Competitive Intelligence
- Using Patent information

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Overview

• Defensive use
  – What if your product is infringing other’s patent? (in a case of WIPO IP panorama)
  – Prior patent search is needed for R&D project (All patent documents are published in 18 month after application. except for US )

• Proactive use
  – Technology mapping (patent map) and competitive analysis
  – Economic analysis based on patent information (such as creating patent quality index)
What to do against infringement warning?

- Invent around
- License negotiation (in-license)
- Fight: post grant opposition system, lawsuit
- Ignore

Depending on
- How critical the potential infringing patent?
- Who warns you (patent troll? Serious players?)
- Who are you (with large IP dept. or small firm?)
(12) United States Patent
Zhadan-Milligan et al.

(45) Date of Patent: Mar. 29, 2005

(54) PET UMBRELLA AND COMBINED PET LEASH AND UMBRELLA

(76) Inventors: Irina Zhadan-Milligan, P.O. Box 6412, New York, NY (US) 10150; Yuri Zhadan, P.O. Box 6412, New York, NY (US) 10150

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

(21) Appl. No.: 10/782,942
(22) Filed: Feb. 23, 2004

(65) Prior Publication Data

Related U.S. Application Data
Provisional application No. 60/449,451, filed on Feb. 24, 2003.

(51) Int. Cl.7 ........................................ A01K 27/00
(52) U.S. Cl. ......................... 119/795; 119/769; 135/16
(58) Field of Search ......................... 119/795, 850, 119/769; 135/16, 201; D30/153, 151; 248/514

(56) References Cited
U.S. PATENT DOCUMENTS
4,537,339 A 8/1985 Pearson ...................... 224/188

D324,117 S 2/1992 Antoine ...................... D30/144
D324,943 S 3/1992 Wu .......................... D3/6
5,546,970 A 8/1996 Amato ...................... 135/16
5,918,611 A 7/1999 Amato ...................... 135/16

FOREIGN PATENT DOCUMENTS
JP 09262038 A * 10/1997 ............ A01K27/00

OTHER PUBLICATIONS
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Primary Examiner—Teri P. Luu
Assistant Examiner—Kimberly S Smith
Attorney, Agent, or Firm—Nixon & Vanderhye

(57) ABSTRACT
A pet umbrella combines an umbrella and a leash. The umbrella includes a shaft carrying a canopy moveable between open and closed positions. In the open position, the convex side of the canopy faces the umbrella handle. A leash is secured to the opposite end of the shaft on the concave side of the canopy. The canopy is preferably oval in plan and formed of clear plastic see-through material. The major axis of the oval defined by the canopy forms a plane with the shaft whereby the shaft forms an included angle in the plane with the shaft of less than 90° and preferably about 30°–60°.

18 Claims, 5 Drawing Sheets
http://patft.uspto.gov/
Patent Information Sources

Official Patent Offices

- EPO: esp@snet: http://ep.espacenet.com/
- JPO: IPDL: http://www.inpit.go.jp/ipdl/service/
- SIPO: http://www.sipo.gov.cn/sipo_English/

Other sources

- Private data sources: Derwent-Thomson etc.
IIP Patent Database for Japan

- Original Data Source; JPO Seiri hyojunka Data (publicly available version of JPO examiner’s patent information system)
- Available at IIP website http://www.iip.or.jp/e/index.html
- All patents published until end of 2004, updated beta version is also available (until 2008 September publication)
IIP Patent Dataset Structure

- IIP Patent Database ([http://www.iip.or.jp/patentdb/index.html](http://www.iip.or.jp/patentdb/index.html))
- Up to 2009 September publication data are available
- NBER Patent Data like public database using JPO patent publication information

![Diagram of IIP Patent Dataset Structure]

- Application file: 11,254,825
- Applicant number: 1,006,572
- Inventor number: 6,457,220
- Registration file: 3,507,336
- Applicant file: 13,771,216
- Rights holder number: 326,344
- Rights holder file: 6,457,220
Patent database in the world

- **NBER** Patent Database (USPTO patents)
  - 1963-1999 registration patents (2,933,922)
  - Updated version are available until 2006
  - [http://www.nber.org/patents/](http://www.nber.org/patents/)

- **EPO** PATSTAT
  - Patent application information in the world (by EPO)
  - 40 mil applications for 70 countries
  - But depends on voluntary PO reporting
Changes in technology Portfolio
## Industry-Technology Concordance Table

| E04 | E05 | E06 | E21 | F01 | F07 | F02 | F03 | F04 | F15 | F16 | F17 | F21 | F22 | F23 | F24 | F25 | F26 | F27 | F28 | F41 | F42 | G01 | G02 | G03 | G04 | G05 | G06 | G07 | G08 | G09 | G10 | G11 | G12 | G21 | H01 | H02 | H03 | H04 | H05 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6.3%| 4.4%| 6.4%| 5.2%| 2.8%| 14.5%| 10.4%| 9.9%| 1.3%| 14%| 4.2%| 30%| 11%| 0.3%| 2%| 5%| 0.4%| 0.5%| 0.6%| 0.7%| 0.8%| 0.9%| 1%| 11%| 2%| 4%| 5%| 6%| 7%| 8%| 9%| 10%| 11%| 12%| 13%| 14%| 15%| 16%| 17%| 18%| 19%| 20%| 21%| 22%| 23%| 24%| 25%| 26%| 27%| 28%| 29%| 30%| 31%| 32%| 33%| 34%| 35%| 36%| 37%| 38%| 39%| 40%| 41%| 42%| 43%| 44%| 45%| 46%| 47%| 48%| 49%| 50%| 51%| 52%| 53%| 54%| 55%| 56%| 57%| 58%| 59%| 60%| 61%| 62%| 63%| 64%| 65%| 66%| 67%| 68%| 69%| 70%| 71%| 72%| 73%| 74%| 75%| 76%| 77%| 78%| 79%| 80%| 81%| 82%| 83%| 84%| 85%| 86%| 87%| 88%| 89%| 90%| 91%| 92%| 93%| 94%| 95%| 96%| 97%| 98%| 99%| 100%|
Technology Portfolio and Performance (Electronics firms)

From Motohashi Laboratory, March 2009
Comparison of Cannon and Hitachi DNA micro-alley innovation

• First, identify core scientist of both firms from inventor information of patent datasets.

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<th>CANNON Core Scientists</th>
<th>Hitach Core Scientists</th>
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(Ota and Motohashi, 2010)
Changes of collaborative relationship of inventors

Hitachi Software

CANNON

(Ota and Motohashi, 2010)
Patent Quality Index

• Citation Indicator
  – # of forward citations
  – # of non-self citations…

• Patent family
  – International patenting
  – Continuation patenting

• Patent renewal data (for granted patent)

• Request for opposition (for granted patent)

• Patent litigation data (for granted patent)
# of forward citations

(IIP-Patent Database)
Originality and Generality Index

\[
\text{Originality} = 1 - \left[ \left( \frac{3}{4} \right)^2 + \left( \frac{3}{4} \right)^2 \right] = 0.37
\]

\[
\text{Generality} = 1 - \left[ \left( \frac{2}{6} \right)^2 + \left( \frac{2}{6} \right)^2 + \left( \frac{2}{6} \right)^2 \right] = 0.61
\]
Comparing Generality Index

(IIP-Patent Database)