

Effective Use of Intellectual Property Data for Competitive Business Intelligence



By Ron Simmer
Patscan
University of British Columbia
www.patscan.com



Established in 1986 to assist Tech Transfer Process by providing access to patents
Serves all university and research institutions in BC as well as fee based practice for private sector
Librarian and one researcher (Chemist) perform over 1000 searches a year
Host Seminars and courses on Intellectual Property Management
Located in Koerner Library at UBC
www.patscan.com or www.patscan.ca
rsimmer@interchange.ubc.ca

Commercial Sources of Patent Data

- Big Vendors
- Dialog
- STN
- Questel Orbit
- Lexis Nexis
- New Web Vendors
- Micropatent
- Delphion
- NERAC

Best Free Internet Sites for Patent Searching

- Espacenet thru the UK gateway
 - World Wide Search - Full copies in PDF
- USPTO Site - full text and images
- Delphion (IBM Intellectual Property Network)
- CIPO site on Strategis
- WIPO database of PCT apps. - from 1997
- Japanese sites - JPO has drawings
- IPOS - SurfIP (Singapore)
- IPC and US Class. Sites - you must have the tools

Patent Classification - The Classical Tools

- | | |
|-------------------------------------|---------------------------------|
| International Patent Classification | US Patent Office Classification |
| • Current ed. 1999 | • Updated Continuously |
| • Five year updates | • Function Orientated |
| • Application Oriented | • Finer Detail than IPC |
| • Wide International Use | • Adopting ECLA |
| • ECLA - Better yet | |

Cost/Profit Meltdown

- Policy changes at EPO and USPTO make patent data cheap commodity
 - free databases
- Myriad of consulting/service companies packaging/reselling/analyzing data.
- Patent copy market restructured

Patent Data Issues

Quality

- USPTO abstracts variable
- Better retrieval with Derwent or Chem. Abs.

Reliability

- Error checking by Vendor?
- Missing data?
- Classification revisions?

Currency

- How Frequent and thorough are updates?
- Changes in patent status reflected?

United States Patent [19]

US005277042A

[11] Patent Number: 5,277,042
[45] Date of Patent: Jan. 11, 1994

Tobias

[54] AUTOMOTIVE, STEERING WHEEL ANTI-THEFT DEVICE
[75] Inventor: Marc W. Tobias, Sioux Falls, S. Dak.
[73] Assignee: Wipac International Corporation, Sharon, Pa.
[21] Appl. No.: 996,738
[22] Filed: Dec. 23, 1992

Primary Examiner—Lloyd A. Gall
Attorney, Agent, or Firm—Body, Vickers & Daniels

[57]

ABSTRACT

A mechanical anti-theft device of the type applied to the steering wheel of an automotive vehicle which automatically ratchets to its applied position without necessity of key lock actuation is provided with several security enhancing features which cumulatively prevent or make the device exceedingly difficult to unlock using conventional burglary tools or lock picking techniques. The features include configuring the ratchet teeth of the telescoping rod member in a way which minimizes any attempt to deactivate the lock unless the key is used. In combination with the ratchet teeth configuration, the lock pawl mechanism is configured to include an arcuate, transversely extending apex edge line or surface which cooperates with or is sized to be coincident with the rod members circumference to prevent a wedge, shim or pick from being readily easily inserted between pawl and ratchet tooth to force a retraction of the pawl.

[51] Int. Cl. B60R 25/02
[52] U.S. Cl. 70/209; 70/226; 70/419
[58] Field of Search 70/209, 226, DIG. 9

Reference Cited

U.S. PATENT DOCUMENTS
4,738,127 4/1988 Johnson 70/209
4,935,047 6/1990 Wu 70/209
4,949,561 8/1990 Solow et al. 70/209
5,040,388 8/1991 Chen 70/209
5,113,875 2/1992 Shen 70/209
5,119,651 6/1992 Yang 70/226 X
5,131,245 7/1992 Chen 70/209
5,142,889 9/1992 Liu 70/209

16 Claims, 4 Drawing Sheets

New patents-citing Winner

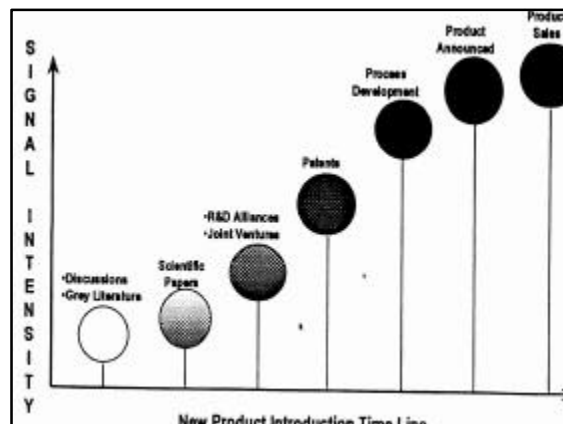
WINNER INTERNATIONAL ROYALTY CORPORATION	
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4,935,047	
5,277,042	
5,365,215	
5,412,963	
5,600,979	
5,635,899	
5,673,575	
5,709,113	
5,735,149	
5,755,123	
5,022,246	5,005,389
All Ship Enterprise Co. Ltd	Cheem Tu Industry Co Ltd
5,040,388	5,031,429
5,042,278	5,163,310
5,107,692	5,179,849
5,138,853	
5,284,037	

Business Intelligence

- Key to competitive advantage
- Developed process, discipline, tools
- Information into knowledge
- Decision support for strategic action
- CONTEXT:
 - Information technology/explosion

Competitive Intelligence For What?

- Making the best possible business decisions
 - Mergers
 - Acquisitions
 - Bids and Proposals
 - Lawsuits
 - Marketing Plans
 - Entry Strategies



How a Company Competes

- Technology - Indicated by Patents
- Products
- Organization
- Financials
- Strategic Alliances
- Manufacturing
- Marketing
- Image/Reputation

IP Data is Special 4 Functions in a Corporation

1. Corporate asset - buy/sell/license
2. Protects price & market.
3. Insurance against litigation.
4. Poker chips in strategic alliance game.

Statistical Analysis/Mapping

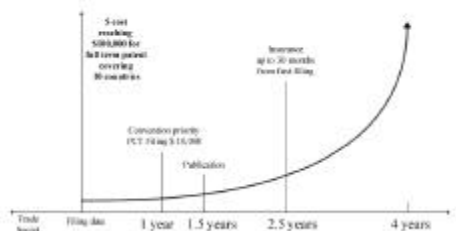
- Aureka (Micropatent) \$\$\$\$\$
- Omniviz \$\$\$\$
- MAPIT \$\$\$
- MapOut Pro \$\$\$
- VantagePoint \$\$\$
- BIZINT \$\$
- PatentLab (Delphion utility) \$

Statistical Analysis Using Patent Data

Manipulate any patent data fields to extract trends:

- Rank assignees or inventors to identify trends
- Compare trends in patent filings over time
- Map density/activity of filing for competitors
- Chart a patent portfolio by classification
- View industry technological trends internationally
- Examine history of technology by citation analysis

Patent Cost vs Time

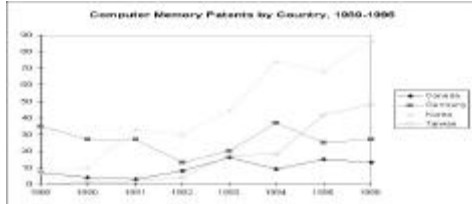


g00to and digital(3)cameras

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*SEARCHING...
OCCURS TERM
76336 G03B10
205881 DIGITAL
94822 CAMERA
55 2 RESULT (410)
88 37
pat rank per top 15
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*PROCESSING...
THERE ARE 153 UNIQUE VALUES.
OCCURRENCES PERCENT TERM
44 15.56% CANON KK
28 8.23% SONY CAMERA KK
24 7.78% RICOH KK
21 5.94% SANYO ELECTRIC CO LTD
18 4.32% FUJI PHOTO FILM CO LTD
18 5.28% ASahi OPTICAL CO LTD
18 5.88% KAYMAN KODAK CO
15 3.88% KONICA CORP
14 3.88% ASahi KOGAKU HOYO KK
12 2.88% SAMS COMPUTER CO LTD
11 2.88% SONY CORP
8 1.72% SONY CORP
8 1.92% VEE PENTACON DRESDEN KAMERA
7 1.88% HYDORA CORP
6 1.44% HITACHI LTD
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Comparing US Patents on Computer memory from Canada, Germany, Korea and Taiwan



Japanese Pharmaceutical Patent Portfolio International vs. Domestic Filings

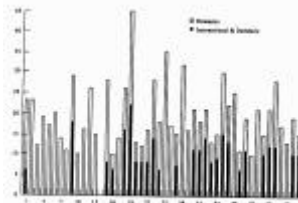
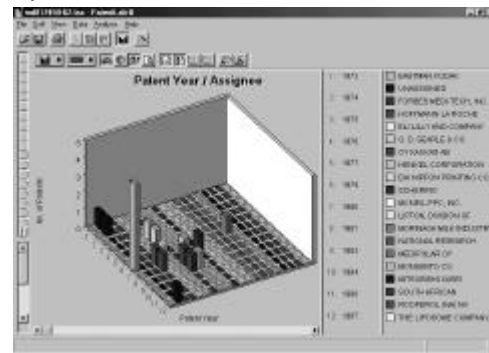
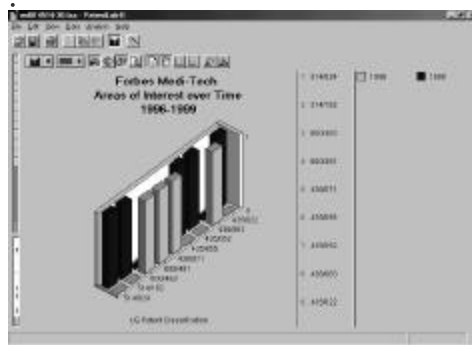


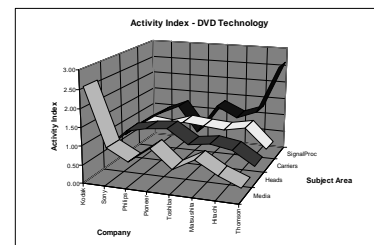
Fig. 4. Japanese pharmaceutical company patents between domestic (1980 and August 1995)



Analyzing Technology Trends Using Patent Data

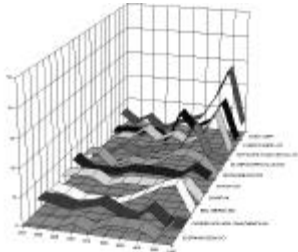
1. Hot themes, breakthrough technologies indicated by velocity.
2. Niches & opportunities developing revealed by anomalies in data.
3. R&D expenditures reflected by patent filings.

Activity Index Plot DVD Technology Study - PAY: 1985 Thru 1995

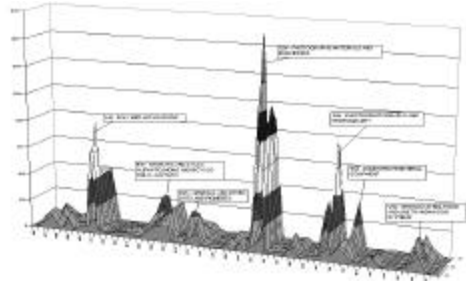


Multiple Assignee Activity over Time

Filing Activity for Laser Detection Grating Unit Technology



Time Based Activity Profile



Assessing the Human Capital Factor in Corporate IP

1. Stable R & D team with low turnover?
2. Inventors with high industry reputation
3. University/Gov't research links?
4. International literature cited in patents

Inventors on Richardson Vicks Patents

INVENTOR	PERCENTAGE
1. J. H. VICKS	31.25%
2. R. L. VICKS	25.00%
3. J. H. VICKS	18.75%
4. J. H. VICKS	12.50%
5. J. H. VICKS	6.25%
6. J. H. VICKS	6.25%

Patent Assignees on G. E. Deckner's Patents

ASSIGNEE	PERCENTAGE
1. GEORGE EASTMAN	31.25%
2. GEORGE EASTMAN	25.00%
3. GEORGE EASTMAN	18.75%
4. GEORGE EASTMAN	12.50%
5. GEORGE EASTMAN	6.25%
6. GEORGE EASTMAN	6.25%

Analyzing Patent Quality at a Glance

1. Reputable corporate or institutional source?
2. Several Inventors?
3. Prosecuted by solid law firm?
4. How much prior art cited?
Any literature cited?
5. Patent Co-operation Treaty Filing?

Patent Quality Deeper Analysis Using Patent Databases

1. How many recent patents cite patents in question?
2. How many foreign equivalents/counterparts?
3. Speedy prosecution?
4. Claims valid, supported and broad?
5. Infringement suits, Re-examinations?

Comparison of patent claims

- “Picture claims” (purely descriptive)
- “vs. well drafted claims covering broad functionality.
- See BUSTPATENTS.COM for
- many examples of invalid patents
 - (Greg Aharonian)

Two Most Important Variables in Patent Scenarios

1. Amount of Prior Art
2. Rate of Change in Field

Industry Scenarios for the IP Environment

- **Crowded Art**
 - **Fast Change**
 - Improvement Valued
 - Niche Inventions
 - Pressure to License
 - Volatile technology
- Example - Computer Applications
Patents Necessary?

Industry Scenarios for the IP Environment

- **Crowded Art**
 - **Slow Change**
 - Little freedom to operate
 - Mature industry
 - Stable Technology
- Example - Pharmaceutical Sector
High Investment=Big Payoffs
Patents Critical

Industry Scenarios for the IP Environment

- **Sparse Art**
 - **Fast Change**
 - Broad Patents
 - File on all aspects of technology early and often
 - Profitable licensing
- Example - Genomics
“Harvard Mouse” Patent, (DuPont)

Industry Scenarios for the IP Environment

- **Sparse Art**
 - **Slow Change**
 - Old Industry
 - Competition not based on IP
- Example - logging/mining/agriculture machinery. Market disrupted by scanners, computers, automation

Analyzing the Strength of an IP Portfolio

1. Geographic coverage indicates market strategies
2. Review size & assess trends - patent age, filing frequency, product life cycles
3. Kinds of Patents and degree of protection for core technologies
4. Technology licensed or assigned in/out
5. Aggressive filing - provisionals

Measuring the Portfolio Against the Competition

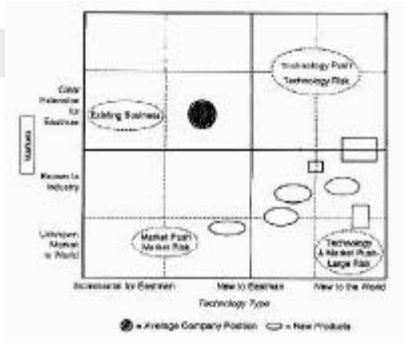
- New technologies being substituted?
- Citation searching reveal competitors “Patenting Around”?
- Is IP protection a major factor in the market?
- Does a state of the art search reveal competitors leapfrogging ahead?
- Partners stealing technology? (Xillix)

Portfolio Benchmarking

- A given company's portfolio best compared to those in same technology
- Example: COE (Newnes Machinery)VS US National Resources
 - World Class Competitors in revolutionising “old” tech wood processing technology.

The Powerful Patent Portfolio: A Mature Company

- Example: Eastman Chemical
 - Business and IP strategy integrated
 - IP builds on core technologies
 - Active licensing/acquisition program
 - IP intelligence program maps competing patent activity.
 - Strong R&D IP focus
 - Conservative, low risk attitude



The Aggressive Patent Portfolio: A Junior Company

- Example: Inex Pharmaceuticals
 - Objective is to build a critical mass of IP as quickly as possible through licenses, alliances
 - Patenting around (bracketing) competitors.
 - extensive use of provisional filings
 - leveraging portfolio with new spin on old drugs for fast tracking FDA approval
 - prophetic patents on breakthrough genomic technologies, seeking disruptive edge

Value of a Portfolio Depends Completely on Management

- Example from BC - High Voltage Power Instrumentation.
- Carmanah Eng. Owned 2 patents.
 - Short term instrument market \$15 Mil.
- Merger of Carmanah and Honeywell sub to form NxtPhase boosts capitalisation 5 times
 - Long term metering market \$600 Mil

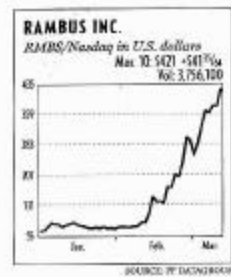
Value of Portfolio Derived by Sale of Patents or Company

- Marketing and Positioning is Everything
 - Example: UBC force feedback Joystick Patents stagnated until sold to Immersion Co. for equity in company.
 - Now worth \$6 Mil. to UBC.
 - Video game vs Industrial Market

Patent Litigation Value Bonanza

- Example: STAC develops data compression technology.
- Files patents and buys existing
- patents to build strong portfolio.
- Microsoft loses infringement case to the tune of \$120 Mil. In 1994
- Wake up call for IT industry

- Rambus once allied with Intel
- Now Rambus suing Hitachi for infringement of DRAM patents
- Huge profits from extorting licenses.



Strategies When Blocked by Competitors Patents

1. Buy the patent or the company (Microsoft vs Stac)
2. Create better technology & patent around
3. Sue for infringement or invalidate patent by legal action
4. Oppose pending applications

Better Strategy for Blocking Patents

1. Cross License or swap the IP
2. Form a patent pool
3. Initiate a joint venture with combined IP

Works best with industry giants such as IBM and Intel.