

Intellectual Property

5 years at CIPO

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Intellectual Property

“Intellectual property refers to creations of the mind: inventions, literary and artistic works, symbols, names, images, and designs used in commerce”

Why should I care about IP?

creations of the mind, 'a' form of intellectual properties

Canadians historically haven't done IP well, if we don't step up we're not going to be able to catch up

Forms of Intellectual Property

- Patent
- Copyright
- Trademark
- Trade Secret
- Industrial Design
- Integrated Circuit Topography **blackberry**
- Plant Breeder Rights 'weed' industry

Patent

- Full disclosure of your invention in return for a period of exclusivity (20 year) & geographically limited monopoly to practice your invention.
- Canada and the US are both first to file countries

A patent is Negative Right: A patent only makes a fence around the global map of inventions

They are jurisdictional patterns

Office de la Propriété Intellectuelle du Canada
Un organisme d'Industrie Canada

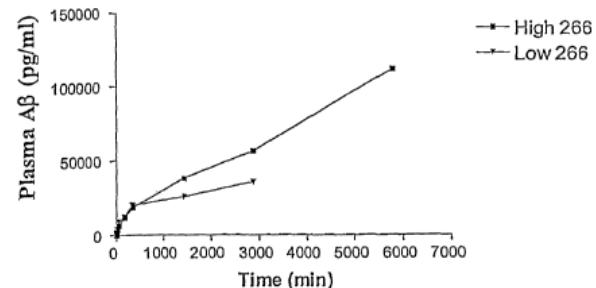
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(54) Titre : ANTICORPS HUMANISES SEQUESTRANT UN PEPTIDE AMYLOÏDE $\alpha\beta$
(54) Title: HUMANIZED ANTIBODIES THAT SEQUESTER $\alpha\beta$ PEPTIDE

A β Levels in Plasma following Intravenous 266 Injection in APP^{V717F} Mice



(57) Abrégé/Abstract:
A method to treat conditions characterized by formation of amyloid plaques both prophylactically and therapeutically is described. The method employs humanized antibodies which sequester soluble A β peptide from human biological fluids or which preferably specifically bind an epitope contained within position 13-28 of the amyloid beta peptide A β .

Canada

<http://opic.gc.ca> · Ottawa-Hull K1A 0C9 · <http://cipo.gc.ca>
OPIC · CIPO 191

OPIC C I P O

Canada

Requirements for Patentability

1. Novel: must be new, first in the world
2. Useful: functional and operative
3. Non-obvious: must show ingenuity and must not be obvious to someone of average skill in the field of the invention

Test for this has to be new

You cannot patent an invention from another country here

**Non obvious iff If a professor in the research realizes
that its not just a combination of two pre-existing
patents**

Patents

95% of **patents** are improvements to existing patented inventions.



Public Disclosure... So What?

- Limited grace period to file a patent application in certain jurisdictions (eg. 1 year in N. America, Australia and Mexico; 6 months in Japan)
- Lose all other International patent rights thereafter
- Significant as European rights lost
- What constitutes public disclosure?
- Disclosure anywhere in the world counts as public disclosure

even a private conversation can be considered public disclosure

generally recommend just filing the fucking patent before disclosing anything

Industrial Design/Design Patents

aesthetics

- Intended to protect product features which appeal to the eye
- Protection varies by jurisdiction - up to 10 years in Canada
- A design must be new and original – sufficiently distinct so as not to resemble a design already registered
- Use of industrial design is on the rise in Canada and in the United States

cost is lowest

Industrial Design Continued...

- Similar to a Design Patent in the United States which has a 14 year non renewable term
- There is no such thing as world wide protection of industrial design; however...
- Paris Convention

lululemon

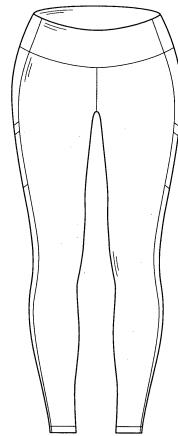
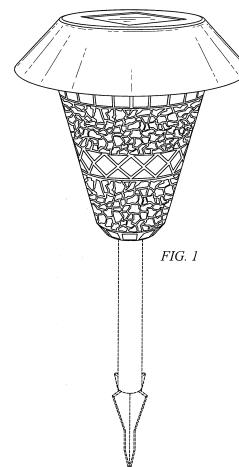
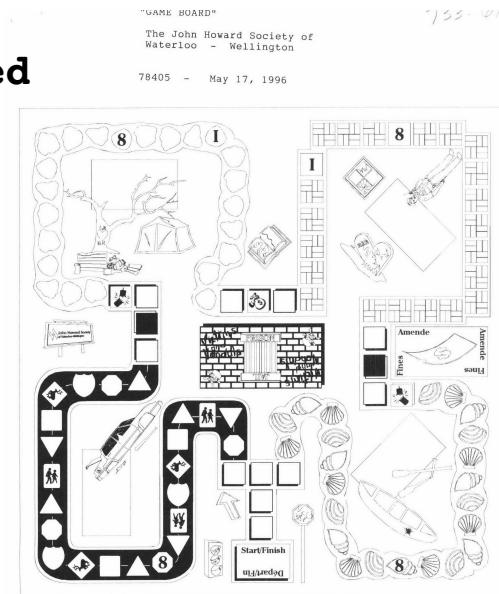


FIG.



**nomo garden lights,
aesthetic was improved**

**Board Game, to help
teens make**



Industrial Design Continued...

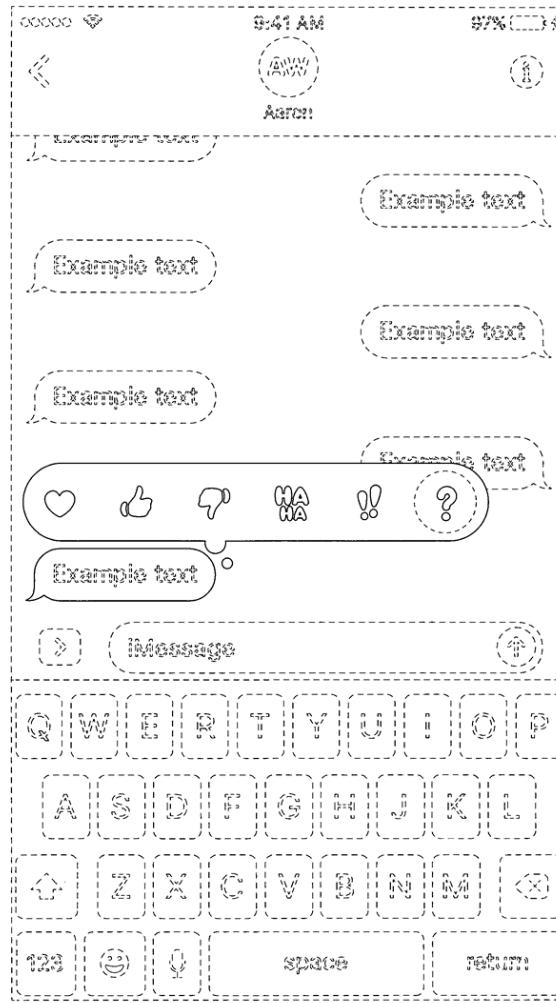


FIG. 1

Bubbles in the iMessage, Apple owns the order, only solid lines are protected in this patent

The environment can change i.e. the dots can change

Samsung can just change order

Trade Secret

- Indefinite intellectual property protection by keeping it a secret
 - Requirements:
 - Not easily reverse engineered
 - Strict limits on number of individuals with access to the information
 - Strict controls over information to maintain confidentiality (NDAs recommended)
 - Risks:
 - If the Trade Secret is inadvertently disclosed, no legal protection exists
 - 3rd parties who file a patent application which covers the information gain control
 - Stealth mode:
 - Known strategy at research facilities such as Quantum Valley Investments
 - Once research phase is over, will switch from trade secrets to filing for patents
- quantum computing companies
are very secretive, stealth mode**

How to keep a trade secret a secret?

- Non disclosure or confidentiality agreements;
- Confidentiality clauses in employment agreements;
- Encrypt any valuable business information;
- Use password protection to access valuable business information;
- Lock and key



The Coca-Cola Company Chairman and CEO Muhtar Kent holds the safety deposit box containing the 125-year-old secret formula for Coca-Cola in front of the entrance to a new permanent exhibit that opens today at the World of Coca-Cola in Atlanta. Coca-Cola moved the secret formula from a vault at the SunTrust Bank, where it had been held for more than 86 years. For the first time in history, the actual vault containing the secret formula, the centerpiece of this new exhibit, is visible to the public. (APR)

Copyright

- Protects authors of “original works of authorship” - including literary, dramatic, musical, artistic and certain other intellectual works (eg. software code)
- Protection is automatic on both published and unpublished works
- Protection is for life of the author + 50 years in Canada (+70 in the US)
- © [First year of publication], [Name of owner of copyright]. All rights reserved
 - eg. © 2015 John Doe
- Unregistered vs registered
can register or not, its optional

Moral Rights

- Rights an author retains over the integrity of a work
- Moral rights can be waived but cannot be assigned
- eg. Snow v, Eaton Centre Ltd.



Went all the way to supreme court, they can no longer decorate the geese

Generally now, in such arrangements corporations ask the author to waive these rights so that no one has them, artists generally want to keep them

Canada and UK are the ones that respect Moral Rights, US generally has precedence rather than legislature anything that can be copyrighted can be covered under moral

Up until 1.5 weeks ago, you would have to be actively using, but now you just get precedence

Trademark/Service Mark

- A trademark is a word, a symbol, a logo, a picture, a design of goods (or services), or a combination of these, used to distinguish the wares (or services) of one person or organization from those of others in the marketplace
- New marks in Canada – smells, sounds, holographic marks
 - TM v. ®



Other types of Trademarks

- Retail Outlets, app icons, taste

apple store,
freshii



Louis
Vuitton
won/lost
the red
heels



Google and CocaCola and Pepsi fucking trademarked the colours



Simple or Complex?

- How many types of IP exist?
 - Patent **bottling process, or the word pop on the can**
 - Copyright
 - Trademark
 - Trade Secret **fucking recipe**
 - Industrial Design



Fanta – We got a trademark, but we want to use the brand on different sides of the globe in the war, so what do we do? we market under a different brand

IP Protection - iPhone™



**How round the corners are
They patented the distance between edge and screen
home button**

Lessons Learned

Trademarks

- Obtain a registration
- Use it or lose it

Trade Secrets

- Confidential information
- Vulnerable to independent discoveries, disclosure, and reverse engineering

Copyright

- Automatic rights upon creation
- Use original work or works in the public domain

Industrial Designs

- Non-functional aspects of design

Patents

- Avoid disclosure prior to filing
- “First to File”

IP Business Strategy Basics

- Corporate Structure – IP Assignment
- Sales & Marketing – Trademarks & Licensing, prior art searching for competitive information
- Human Resources – Employment contracts, NDAs, IP rights, Patent Incentive Programs
- Research & Development – all of the above, patent documentation, NDAs, Confidentiality Agreements
- Accounting – IP Securitization, Licensing
- Operations – Vendor NDAs

Protection for Computer Related Inventions

- Hardware
 - Trade secret
 - Patents
- Software
 - Trade secrets
 - Patents
 - Copyrights



```
# socket.error, "urllib2 error (%s)" % msg
# socket.error, "Socket error (%s) for host %s (%s)" % (errno,
for h3 in page.findAll("h3"):
    value = (h3.contents[0])
    if value != "Afdeeling":
        print >> txt, value
        import codecs
        f = codecs.open("alle.txt", "r", encoding="utf-8")
        text = f.read()
        f.close()
        # open the file again for writing
        f = codecs.open("alle.txt", "w", encoding="utf-8")
        f.write(value+"\n")
        # write the original contents
```



Hardware – Trade Secret Protection

- Trade secrets are not often used in the mechanical arts, due to the threat of reverse engineering.
- If the housing of the hardware was made from a proprietary chemical composition, then said composition could be maintained as a trade secret.
- Prior to filing a patent application, the invention may be kept as a trade secret.



Hardware – Patent Protection

- Hardware would be treated like any other device (television, radio, fan, ...).
- A patent would protect the function of the hardware.
- All computer related inventions must be claimed as hardware, even software!



Hardware – Combination of IP Protection

- Used Consecutively
 - While developing an invention, it may be kept as a trade secret.
 - The invention may then be disclosed in a patent application.
 - The disclosure ends the secret.
- Used Simultaneously
 - Certain aspects of the invention may be protected by a trade secret (e.g.- chemical composition of housing).
 - Other aspects of the invention may be protected by a patent (e.g.- the functioning of the hardware).



Protecting Software

- Two major concerns
 - How to protect the underlying algorithm
 - How to protect the actual code
- Trade secret, patent, copyright or combination thereof?

```
    # ncfiles: urllib2 error (ns) % msg
    print "ncfiles: Socket error (ns) for host %s (%s)" % (host, strerror)
for h3 in page.findAll("h3"):
    value = (h3.contents[0])
    if value != "Afdeeling":
        print >> txt, value
        import codecs
        f = codecs.open("alle.txt", "r", encoding="utf-8")
        text = f.read()
        f.close()
        # open the file again for writing
        f = codecs.open("alle.txt", "w", encoding="utf-8")
        f.write(value+"\n")
        # write the original contents
```

Software – Trade Secret Protection

- When protected as a trade secret, software will need to be encrypted if it is to be distributed.
- Threat of reverse engineering.
- Relatively inexpensive protection (however, legal fees for NDAs, confidentiality agreements, employment agreements, etc. can also become quite costly over time)
- Indefinite duration of protection
 - The protection lasts as long as the secret is kept



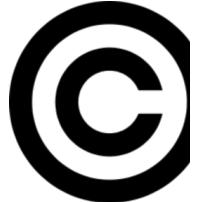
Software – Copyright Protection

- Section 2 of the Copyright Act
 - “literary work” includes computer programs
 - “computer program” means a set of instructions or statements, expressed, fixed, embodied or stored in any manner, that is to be used directly or indirectly in a computer in order to bring about a specific result.
- Both ‘operating systems’ programs and ‘applications’ programs are suitable material for copyright.



Software – Copyright Protection (continued)

- Section 30.6 of the Copyright Act is specific to programs.
 - Allowed to make a single reproduction (**Lawyers, please elaborate**)
 - Back-up
 - Modifications for user's own specific use
- Taking 'substantial' fragments of a program and putting them into another program is infringement.
 - Right to reproduce a 'substantial' part



Software – Copyright Protection (continued)

- Only protects the expression of the work and not the idea underlying the work.
 - The exact lines of code used to express the algorithm will be protected but not the function of the algorithm.
 - If the algorithm was written in a different expression, it would not be infringing, even if it performed the same function.
 - Although extremely rare, another programmer could write the identical lines of code; so long as the work was independent, it would not be infringing.
- Protects an original work in the fixed form in which it has been set down.
 - The exact lines of code will be protected from copying.



Software – Copyright Protection (continued)

International

- Copyright protection does not depend on formalities such as registration or deposit of copies in the 151 countries party to the Berne Convention for the Protection of Literary and Artistic Works
- International copyright protection is automatic – it begins as soon as a work is created and lasts for the life of the author plus 50 or 70 years after the authors death (length dependent on country)
- **Lawyers, how is this enforced?**

Software – Patent Protection

- In Canada, software is not patentable, per se.
- Algorithms are not patentable in Canada, per se (Schlumberger)
- Subsection 27(8) of the Patent Act states that “no patent shall be granted for any mere scientific principle or abstract theorem”.
- A device using an algorithm is patentable
- Claims must be written in normal language and not code.

Software – Patent Protection (continued)

- Protects the actual inventive concept (function) as well as the reduction to practice.
 - The actual function (algorithm) of the software will be protected, no matter how it is coded.
- Must be claimed as hardware: actual computer or computer readable medium.
- The software must change the computer in a new and non-obvious manner.
- Patent law can change drastically from one country to another.
 - Amazon “one-click” patent application was allowed in the U.S. and Canada.
 - Amazon “one-click” patent application was NOT allowed in Europe.



Software Patents Around The World

- Around the world, the patenting of software is still evolving.
- U.S.A.
 - Software is patentable, per se.
 - The claimed invention as a whole must be a practical application of an abstract idea providing a useful, concrete and tangible result.
- Europe
 - The European Patent Convention (EPC) expressly excludes computer programs, per se.
 - For a patent to be granted for a computer-implemented invention, a technical problem has to be solved in a novel and non-obvious manner.



The Problem with Software Patents

- Poor quality in early software patents
 - Limited prior art
 - Little to no guidance for patent examiners; a skilled patent agent and lawyer is required
 - Minimal case law
 - Constantly evolving process
- Causing havoc in the world of patent litigation.
 - Claims are too broad in earlier allowed software patents.
 - Non-Practicing Entities (Patent Trolls) were taking advantage of the situation.
- Software patents are extremely complex. Prioritize using an IP professional. It is very difficult to successfully file a software patent on your own. **Lawyers**, please give an examples of errors made by non legal professionals while filing?



Software Trade Secret Protection - Summary



- Used to protect all aspects of the software
- Threat of reverse engineering
 - If secret is lost, then so is the protection
- Relatively inexpensive
 - Cost of maintaining the secret
- Indefinite duration of protection
 - As long as the secret lasts so does the protection.

Amazon tried to patent the online checkout system, but failed

Two click checkout got granted in the US

Software Copyright Protection - Summary

- Protects the actual code and substantial parts (algorithms) thereof from being copied.
- Only protects the expression (the exact way the code was written)
 - Would not protect against a program performing the same function but coded differently (different expression)
- Relatively inexpensive
- Long duration of protection
 - Usually the author's life plus fifty years.



Software Patent Protection - Summary

- Broad protection
 - Protects the actual function
 - Protects against all codes and algorithms that would deliver the same function.
- Must be claimed as something tangible
 - Claimed as a device controlled by said software.
 - Claimed as read-only memory (ROM), etc.
- Expensive; always use a patent agent with experience in this area
- Twenty years of protection

What about trademarks and industrial designs?

- TM and ID will not protect the actual software.
- A trademark will protect the name, logo, sound, design or a combination thereof.
- An industrial design may be used to protect a specific shape of packaging or a shape of the device storing/using the software.
- TM and ID can be used to protect the brand of the software but will not stop competitors from providing the same or similar software.

What is IP? Why is it important?

IP strategy aligns with business strategy and protects competitive advantages

- IP is an asset
 - Registered and non-registered IP are valuable
- IP rights can be used for protection
 - IP can be used to prevent copying (e.g., products, services, reputation)
- IP can be used for marketing
 - IP can help create a corporate brand and promote reputation of innovation

Where to further educate yourself about IP

- Canadian Intellectual Property Office (CIPO)
 - Several guides to: Patents, Copyrights, Trade-marks, Industrial Designs, Leverage Your IP Assets for Business Sources
 - Local business development officers available for one-on-one guidance
- United States Patent and Trademark Office (USPTO)
- World Intellectual Property Office (WIPO)
- Call an IP professional – CIPO is happy to introduce you! Note, very few lawyers in Waterloo Region are actually patent lawyers, and not all patent agents are lawyers. Be careful in your selection.



How do Intellectual Property Considerations impact me?

Software, Digital Rights and Educational Material:

- Ensure right to use material (have contractor(s), employees, students assign rights)
- Control dissemination of code
- Open source
- Apps

Confidentiality Agreement (CDA):

- Provides assurances that “Confidential Information” will not be disclosed to another party.
- Defines:
 - the **Information**
 - the **Use** of the Confidential Information
 - the **Ownership**
 - **Period of Use** and Confidentiality
 - **Governing Laws** and **Jurisdiction**

IP Strategy:

- **Searching**
 - Competitive intelligence, prior art, FTO
- **Commercialize**
 - License patent rights in exchange for monetary compensation
- **Company creation**
 - Form a company based on the protected IP
 - Investor diligence
- **Knowledge Translation**
 - Put into the public domain without patent protection in order to advance scientific knowledge