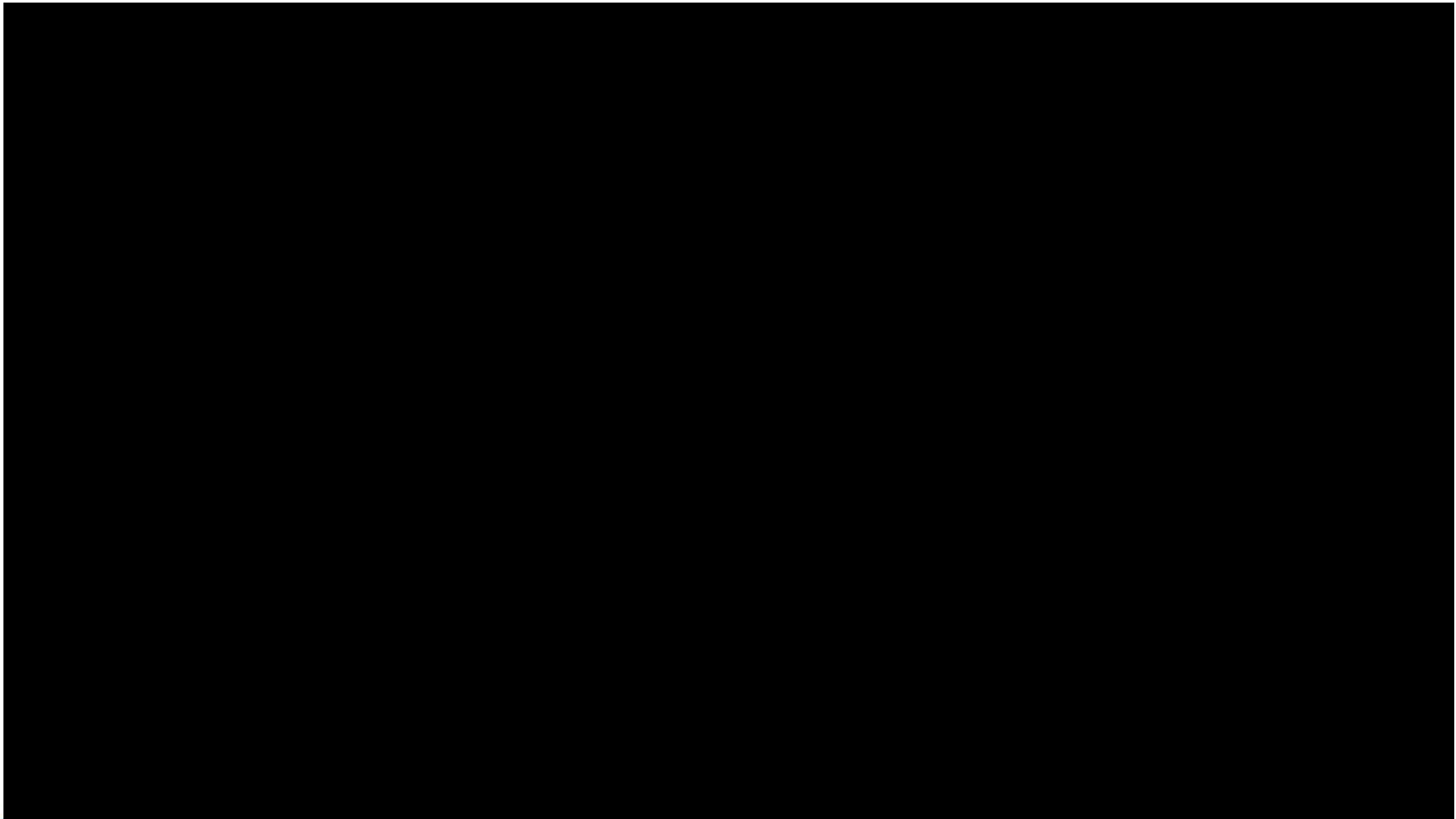
Phone 4625

Interactive Marketing – “Visual Image Marketing (VIM)”

- A 2001 patent application that contemplated click-enabled video – allowing a user to click on an object in a video sequence.
- Patent issued in 2011 (Fuisz US 7,899,705)



Visual Image Marketing Patent – basis for Fuisz Media Inc



Fuisz Media Inc (www.fuiszmedia.com)

- Small company based in Los Angeles, CA and run by Justin Fuisz (CEO) based on visual image marketing patent, with approximately eight employees.
- Seeks to address fundamental shift: young viewers are switching from watching content on television to watching content tablets and computers.
- Good example of a contemporary market need coalescing around a patent filed years earlier, i.e. successfully anticipating a need with a substantially earlier patent filing.
- Fuisz Media system seems to provide new revenue stream and enable interactivity
- Clients include companies like Nike, Target and Walmart.

Fuisz Technologies: Cotton Candy Spinner at a country fair. Novel application of known process – drugs in spun sugar – to make fast dissolving tablet (see Fuisz US 4,873,085)



This spun sugar tablet became basis for Fuisz Technologies

- Original patent work done by Richard Fuisz in the guest house of his Pennsylvania home.
- Founded a company that developed a large body of patents around tablet matrices, taste masking, food applications and the like
- Patent portfolio: multiple follow on patents using “cotton candy” process for other inventions, i.e. drug microspheres
- Fuisz Technologies – public company based in Virginia with operations in Ireland, Germany and Italy. Sold to Biovail.
- Inspired our entry into thin film drug delivery

Thin Film dosage form



Patent approach in thin film oriented towards content uniformity in manufacture.

- We saw thin film as a proto-liquid – solid dosage form that borders on liquid yet not hydroscopic
- Patent approach oriented towards content uniformity – i.e. each film having the identical, indicated amount of drug (e.g. 5 mg dose) (See Fuisz US 8,017,150)
- Patents developed in part in small former tile shop in Northern Virginia
- Thin film drug delivery patents that became basis for MonoSol Rx ([www.monosolrx](http://www.monosolrx.com))
- Used in Reckitt's Suboxone[®] -- (heroin addiction treatment) – biggest lifecycle management success in history of modern drug delivery technology.

Inventions need to be novel – not necessarily complex complex (Chicken Soup)

- A maker of soup would understand the principle underlying our quasi-bilayer film dosage form patent (US 8,241,661).
- Covers making a film with a fat that rises to the top during manufacture to form a backing layer to reduce salivary flow – so you swallow less drug and absorb more in the cheek. This is the same principle as fat rising to the top of chicken soup in your refrigerator.



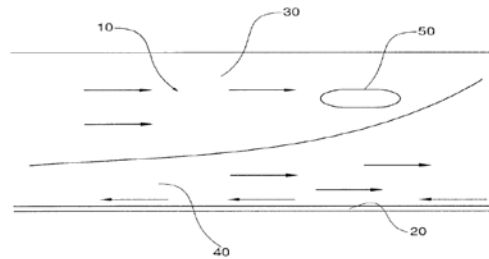
Continuing to mine your field of expertise

- For example, we did a lot of patent work for fast dissolving drug containing films.
- We went on to patent a slow dissolving film/sheet, using a different process (hot melt extrusion) more conducive to a slow dissolving product that is useful for nicotine replacement and next generation tobacco product area (see e.g. US 8,613,285 sold to Philip Morris International)



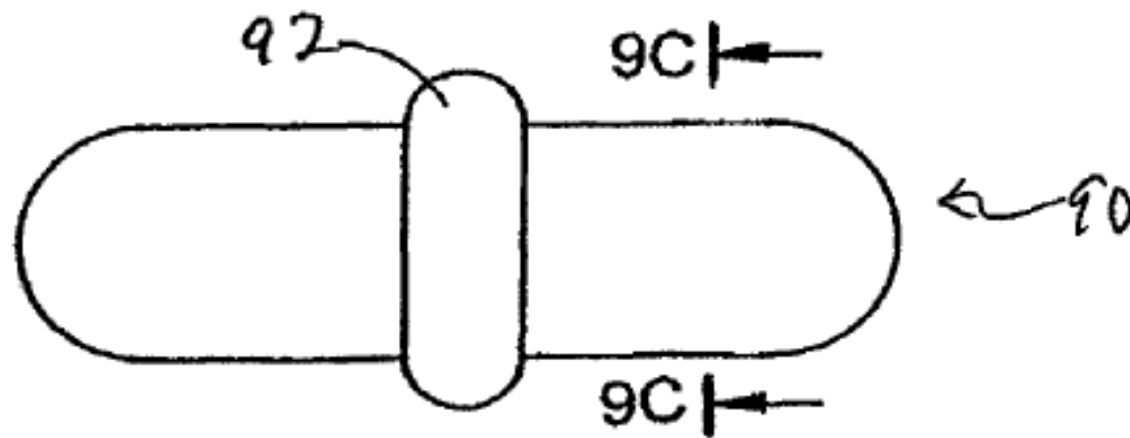
Consumer and Industry habits can be hard to change: Swalloweasy®

- Swalloweasy – a system to replace water with a liquid designed for administration of tablets or capsules (Fuisz US 6,337,083).



- Industry did not support this – too expensive to ship liquid and pharmacy not equipped – too different. In informal use in pediatric wards.

Saturn Tablet® – improving the swallowing of tablets through new, counterintuitive tablet design design (Fuisz US 8,383,135)



A Look behind the curtain at the invention of the Saturn Tablet[®]

- R&D does not require expensive labs!



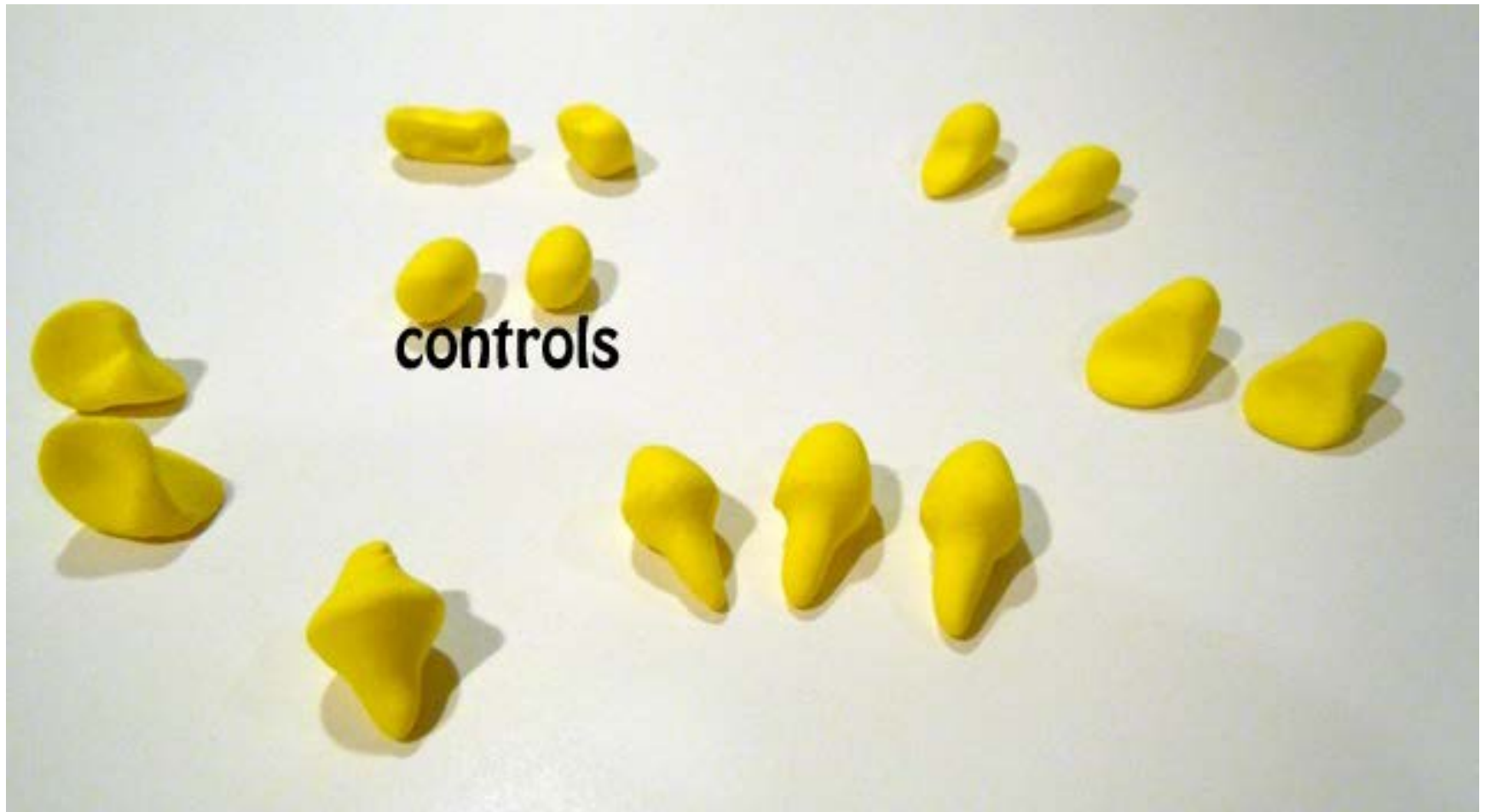
The First Saturn Tablet® Experiment: two different tablet shapes on adhesive tape, then exposed to flowing water



Saturn Tablet® -- the simple tools used

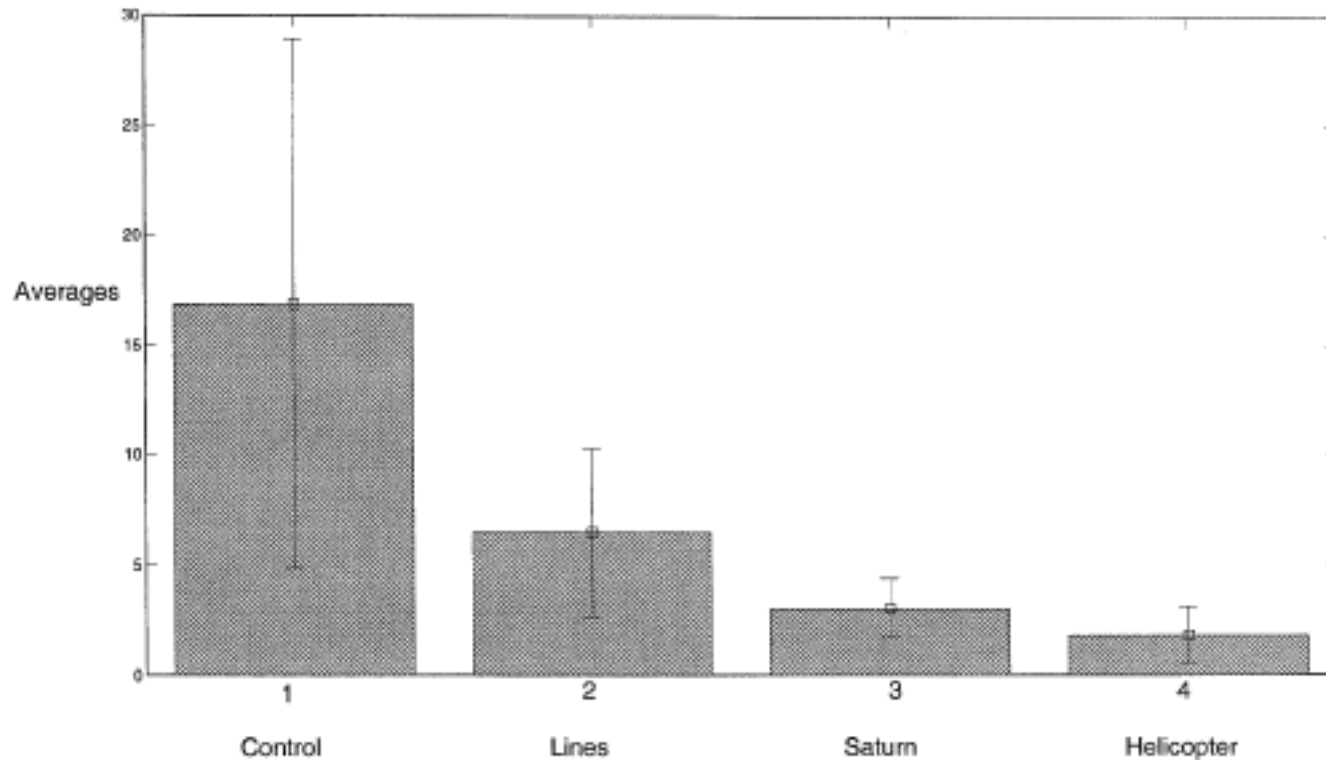


Saturn Tablet[®] in vitro – simple ejection from a water-filled beaker



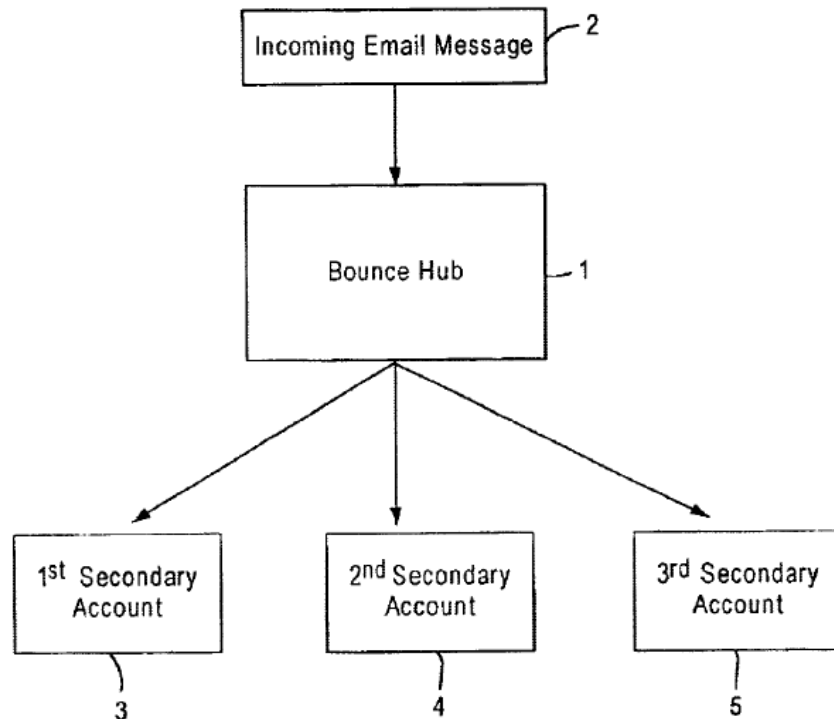
Saturn Tablet® in vivo: Clinical Study Results

faster and more reliable esophageal transit!



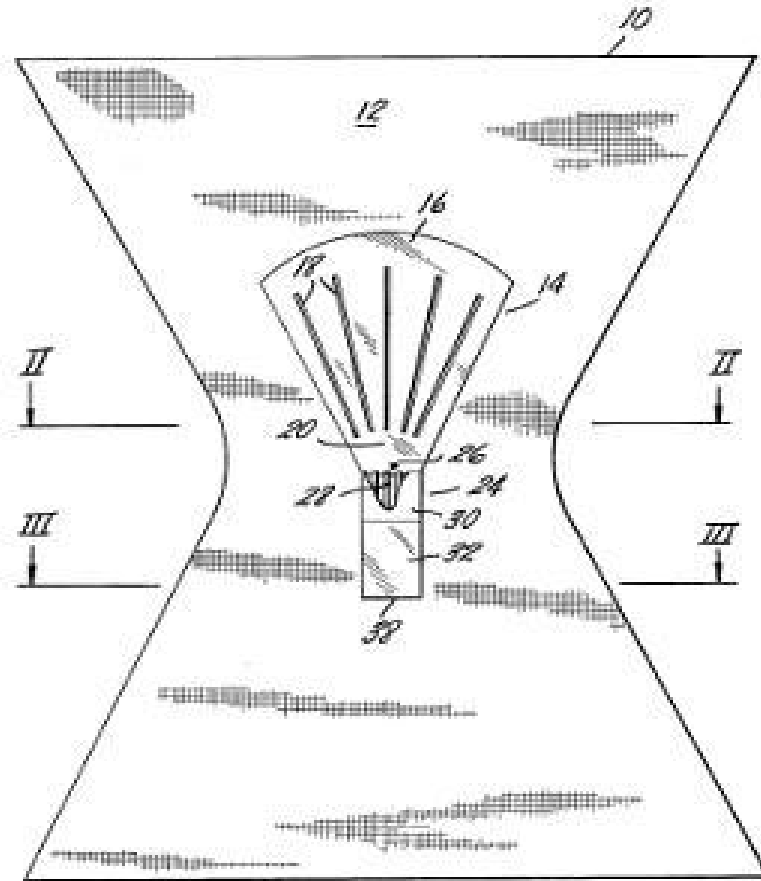
E-mail – anticipating evolution of an industry

- E-mail hub – embedding a final e-mail address in an interim address to control and centralize e-mail traffic (Fuisz US 8,495,150) – anticipated need to control e-mail traffic.

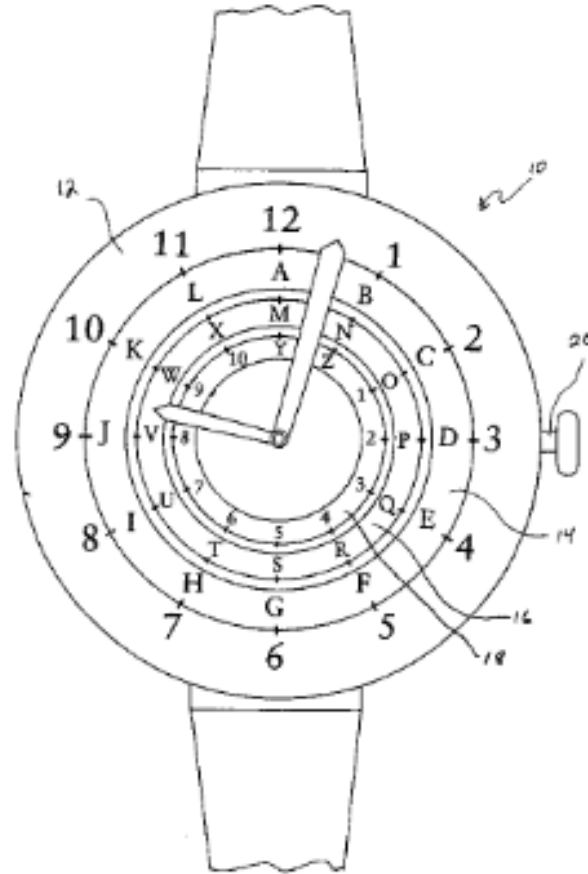


Diagnostic Diaper – a Cautionary Tale of Industry Partnership (Fuisz US 4,700,714)

– Partners may bury innovations



Cipher Wristwatch (US 8,264,910)



The Creative Process – the Idea Phase

- For the commercial inventor, looking five to ten years into the future is probably an ideal time horizon. Immediate needs can be hard to patent – looking too far to the future can lead to patent that is difficult to commercialize.
- How will industry evolve in your field of invention?

Picking a Field of Invention

- There is truth in the view that the outsider in a field may have unique insight being unburdened by conventional wisdom, though basic understanding of a field is important – otherwise you are throwing a dart in the dark.
- Generally, we also recommend some consideration as to the culture of the industry. Some fields tend to respect patents more than others (pharma versus software).

Some Thoughts on Preparing Patent Applications (Do it Yourself as Much as Possible)

- Unlike to review our own prior art. Google patents and similar databases make this cheap and accessible as one becomes comfortable with reading patents (this part takes time).
- At its best, this is a sort of exercise in the intellectual history of a field: what were the needs of a field, and the limits on products and processes.
- If you have a firm grasp on this, you will help focus your own mind on the potentially patentable aspects of your invention. Virtually all inventions stand on the shoulders of the prior art.

Some Thoughts on Preparing Patent Applications (Continued)

- For example, the history of tobacco patent art has had a remarkably consistent focus on manufacturing efficiency (making more product with less). Once you understand this theme, you see that deviating from an efficiency focus is a good way to differentiate your patent application.
- You want to essentially place the prior art in a series of accurate boxes, understanding what it teaches and fails to teach.
- So we see this as part intellectual history and part narrative writing (understand prior art and accurately describing it).

US versus European System

- Patent law has largely been harmonized.
- Few things we like about the US patent system: accelerated review (age of applicant or pay for accelerated review), and the relative ease of meeting with the examiner.
- We like examiner meetings as a way of engaging the examiner in the subject matter.
- **Time of patent prosecution is the biggest cost driver.**

Controversy about Patenting

- The “troll” metaphor: various definitions, but generally someone who acquires someone else’s patents to enforce them w/out making a product itself (“non practicing entity”).
- Generally the most vocal proponents of this “troll” critique are large companies (Silicon Valley), who themselves file and acquire lots of patents. Generally, their proposals are intended to make it harder (costlier) for small companies to obtain patents, and harder (costlier) for small companies to enforce patents.
- The above favors the larger more powerful companies at the expense of smaller companies, universities and individuals.

Areas where you will hear more shortly from Fuisz

- Enhancing absorption and efficiency of medical marijuana and base alkaloids.
- Changing commercial tablet shapes through the Saturn[®] family of patents
- Introduction of organic-certified e-liquids for vaping (e-cigarettes)
- Further growth for Fuisz Media interactive advertising.

Thank you for listening!

- Any questions we are happy to entertain.
 - Richard Fuisz, M.D.
 - Joseph Fuisz, Esq.