

Intellectual Property Overview and Prior Art Search Deep-dive

4 Sept 18

Why Do Companies Pursue IP?

- Add value to company
- Protection
- Competitive advantage (barrier to entry)
- Bargaining chips
- Enforcement / Monetization
- Administrative efficiencies
- Discrete properties that can be bought, sold, and traded

Four Primary Areas of Intellectual Property Law

Patent – Protects “inventions” in the form of processes, machines, compositions of matter, and articles of manufacture

Copyright – Protects original works of authorship

Trademark – Protects brands or product names

Trade Secret – Protects information that is not generally known, and has economic value because it is not generally known

Prior Art

What is prior art?

- Prior art is any evidence that your invention is already known.
- Prior art does not need to exist physically or be commercially available. It is enough that someone, somewhere, sometime previously has described or shown or made something that contains a use of technology that is very similar to your invention.
- A prehistoric cave painting can be prior art. A piece of technology that is centuries old can be prior art. A previously described idea that cannot possibly work can be prior art. Anything can be prior art.

<https://www.epo.org/learning-events/materials/inventors-handbook/novelty/prior-art.html>

Prior Art Important?

Does prior art invalidate patent?

- While there are many different grounds on which a patent can be invalidated, the most common one is that the invention is found to be not novel or obvious in the light of the prior art. ... So, to get a patent invalidated, the first step is to locate documents that can be considered "prior art" against the patent's claims.

BENEFITS OF CONDUCTING A PRIOR ART SEARCH

- Avoid submitting patent applications with claims that are not patentable and will be easily rejected
- Determine whether your invention is novel compared to public prior art
- Develop a strong patent claim strategy before you file your patent application (and reduce the chance of extensive amendments)
- Account for close prior art when drafting your patent application. For example, you might want to describe advantages or improvements over relevant prior art, as this can help persuade the patent office that your invention is “non-obvious”
- Understand how your idea fits into the technological field
- Be better prepared to discuss your invention with a patent attorney and explain what aspects of your work might be patentable

HOW TO CONDUCT AN EFFECTIVE PRIOR ART SEARCH

1. BRAINSTORM KEYWORDS TO DESCRIBE THE INVENTION

To conduct a thorough search, you'll need to account for all possible keyword combinations that could exist in the prior art. There are various reasons why other patents and applications may use unusual keywords:

- The industry's commonly accepted terminologies may have changed over time
- Different industries may use different keywords to describe similar concepts
- Many patent filings are translated from other languages to English

HOW TO CONDUCT AN EFFECTIVE PRIOR ART SEARCH

2. SEARCH THE PATENT DATABASES

Google Patents, USPTO search interface, Espace (European Patent Office) search interface, WIPO search interface, Patent Lens

Many practitioners find that the “classification” system used by the USPTO (that is, the classes and subclasses assigned to each patent) is not particularly useful for prior art searching. As such, we don’t recommend using it as the primary means to guide your search.

Instead, we recommend making a list of the top 10 patent documents for each keyword — and then looking at all the other patent documents that reference, or are referenced by, that patent document. This is sometimes called a “forward and backward” cross-reference search.

- To do a “forward and backward” cross-reference search in Google Patents: Open the page for the relevant patent that you’ve found. Scroll to the bottom. Refer to the sections for “Patent Citations” and “Referenced By.” Scan the list to see if any of the titles look relevant, or click the links to review them in detail.
- To do a similar search on the USPTO search interface: View the relevant patent document. Scroll down to “References Cited” to look backward at the documents cited in the patent you’ve found. Click on “Referenced By” to look forward at patents that cite the patent you’ve found.
- You’ll also see a section for “Non-Patent Citations.” While these documents are not always easy to find online, you may be able request a copy from the patent office.

HOW TO CONDUCT AN EFFECTIVE PRIOR ART SEARCH

3. EXPAND YOUR SEARCH BEYOND PATENT DATABASES

Prior art isn't limited to only existing patents or patent applications; it includes all ideas that are publicly available and publicly disclosed. As such, a complete prior art search should extend beyond patent searching.

The following list is not exhaustive, but your prior art search could include:

- A Google Scholar search for scholarly publications
- Non-patent literature like articles, publications, or journals (printed or electronic)
- Amazon or other commercial sites
- The product pages of companies that might be innovating in the same space

HOW TO CONDUCT AN EFFECTIVE PRIOR ART SEARCH

4. SAVE ALL RELEVANT RESULTS AND DOCUMENTS

When filing your patent application, you want to cite the most relevant prior art to the USPTO. If the patent examiner has all the most relevant references at their disposal, you'll end up with a stronger patent.

Additionally, this will ensure you satisfy your ethical duties of disclosure, candor and good faith to report prior art that could affect the patentability of a claim.

So make sure you save a list of all relevant results, as well as complete copies of the documents themselves. (We love a good spreadsheet!)

HOW TO CONDUCT AN EFFECTIVE PRIOR ART SEARCH

5. KNOW WHEN TO STOP SEARCHING

Your goal is not to examine all the prior art out there. Rather, it's to examine enough prior art to gain a comprehensive understanding of where your invention stands in the industry.

Because of the following reasons, it's literally impossible to know the entire universe of prior art that may be relevant before you file a patent application.

For one, thanks to the 18-month publication window, some patent applications that qualify as prior art may not become public until later on.

For another, there may be relevant prior art that doesn't show up in a typical search (even after they're public). Examples include documents that are not indexed on Google, academic theses, and foreign language documents.

So if your search isn't turning up much prior art, you might be tempted to keep going — but use your experience and common sense to decide when to call it a day.

Patent

- Protects new and useful processes, machines, articles of manufacture, and compositions of matter
- Prevents others from making, using, selling, etc. the patented subject matter
- Patents must be applied for within one (1) year of any public use, public disclosure, or offer for sale of a technology
- Novel (§102) and nonobvious (§103)
- Software is protectable (probably)
- Limited monopoly

What is Not Patentable?

Laws of nature

Natural phenomena

Abstract ideas (e.g. pure mathematical algorithms)

Printed matter

An inoperable device (e.g. a perpetual motion machine; cold fusion device)

Patent

- How to Protect?

- Must file patent application with US Patent & Trademark Office (USPTO)

- Patent application is a detailed document that describes how to make and use a given technology
 - Often have to “negotiate” with patent examiners to amend application and settle on allowable scope of patent protection

- “Provisional” applications provide temporary protection at (typically) low cost

Patent



(12) **United States Patent** (10) **Patent No.:** **US 9,224,000 B1**
Ghetti (45) **Date of Patent:** **Dec. 29, 2015**

(54) **SYSTEMS AND METHODS FOR PROVIDING INFORMATION SECURITY USING CONTEXT-BASED KEYS**

(75) Inventor: **Adam Ghetti**, Atlanta, GA (US)
 (73) Assignee: **Ionic Security, Inc.**, Atlanta, GA (US)
 (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 615 days.

(21) Appl. No.: **13/523,411**
 (22) Filed: **Jun. 14, 2012**

Related U.S. Application Data

(60) Provisional application No. 61/496,637, filed on Jun. 14, 2011.

(51) **Int. Cl.**
G06F 21/62 (2013.01)
H04L 9/08 (2006.01)

(52) **U.S. Cl.**
 CPC **G06F 21/6209** (2013.01); **H04L 9/083** (2013.01); **H04L 9/0866** (2013.01); **G06F 21/22402** (2013.01)

(58) **Field of Classification Search**
 CPC H04L 9/083; H04L 9/0866; G06F 21/6209
 See application file for complete search history.

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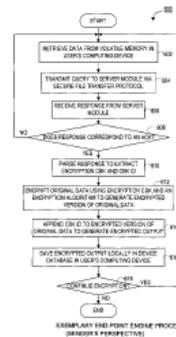
Primary Examiner — Robert Leung

(74) *Attorney, Agent, or Firm* — Morris, Manning & Martin, LLP, Daniel E. Siney, Esq.; Lee Strasburger, Esq.

(57) **ABSTRACT**

Systems and methods for securing or encrypting data or other information arising from a user's interaction with software and/or hardware, resulting in transformation of original data into ciphertext. Generally, the ciphertext is generated using context-based keys that depend on the environment in which the original data originated and/or accessed. The ciphertext can be stored in a user's storage device or in an enterprise database (e.g., at-rest encryption), or shared with other users (e.g., cryptographic communication). Use of context-based encryption keys enables key association with individual data elements, as opposed to public-private key pairs, or use of conventional user-based or system-based keys. In scenarios wherein data is shared by a sender with other users, the system manages the rights of users who are able to send and/or access the sender's data according to pre-defined policies/roles.

43 Claims, 17 Drawing Sheets



Advantages of Patent Protection

- Generally highest level of protection for IP
- Typically greatest monetary damages upon infringement
- Patents generally add value to a company, even if they are never used or enforced
- Deterrent
- Discrete property
- Marketing -- “patented technology” or “patent pending”

iPhone Patent Drawings

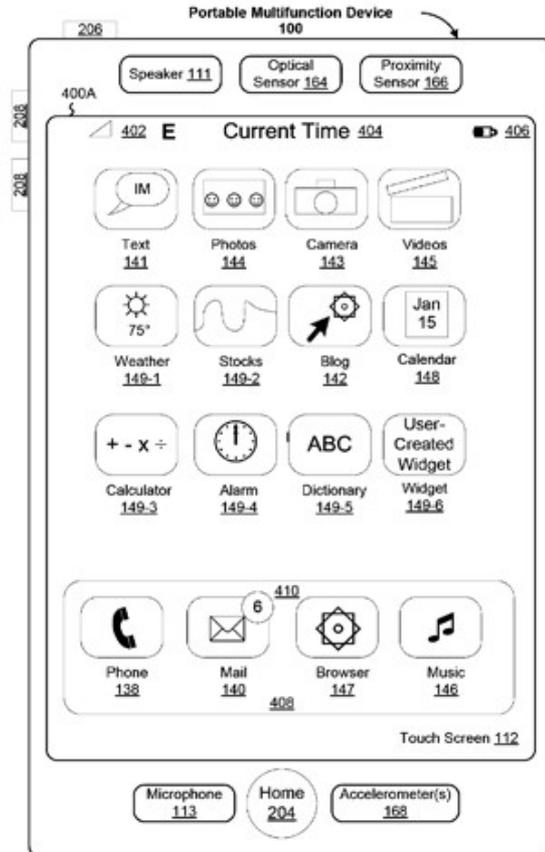
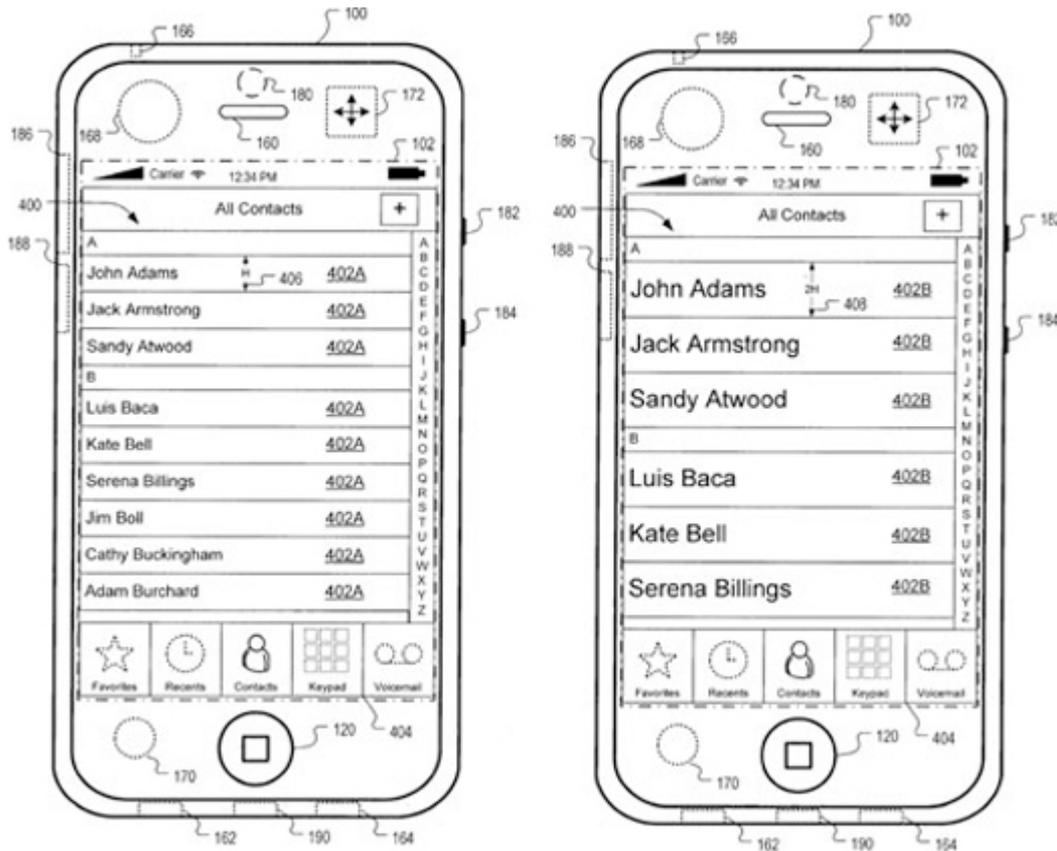


Figure 4A

Patentable?



US005443036A

United States Patent [19]
Amiss et al.

[11] **Patent Number:** 5,443,036
 [45] **Date of Patent:** Aug. 22, 1995

[54] **METHOD OF EXERCISING A CAT**

[76] **Inventors:** Kevin T. Amiss, 255 S. Pickett St., #301, Alexandria, Va. 22304; Martin H. Abbott, 10549 Assembly Dr., Fairfax, Va. 22030

[21] **Appl. No.:** 144,473

[22] **Filed:** Nov. 2, 1993

[51] **Int. Cl.⁶** A01K 29/00

[52] **U.S. Cl.** 119/707

[58] **Field of Search** 119/702, 707, 174, 905; 446/485

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Primary Examiner—Todd E. Manahan

[57] **ABSTRACT**

A method for inducing cats to exercise consists of directing a beam of invisible light produced by a handheld laser apparatus onto the floor or wall or other opaque surface in the vicinity of the cat, then moving the laser so as to cause the bright pattern of light to move in an irregular way fascinating to cats, and to any other animal with a chase instinct.

4 Claims, 1 Drawing Sheet

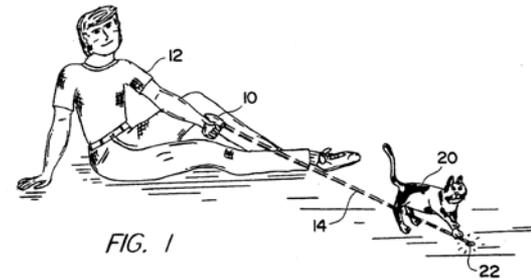


FIG. 1

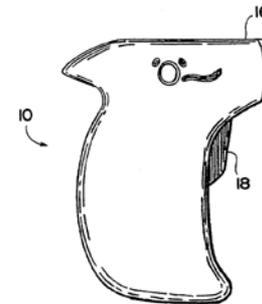


FIG. 2

What is Going on with Patents? Big Deals

- Recent large patent transactions:
 - Google sold Motorola Mobility to Lenovo (2014) – but kept most of the patents ... wonder why?
 - Microsoft bought Nokia phone unit for \$5 B, license (not buy) patents for \$2 B (2013)
 - AOL sold 925 patents to Microsoft for \$1.05 B (billion)(2012)
 - Microsoft sold 650 patents to Facebook for \$550 M (2012).
 - Interdigital sold 1700 patents for 3G/LTE to Intel for \$375 M
- Patent wars being fought in certain key technologies: life sciences, mobile / wireless technologies, computer software

What is Going on with Patents?

Big Damages (Top 10 1995-2013)

Year	Plaintiff	Defendant	Technology	Award (MM)
2009	Centocor Ortho	Abbott Labs	Arthritis drugs	\$ 1,848
2007	Lucent	Microsoft	MP3	1,538
2012	Carnegie Mellon	Marvell	Noise reducing	1,169
2012	Apple	Samsung	Smartphones	1,049
2012	Monsanto	E.I. Dupont	Gen. Modified	1,000
2010	Mirror Worlds	Apple	Operating Sys	626
2011	Saffran, MD	J&J	Stents	593
2003	Eolas	Microsoft	Browser	521
2008	Saffran, MD	Boston Scientific	Stents	432
2009	Uniloc USA, Inc.	Microsoft	E-Licensing	388

Source: PriceWaterhouseCoopers 2013 Patent Litigation Study, page 10 (initial, unadjusted)

What is Going on with Patents?

Lots of Supreme Court Activity

<i>Limelight Networks v. Akamai</i>	Decided 2014	Redirecting requests for internet content; induced infringement?
<i>Nautilus v. Biosig</i>	Decided 2014	Is patent invalid due to “indefiniteness” / ambiguous claims?
<i>Octane Fitness v. ICON</i>	Decided 2014	Aware of attorney fees to prevailing party / affect trolls?
<i>CLS Bank v. Alice Corp.</i>	Decided 2014	Are software / business methods patentable subject matter?

What is Going on with Patents?

- “TROLLS” (a/k/a “non-practicing entities” or “patent monetization entities”)
- Patents often broad, often early, often of questionable validity
- Examples: scan-to-email, QR codes in coupons, promotions in text messages, podcasts, pull-down menus on websites
- Important note that many fail to remember: ***NPEs “Make Market” for IP value***



Copyright

- Protects original works of authorship fixed in a tangible medium (books, movies, paintings, sculpture, software, etc.)
- Protects the expression of an idea, not the idea itself
- Software is protectable via copyright
- Protection is against copying -- independent creation is a defense
- Only “modicum of creativity” required



Copyright

- How to protect?
 - Automatic protection, but enhanced protection for registration (damages, prerequisite to lawsuit, etc.)
 - “Poor man’s copyright” = not real
 - Copyright notices are recommended

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Copyright

Copyrightable?



Copyright

Copyrightable?



Trademark

- Protects brands or product names
 - Protects “goodwill” – can keep competitors from “free-riding” on the brand and customer satisfaction you have built.
- Used to identify the “source” of goods or services
- Priority of use in commerce is important
- Confusingly similar marks are not allowed
 - But, consider  **DELTA** and  **DELTA**
FAUCET COMPANY

Trademark

- Spectrum of Protection:
 - Fanciful (KODAK)
 - Arbitrary (APPLE)
 - Suggestive (CITIBANK)
 - Descriptive (FRESH MARKET)
 - But consider, “inherently distinctive”
 - Generic (AUTOMOBILE)

Trademark

- How to Protect?

- Common law protection based on use in commerce, but limited to scope of actual use (use “TM”)
- Can file for federal trademark registration for increased rights
 - Immediate nationwide rights
 - Potential for increased damages
 - Confers right to use ® symbol
 - Mark is “findable” by others that may use potentially infringing marks
- Searching to avoid other marks

Most Valuable Brands -- 2015

	Brand	Category	Brand Value 2015 \$M	Brand Contribution	Brand Value % change 2015 vs 2014	Rank change
1	 Apple	Technology	246,992	4	67%	1
2	 Google	Technology	173,652	4	9%	-1
3	 Microsoft	Technology	115,500	4	28%	1
4	 IBM	Technology	93,987	4	-13%	-1
5	 VISA	Payments	91,962	4	16%	2
6	 at&t	Telecom Providers	89,492	3	15%	2
7	 verizon	Telecom Providers	86,009	3	36%	4
8	 Coca-Cola	Soft Drinks	83,841	5	4%	-2
9	 McDonald's	Fast Food	81,162	4	-5%	-4
10	 Marlboro	Tobacco	80,352	3	19%	-1
11	 Tencent 腾讯	Technology	76,572	5	43%	3
12	 facebook	Technology	71,121	4	99%	9
13	 Allbaba Group 阿里巴巴集团	Retail	66,375	2	NEW ENTRY	
14	 amazon.com	Retail	62,292	4	-3%	-4
15	 中国移动 China Mobile	Telecom Providers	59,895	4	20%	0

Trade Secret

- Generally:
 - Protects information that is not generally known and has value because not generally known
 - Must undertake efforts to maintain secrecy
 - No limit on protection
 - No filings or registrations
- How to Protect:
 - Requires affirmative steps to protect secrecy, such as employment agreements, non-disclosure agreements, policies regarding secrecy, physical barriers, etc.