

“Inventing the Future” – The Role of Utility Models and Patents in Leveraging Technical Innovation in the Marketplace

Christian Helmers

June 22, 2014



US006368227B1

(12) **United States Patent
Olson**

(10) **Patent No.: US 6,368,227 B1**
(45) **Date of Patent: Apr. 9, 2002**

(54) **METHOD OF SWINGING ON A SWING**

5,413,298 A * 5/1995 Perreault 248/228

(76) Inventor: **Steven Olson**, 337 Otis Ave., St. Paul,
MN (US) 55104

* cited by examiner

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

Primary Examiner—Kien T. Nguyen

(74) *Attorney, Agent, or Firm*—Peter Lowell Olson

(21) Appl. No.: **09/715,198**

(57) **ABSTRACT**

(22) Filed: **Nov. 17, 2000**

A method of swing on a swing is disclosed, in which a user positioned on a standard swing suspended by two chains from a substantially horizontal tree branch induces side to side motion by pulling alternately on one chain and then the other.

(51) **Int. Cl.**⁷ **A63G 9/00**

(52) **U.S. Cl.** **472/118**

(58) **Field of Search** 472/118, 119,
472/120, 121, 122, 123, 125

(56) **References Cited**

U.S. PATENT DOCUMENTS

4 Claims, 3 Drawing Sheets

242,601 A * 6/1881 Clement 472/118

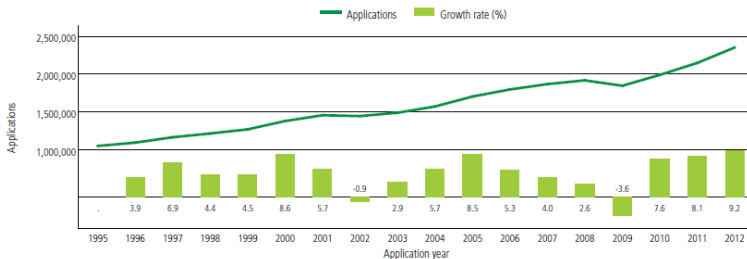
- What is a patent (utility model)?
- How to read a patent (utility model)
- Should you obtain a patent/utility model?
- Intellectual property management strategy

What is a patent? What is it not?

- A patent is:
 - ▷ Codified form of knowledge
 - ▷ Publicly accessible and searchable information
 - ▷ Right to deny third parties use of invention \Rightarrow **negative right** – has value only when can be potentially used to effectively exclude third parties (value ex ante largely unknown)
 - ▷ Territorial right for a predetermined limited period of time
 - ▷ Consists of **claims**
- A patent is **not**:
 - ▷ 1:1 measure of innovation
- Note: **Patent system extremely complex**

Worldwide growth in patent filings

Figure A.1.1.1 Trend in patent applications worldwide

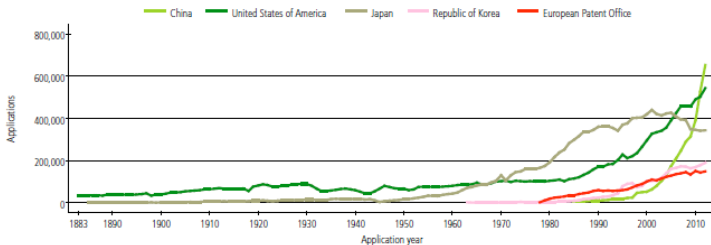


Note: World totals are WIPO estimates using data covering approximately 130 patent offices (see Data Description). These estimates include direct applications and PCT national phase entry data.

Source: WIPO Statistics Database, October 2013

China's spectacular patent explosion

Figure A.2.1.2 Trend in patent applications for the top five offices



Note: The top five offices were selected based on their 2012 totals.

Source: WIPO Statistics Database, October 2013

What is a patent? What is it not?

- Principal criteria for patentability of an invention:
 - ▷ **Novelty**: invention must not yet be in public domain anywhere in the world before the priority date of the corresponding patent.
 - ▷ **Inventive step (non-obviousness)**: invention must not be an obvious modification of what is already known, meaning that the invention must be neither re-producible based solely on existing patented claims nor ex-ante an obvious solution to the problem to someone skilled in the art.
 - ▷ **Capability of being used in any kind of industry**: the patented invention must contain the potential of commercial value through an industrial application.

Principal criteria for patentability of an invention:

- What does this mean in practice?
- ▷ **Novelty:** Is there any other document (**single** document) that contains **all** features of all claims? If no \Rightarrow invention novel.
- ▷ **Inventive step:** Could-Would-Test
 - **Could:** Are there several documents that if combined contain **all** features of all claims? If no \Rightarrow inventive step
 - **Would:** Would a person skilled in the art have combined these document at the time of claimed priority to solve the objective technical (**not commercial**) problem described in the patent? If no \Rightarrow inventive step
- ▷ **Capability of being used in any kind of industry:** in practice normally not an issue.

What is a patent? What is it not?

- Invention has to represent **patentable subject matter** (defined differently by different patent offices – which is TRIPS conform)
 - A number of new concepts and methods are excluded from patent protection by EPO: scientific or mathematical discoveries, theories or methods, literary, dramatic, musical or artistic works, schemes, rules or methods for performing a mental act, playing a game or doing business, and methods of medical treatment.
 - Subject matter more broadly defined at the USPTO (includes software and business methods)
 - We will talk specifically about software.

Patentable subject matter – Trans-Pacific Partnership (TPP) negotiations (WikiLeaks)

- **Article QQ.E.1: Patents / Patentable Subject matter**

1. Subject to the provisions of paragraph 2 and 3, each Party shall make patents available for any invention, whether a product or process, in all fields of technology, provided that the invention is new, involves an inventive step, and is capable of industrial application. 87 [US/AU propose; 88

CL/MY/PE/SG/VN/BN/NZ/CA/MX oppose: The Parties confirm that: patents shall be available for any new uses or methods of using a known product], [US/JP propose;

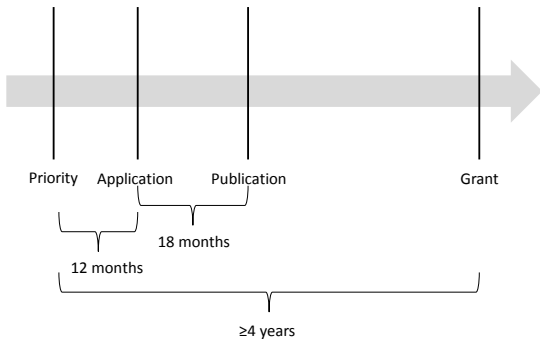
CL/MY/PE/SG/VN/BN/AU/NZ/CA/MX oppose: (b) a Party may not deny a patent solely on the basis that the product did not result in enhanced efficacy of the known product when the applicant has set forth distinguishing features establishing that the invention is new, involves an inventive step, and is capable of industrial application.]

Some basic concepts

- No 'international' patents
- National patent – patent only valid in jurisdiction where granted
- Regional patent systems, for example European Patent Convention (EPC) or African Regional Intellectual Property Organization (ARIPO)
- Patent Cooperation Treaty – PCT system (WIPO)
- Substantial institutional differences across patent offices (has impact on patent characteristics – e.g., (in)famous 'Sashimi' patents at JPO – and patent 'quality')

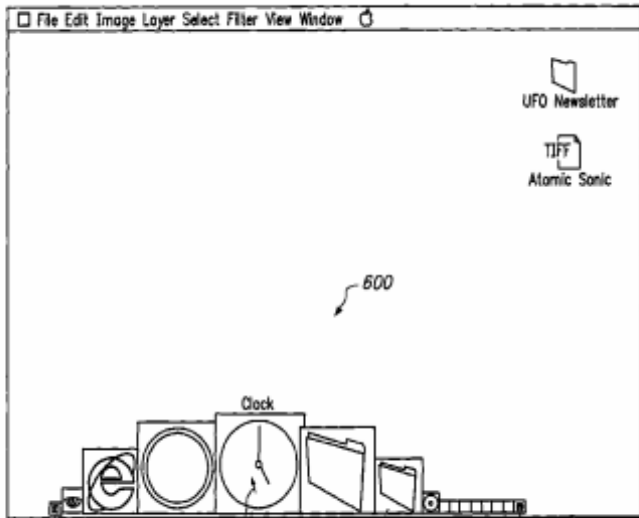
How to read a patent - Important Concepts

- The different dates associated with a patent
- Timeline



How to read a patent - Important Concepts

- Inventor vs applicant/assignee



How to read a patent - Important Concepts

- Inventor vs applicant/assignee



US007434177B1

(12) **United States Patent**
Ording et al.

(10) **Patent No.:** **US 7,434,177 B1**
(45) **Date of Patent:** **Oct. 7, 2008**

(54) **USER INTERFACE FOR PROVIDING
CONSOLIDATION AND ACCESS**

(75) **Inventors:** **Bas Ording**, Sunnyvale, CA (US);
Steven P. Jobs, Palo Alto, CA (US);
Donald J. Lindsay, Mountain View, CA
(US)

(73) **Assignee:** **Apple Inc.**, Cupertino, CA (US)

(*) **Notice:** Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 1198 days.

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5,564,004	A	10/1996	Grossman et al.	
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5,657,049	A	8/1997	Ludolph et al.	345/856
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5,678,034	A	10/1997	Chew	345/520
5,689,287	A	11/1997	Mackinlay et al.	345/427
5,736,974	A	4/1998	Selker	345/862
5,745,096	A	4/1998	Ludolph et al.	345/764

(Continued)

How to read a patent - Important Concepts

- International Patent Classification (IPC)
- Hierarchical technology-oriented classification
- No legal implication – shelving system
- Important to be aware of technological diversity
 - Consider for example IPC C12C11/00 ('Fermentation processes for beer')
 - First letter *C* is 'section symbol': 'Chemistry and Metallurgy'
 - There are 20 classes within Section *C*. Classes are represented by a two-digit number following the section symbol, i.e., *C12* ('Biochemistry [...]').
 - But still enormous technological heterogeneity within classes: for example *C12* contains 11 subclasses. Subclasses are represented by a letter following the two-digit class number, i.e., *C12C* represents 'Brewing of Beer' whereas *C12N* represents 'Micro-organisms or enzymes' which contains a number of diverse technologies such as antigens and antibodies.

- Patent Family / Equivalent Set

User interface for providing consolidation and access

Page bookmark [US7434177 \(B1\) - User interface for providing consolidation and access](#)

Inventor(s): [ORDING BAS \[US\]](#); [JOBS STEVEN P \[US\]](#); [LINDSAY DONALD J \[US\]](#) ±

Applicant(s): [APPLE INC \[US\]](#) ±

Classification: - international: [G06F3/00](#); [G06F3/033](#); [G06F3/048](#); [G06F3/14](#); [G09G5/08](#)

- cooperative: [G06F3/04842](#); [Y10S715/977](#)

Application number: **US** 19990467074 19991220

Priority number(s): US19990467074 19991220

Also published as: [WO0146790 \(A2\)](#) [WO0146790 \(A3\)](#) [WO0146790 \(A9\)](#) [US2012023434 \(A1\)](#) → [US8640045 \(B2\)](#)
[US2012023427 \(A1\)](#) → [US8640044 \(B2\)](#) [US2007288860 \(A1\)](#) [US7526738 \(B2\)](#) [US2009183120 \(A1\)](#)
[US8032843 \(B2\)](#) [JP2011048835 \(A\)](#) [JP4933655 \(B2\)](#) [JP2003536125 \(A\)](#) [JP4620922 \(B2\)](#)
[EP2146269 \(A1\)](#) [EP1250641 \(A2\)](#) [CN1425151 \(A\)](#) [CN1242318 \(C\)](#) → [AU2252401 \(A\)](#) [AU778653 \(B2\)](#)

How to read a patent - Important Concepts

- Patent Family / Equivalent Set

[19] 中华人民共和国国家知识产权局

[51] Int. Cl.
G06F 3/033 (2006.01)



[12] 发明专利说明书

专利号 ZL 00818538.7

[45] 授权公告日 2006年2月15日

[11] 授权公告号 CN 12423180

[22] 申请日 2000.12.13 [21] 申请号 00818538.7

[30] 优先权

[32] 1999.12.20 [33] US [31] 09/467,074

[86] 国际申请 PCT/US2000/032453 2000.12.13

[87] 国际公布 WO2001/046790 英 2001.6.28

[85] 进入国家阶段日期 2002.7.19

[71] 专利权人 苹果电脑有限公司

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唐纳德·J·林德塞

审查员 白雪涛

[74] 专利代理机构 中国国际贸易促进委员会专利
商标事务所

代理人 付建军

- This is not a trivial issue!

How to read a patent - Important Concepts

- Legal status
- Verifying legal status tricky...this [example](#) shows you why...

How to read a patent - Important Concepts

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5,155,806	A	10/1992	Hoerber et al.	345/711
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5,295,243	A	3/1994	Robertson et al.	345/848
5,339,390	A	8/1994	Robertson et al.	345/782
5,359,703	A	10/1994	Robertson et al.	345/419
5,459,488	A	10/1995	Geiser	345/173

- Backward & forward citations
- Backward citations refer to prior art – includes other patents and non-patent-literature
- Rules differ substantially across countries

How to read a patent - Important Concepts

What is claimed is:

1. A computer system comprising:

a display;

a cursor for pointing to a position within said display;

a bar rendered on said display and having a plurality of tiles associated therewith; and

a processor for varying a size of at least one of said plurality of tiles on said display when said cursor is proximate said bar on said display and for repositioning others of said plurality of tiles along said bar to accommodate the varied size of said one tile.

2. The computer system of claim 1, wherein each of said plurality of tiles represents an object with which a user of said computer system can interact.

3. The computer system of claim 2, wherein said objects include at least one of: applications, documents, windows and uniform resource locators.

4. The computer system of claim 1, wherein said at least one of a plurality of tiles includes a tile to which said cursor is closest and a plurality of tiles adjacent to said tile.

5. The computer system of claim 1, wherein said processor repositions said others of said plurality of tiles in accordance with a predefined relationship between an effect width W , a default height h of said at least one of said plurality of tiles and a selected maximum height H of said at least one of said plurality of tiles.

6. The computer system of claim 5, wherein said predefined relationship includes a function S defined as:

$$S = ((H-h)+2) + \sin(\pi \times (h+2) + (W \times 2)).$$

7. The computer system of claim 6 wherein said others of

- Claims
- Disclose the invention

Method for using computers to facilitate and control the creating of a plurality of functions

Page 1/124 Abstract Bibliography



Maximise



Download



US008401902B1

(12) **United States Patent**
Stone et al.

(10) **Patent No.:** US 8,401,902 B1

(45) **Date of Patent:** *Mar. 19, 2013

(54) **METHOD FOR USING COMPUTERS TO FACILITATE AND CONTROL THE CREATING OF A PLURALITY OF FUNCTIONS**

(76) Inventors: **Lucinda Stone**, Tyler, TX (US);
Michael A. Dean, Tyler, TX (US)

5,404,291 A	4/1995	Kerr et al.
5,412,416 A	5/1995	Nemirofsky
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5,581,461 A	12/1996	Coll et al.
5,613,012 A	3/1997	Hoffman et al.
5,615,277 A	3/1997	Hoffman
5,684,918 A	11/1997	Abecassis

- **Comparison of utility model and invention patent:**
- Lower statutory requirements for patentability (non-obviousness)
- No or 'light' examination
- Granted faster (~6 months)
- Lower fees
- Shorter lifetime (7-10 years, no extension or renewal)
- Sometimes more restricted subject matter
- Sometimes only for products not processes
- Sometimes possibility to convert utility model into invention patent

Apple's slide-to-unlock 'invention' – utility model



(19)
Bundesrepublik Deutschland
Deutsches Patent- und Markenamt

(10) **DE 21 2006 000 081 U1** 2008.09.25

(12)

Gebrauchsmusterschrift

(21) Aktenzeichen: **21 2006 000 081.9**

(22) Anmeldetag: **30.11.2006**

(86) PCT-Aktenzeichen: **PCT/US2006/061370**

(87) PCT-Veröffentlichungstag: **05.07.2007**

(87) PCT-Veröffentlichungs-Nr.: **WO 2007/076210**

(47) Eintragungstag: **21.08.2008**

(43) Bekanntmachung im Patentblatt: **25.09.2008**

(51) Int Cl.º: **G06F 21/20** (2006.01)
G06F 3/048 (2006.01)

(30) Unionspriorität:
11/322,549 **23.12.2005** **US**

(73) Name und Wohnsitz des Inhabers:
Apple Inc., Cupertino, Calif., US

(74) Name und Wohnsitz des Vertreters:
**Patent- und Rechtsanwälte Bardehle, Pagenberg,
Dost, Altenburg, Geissler, 81679 München**

Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen

(54) Bezeichnung: **Benutzerschnittstelle zum Entsperren einer Vorrichtung durch Ausführen von Gesten auf einem Entsperrobild**

Apple's slide-to-unlock 'invention' – patent



(11) **EP 1 964 022 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
10.03.2010 Bulletin 2010/10

(21) Application number: **06846405.6**

(22) Date of filing: **30.11.2006**

(51) Int Cl.:
G06F 21/20^(2006.01) G06F 3/048^(2006.01)

(86) International application number:
PCT/US2006/061370

(87) International publication number:
WO 2007/076210 (05.07.2007 Gazette 2007/27)

(54) **UNLOCKING A DEVICE BY PERFORMING GESTURES ON AN UNLOCK IMAGE**

ENTSPERRUNG EINER VORRICHTUNG DURCH DURCHFÜHRUNG VON GESTEN AUF EINEM ENTSPERRUNGSBILD

DEVERROUILLAGE D'UN DISPOSITIF PAR DES GESTES EFFECTUES SUR UNE IMAGE DE DEVERROUILLAGE

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

(30) Priority: **23.12.2005 US 322549**

(43) Date of publication of application:

- **VAN OS, Marcel**
San Francisco, CA 94110 (US)
- **LEMAY, Stephen, O.**
San Francisco, CA 94122 (US)
- **FORSTALL, Scott**
Mountain View, CA 94040 (US)
- **CHRISTIE, Greg**
San Jose, CA 95129 (US)

How important are patents empirically: survey evidence

- Share of innovations not developed if patent protection had not been available (Mansfield, 1986):
 - Pharmaceuticals and chemicals, patent protection essential for 30%
 - Petroleum, machinery, and fabricated metals, patent protection essential for 10-20%
- Very little patenting – 4% of innovative companies in UK patent, but large differences across industries (Hall et al., 2013)
- Dissonance: 25% of Finnish companies say patents most important mechanism, 15% secrecy – but 62% say rely on secrecy, 16% on patents (Leiponen and Byman, 2009).

Why patent?

- It makes little sense to look at patenting or secrecy in isolation
- Companies choose among
 - **Formal mechanisms:** patents, trademarks, designs and copyright
 - **'Informal' mechanisms:** secrecy, confidentiality agreements, lead time, complexity
- More reasonable approach: *why would a firm with a given innovation that can be patented choose not to rely on a patent to protect an innovation?*
- Focus on patents vs secrecy
- Assume mutually exclusive – explicit stark trade-off between disclosure and nondisclosure of an inventive idea

Why do firms patent?

	Patent	Don't patent
Secrecy	Patent-secrecy combination	Secrecy only
Non-secrecy	Patent only	Disclosure-publishing

Factors affecting the patent-secrecy choice

	Patents	Secrecy
Disclosure (codifiable knowledge)	Yes	No
Disclosure (tacit knowledge)	No	No
Ease of delimiting invention	Yes	Not clear
Reverse engineering allowed	No	Yes
Subject matter	Statutory	Broader
Timing	After invention	Work-in-progress
Process vs. product	Both	Easier for process
Length	20 years	Longer (potentially)
Cost to obtain	Higher	Nonzero
Enforcement cost	Expensive	Expensive
Management requirements	IP management	Knowledge management
Geographical scope	National	Global

- 'Patent/utility model management' in isolation makes no sense to
- Broader approach needed – how to appropriate returns to innovation?
 - ❶ What purpose does innovation serve?
 - ❷ Where do returns for innovation come from?
 - ❸ How to maximize returns?
 - ❹ What are the risks undermining returns?
 - ❺ Is there a place for formal intellectual property?

- IP management has potential to influence firm's position in market
- IP requires active strategic management:
 - Protection strategy
 - Filing strategies (e.g. anticipating publication and examination or delaying it)
 - International considerations
 - Combination of registered, unregistered IP and 'alternative' mechanisms
 - IP bundles
 - Maintenance
 - Monitoring
 - Commercialization

Organization of IP management

- Management of IP requires not only expertise and experience, but also **complex managerial processes** within companies
- Organizational challenges:
 - Collection and processing of information
 - Intelligence on competitors' technological positions and IP strategies
 - Information on oppositions, handling of disputes
 - Regulate interplay of R&D, commercialization and IP protection
 - Internal mechanisms to guarantee continuous education and training of staff on IP
- In-house or outsource?
- SMEs often rely on ad hoc solutions

Summary

- IP rights confer (strategic) value to a company by conferring the firm the legal ability to deny third parties the use of the protected invention
- Combination of commercial, technical and legal expertise, as well as commercialization
- Managerial and organizational challenges of successful IP management weigh more heavily on smaller companies than larger ones
- Plenty of empirical evidence to suggest potential rewards to effective IP management

- Hall, B. H., C. Helmers, M. Rogers, and V. Sena (2013). The importance (or not) of patents to UK firms, *Oxford Economic Papers*, Vol. 65(3), 603-629.
- Leiponen, A. and J. Byma (2009). If you cannot block, you better run: Small firms, cooperative innovation, and appropriation strategies. *Research Policy*, 38: 1478-1488.
- Mansfield, E. (1986). Patents and innovation: An empirical study. *Management Science*, 32(2): 173-181.