

Derwent World Patents Index (DWPI) - process outline

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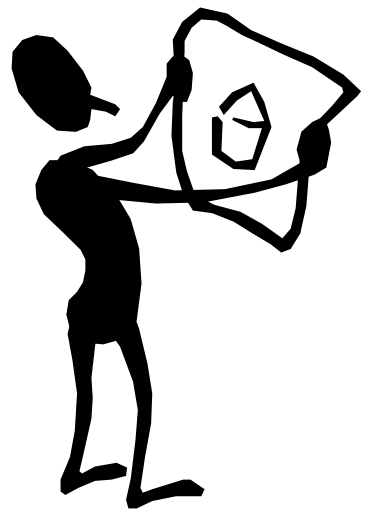
June 2007

What is a Patent?

- Legal contract
  - inventor (assignee) and government
  - Right to stop others from making, using or selling the invention
    - for a limited period (usually 20 years)
- When granted can be bought, sold, hired or rented
- A **complete disclosure** of the invention



How do you get a patent?

1: Invent something
- incremental improvement

2: Draft application
- Patent agent/attorney

3: File at Patent Office
- Filing Date
- Application number

4: First examination and publication

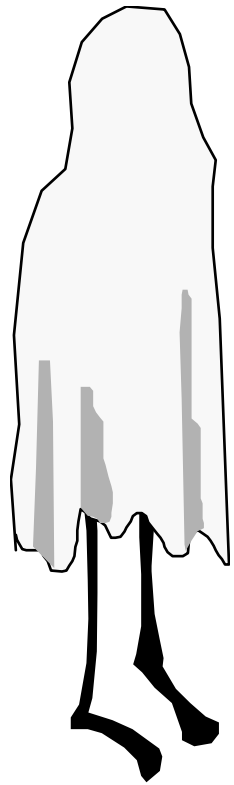
5: Detailed examination and publication

6: Grant, lapse, expiry or withdrawal

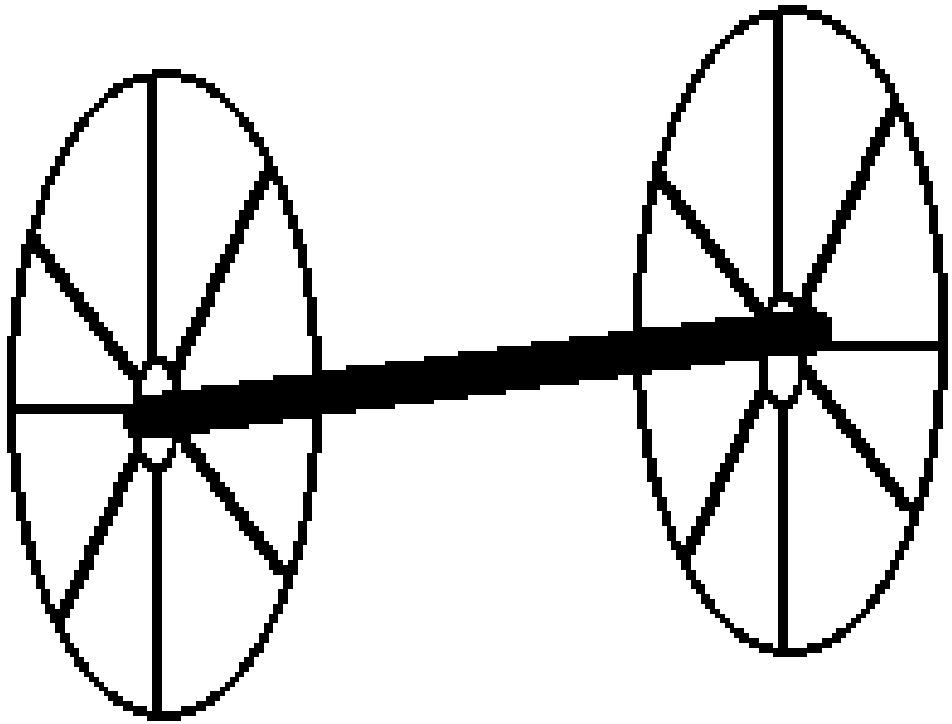
Hiding the invention

- Engineering - “Patentese”

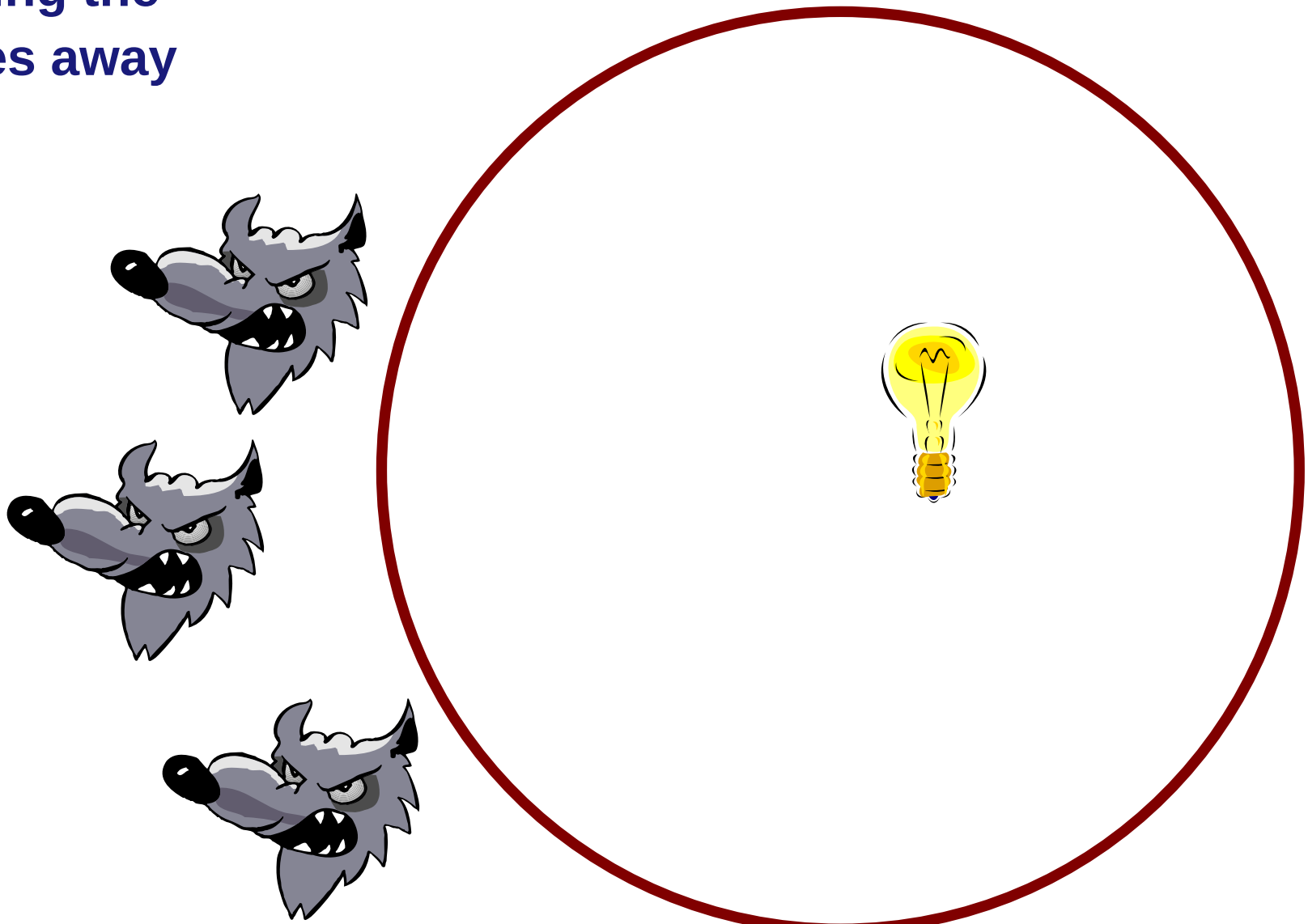
  A device comprises inner and outer concentric annular elements linked by a plurality of elongate members radiating from the outer circumferential surface of said inner annulus to the inner circumferential surface of said outer annulus, an opening being provided in the centre of said inner annulus for receiving the end of an elongate member, the other end of said elongate member being inserted into an identical device.



What does all that mean?

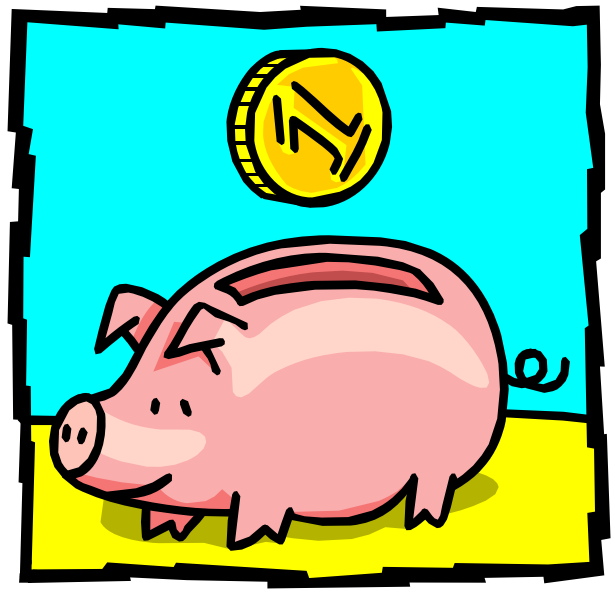


Keeping the wolves away



Why Use Patent Information?

- Avoid wasteful duplication of R&D effort
  - Novelty and Prior Art Searching
  - State of the art
- Identification of research fronts
  - Expert in the field
- Infringement and opposition
- Monitoring competitors
- Solutions to technical problems
- Licensing opportunities

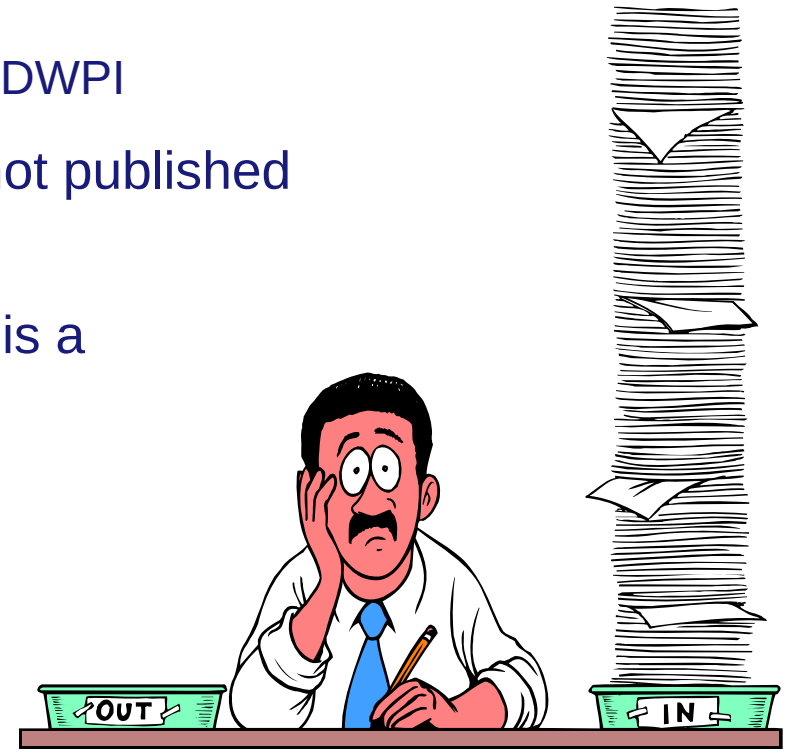


Who Uses Patent Information ?

- Strategic Planners
  - Business Analysts
  - Marketing Professionals
- Information Professionals
- Patent Attorneys
- Research Scientists
- Design Engineers
- R&D Managers

The Information Challenge

- Over two million patents are issued world wide per annum
  - ~38,000 processed weekly for DWPI
- Unique information, about 80% not published elsewhere[1]
- Information held within a patent is a vital source of information for:
  - Research and Development
  - Competitive Intelligence



[1](source: European Patent Office)

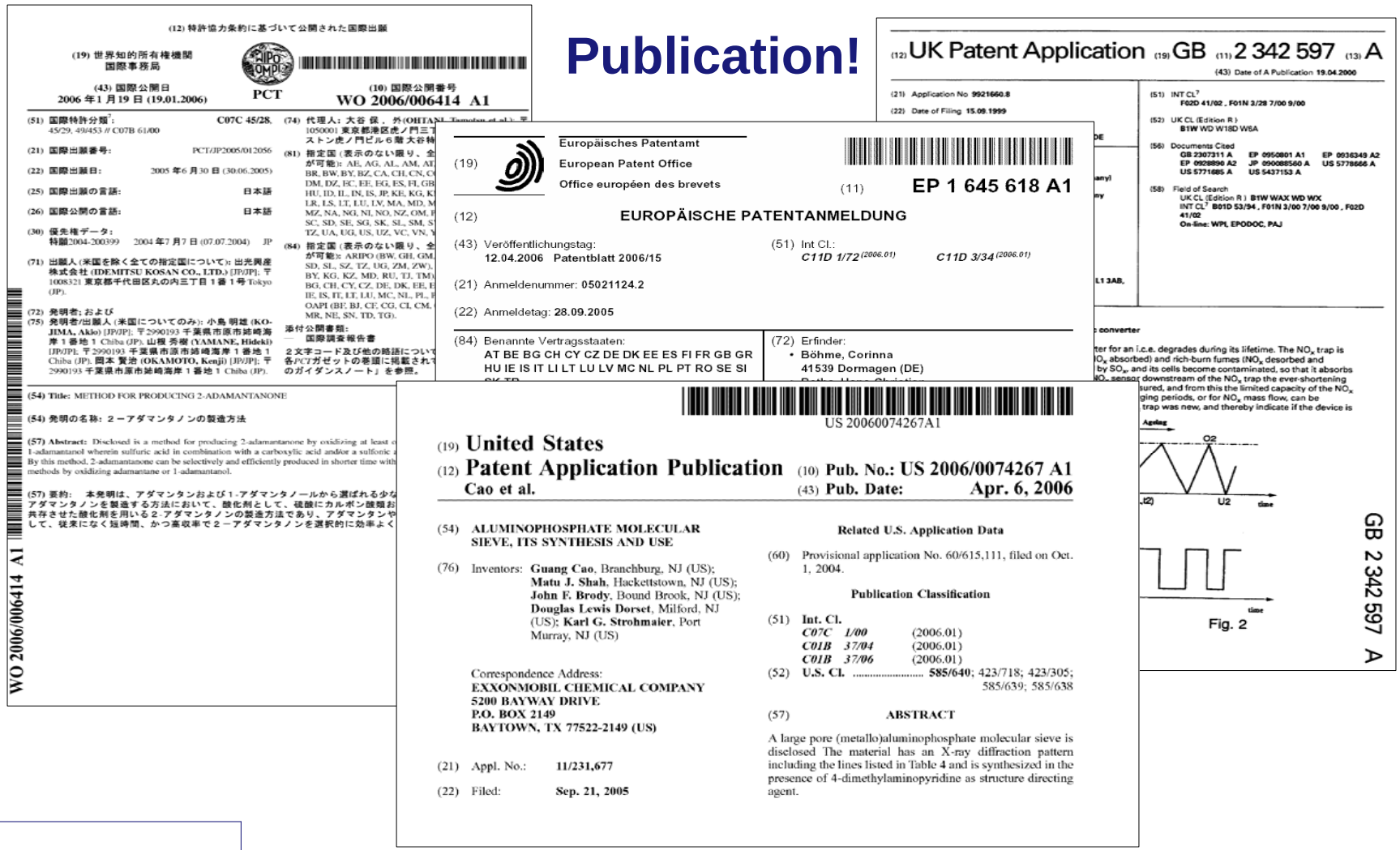
Complexity of the patenting system

- The same invention can be protected as a patent in many countries through:
  - national route (filing the invention with the respective national patent office)
  - International route (by using the PCT- Patent Convention Treaty system administered by WIPO)
  - Regional route (by using the EPC – European Patent convention- system administered by the EPO;)
- Can have multiple applications in the same country (divisions, continuations, continuations-in-part etc.)
- Translations into local languages from international or regional applications (e.g. European Patent Office, or World Intellectual Property Organisation)

What is “Priority”?

- Paris Convention (1883) – regulates the priority system
- File first application
  - Receive filing date (Priority)
- File in other countries
  - within 12 months (+2)
- Further applications benefit of legal protection from the filing date of first application
- The earliest publication that brings the invention into the public domain is *usually 18 months* from the priority filing

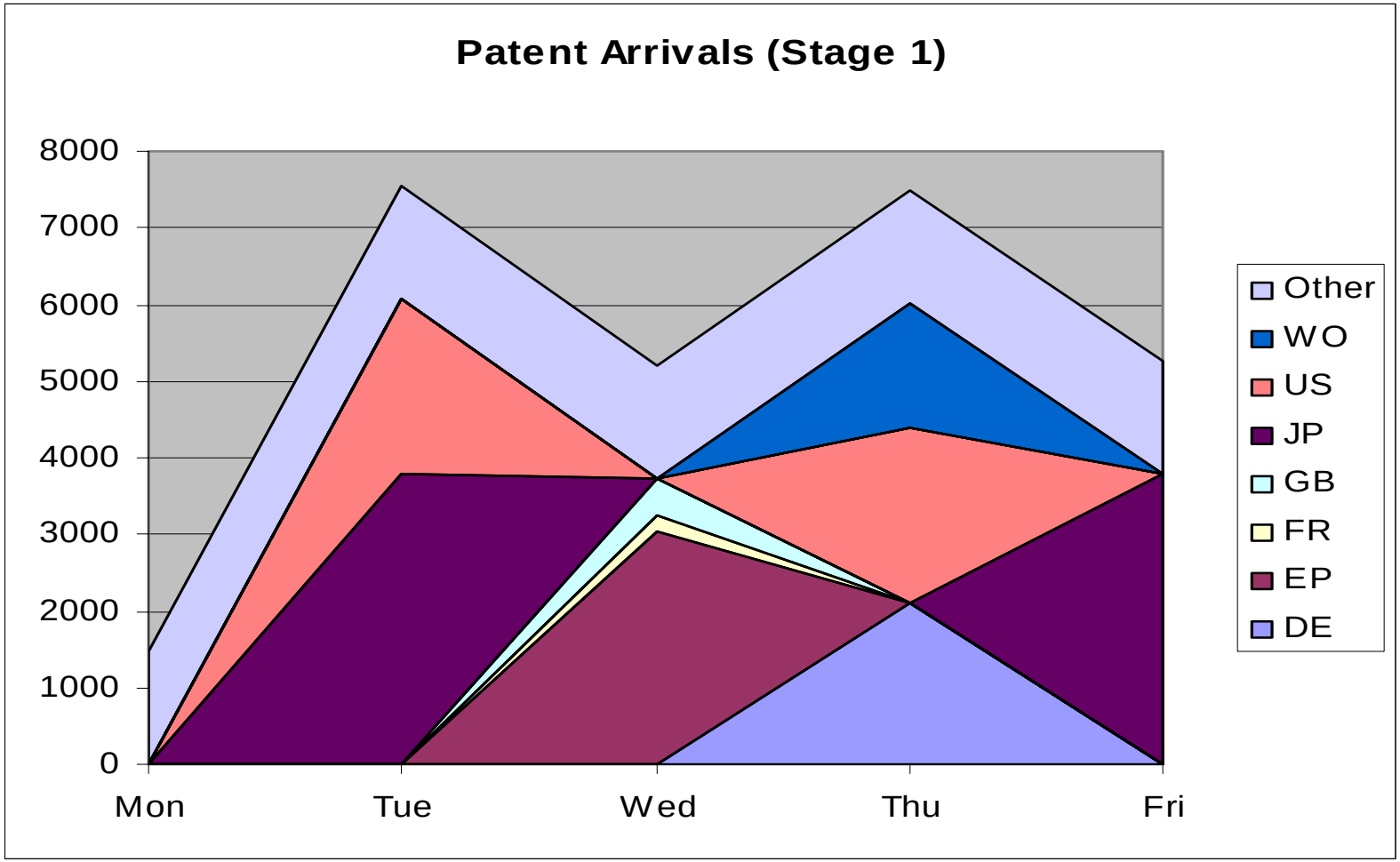
The beginning



DWPI Preliminary Processing - Data extraction

- Data sources
  - 41 countries; 38K patents per week
- Data formats
  - ASCII text, SGML, XML, Tiff images, PDF
- Delivery medium
  - disk, ftp, email, paper, magnetic tape – increasingly electronic
- Data content
  - bibliographic data, abstracts, full patent specifications, Machine Translation (MAT)
- Currently 18 National Languages covered in Patents received
  - e.g. Japanese, French, German, Russian, Italian, Hungarian, Hindi

DWPI Weekly Patent Volumes – Major Offices



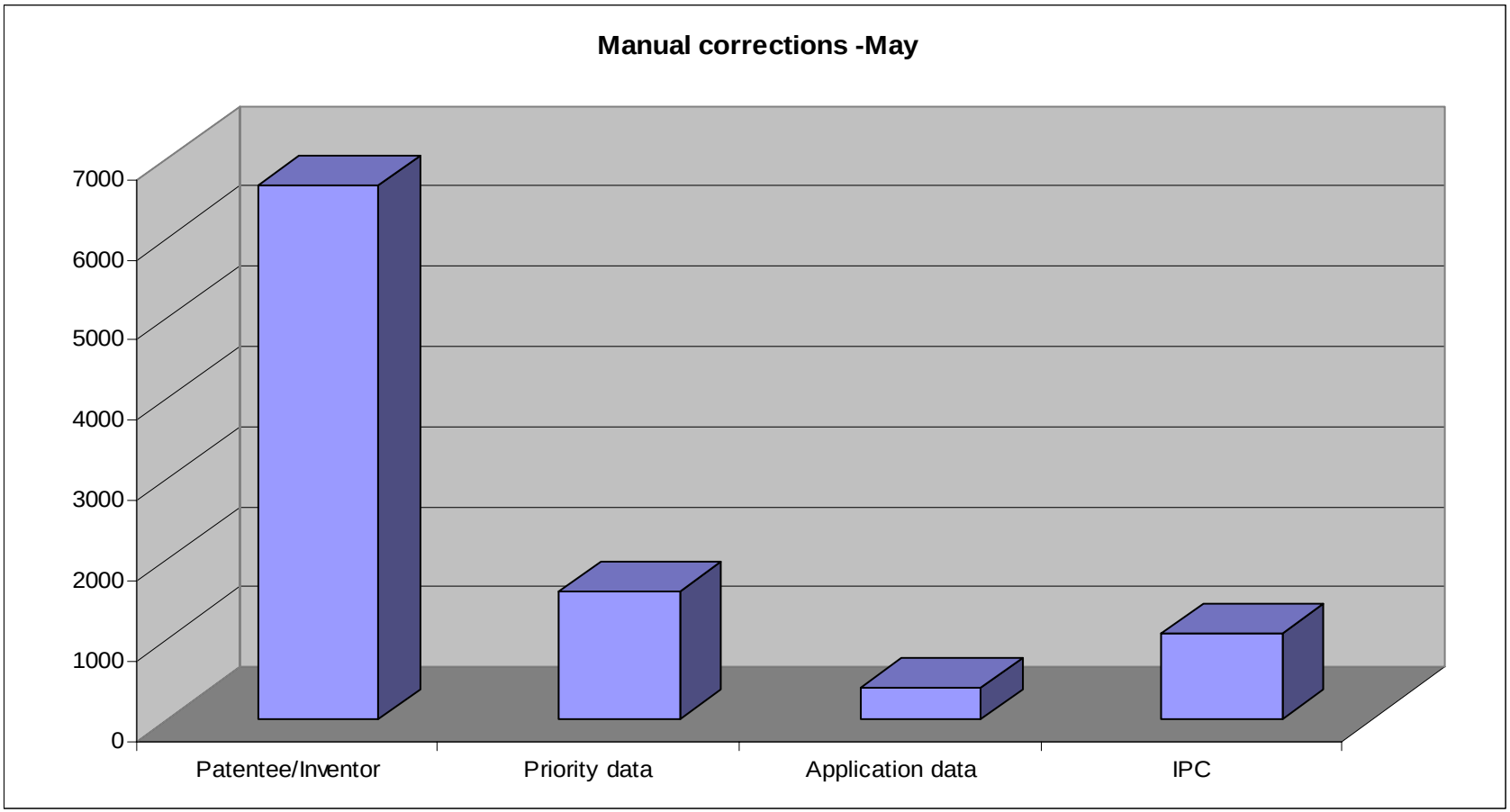
Overview of *DWPI* Editorial Process

- Process Bibliographic information
  - Standardisation of company names
  - Data corrections – e.g. invalid/missing IPCs
- Create **Patent family** – identify patents that relate to the same invention
  - Basic/Equivalent searches
  - Identify Non-Conventional filings
- Apply Classification
- Create **Title/Abstracts**
- Apply **Manual Coding/Indexing**
- Upload completed records to product

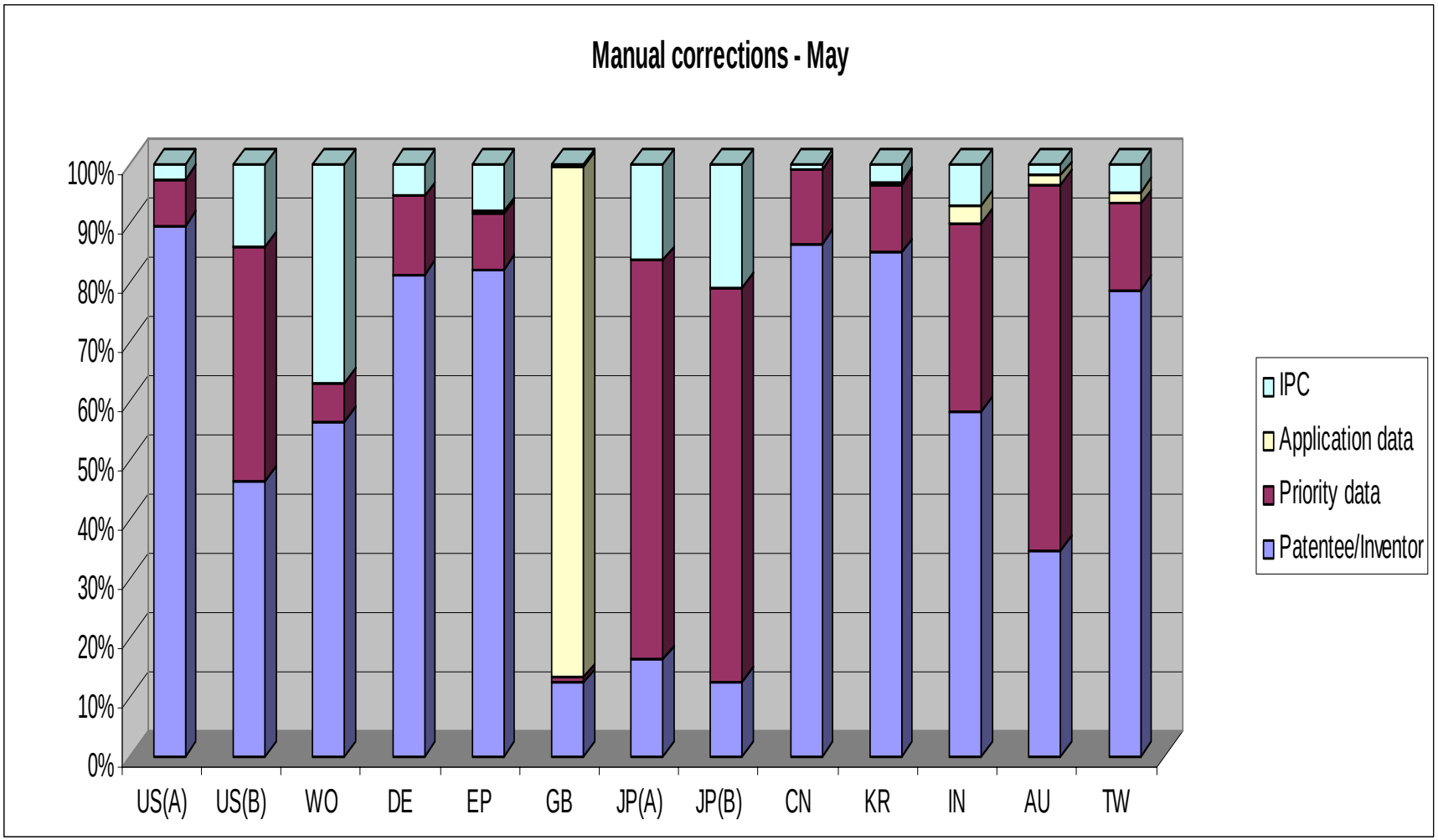
Preliminary Processing – Data Validation and Correction

- **Bibliographic data:**
  - Patent application numbers and dates
  - Priority numbers and dates
  - Assignee or applicant (company/individual) details
  - Inventor names, addresses
  - International Patent Classification (IPC)
  - Patent agent details
  - Status Designated states (EP/WO)
- **Value added** intellectually through cleaning of raw patent data during DWPI processing
- **Error corrections in DWPI**:
  - Company (patentee)/inventor names:
    - Language transliteration of company/inventor names
    - Misspelled, incorrect formatting of company and inventor names, company codes
    - Accepting new company names
  - Priority dates and numbers (corrections and missing data)
  - Application dates and numbers
  - Invalid or missing International Classification Symbols

Number of Manual Error Corrections (*DWPI*) - May 2007



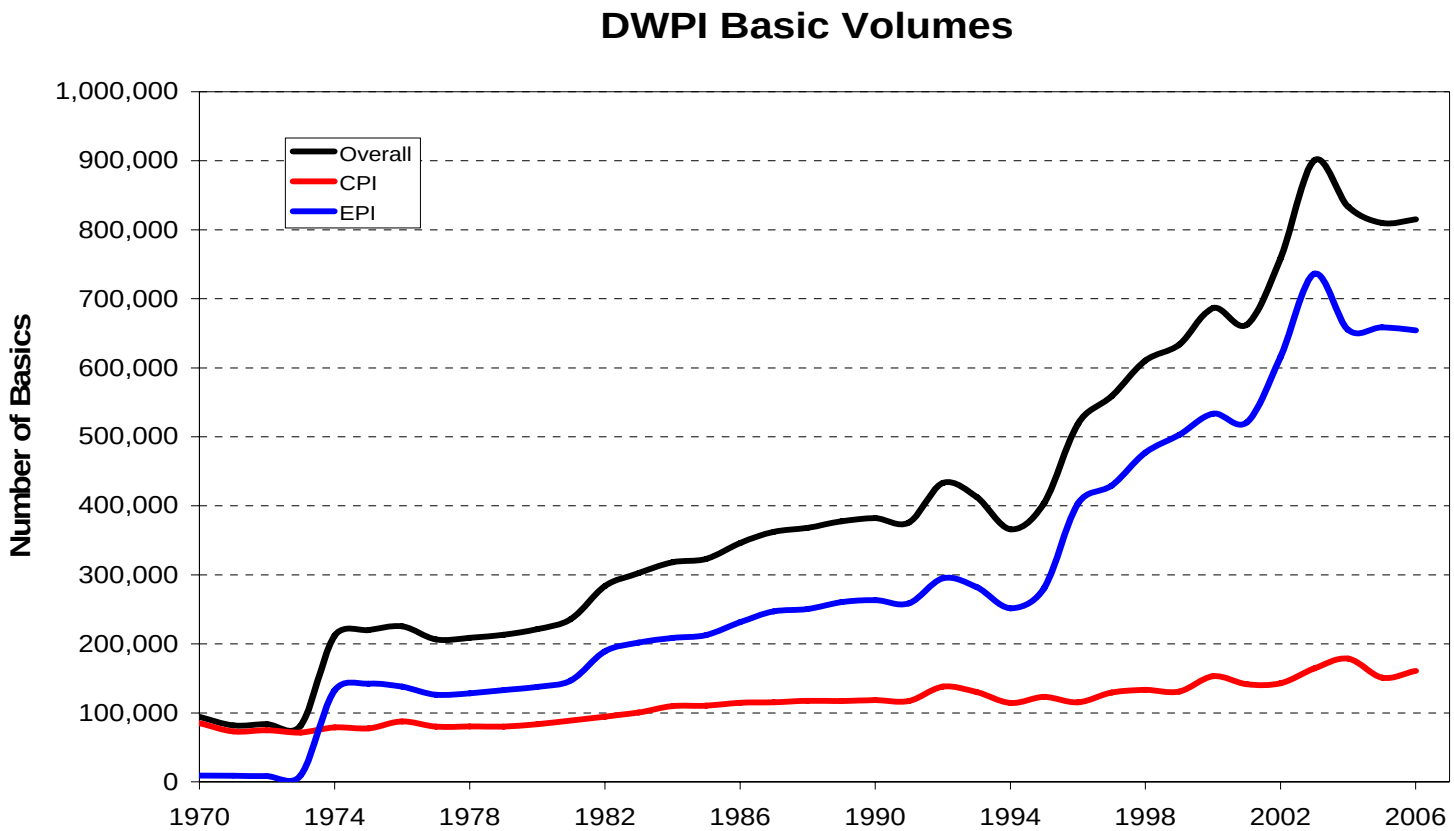
Number of Manual Corrections by patent issuing authority (May 2007)



The DWPI Patent Family

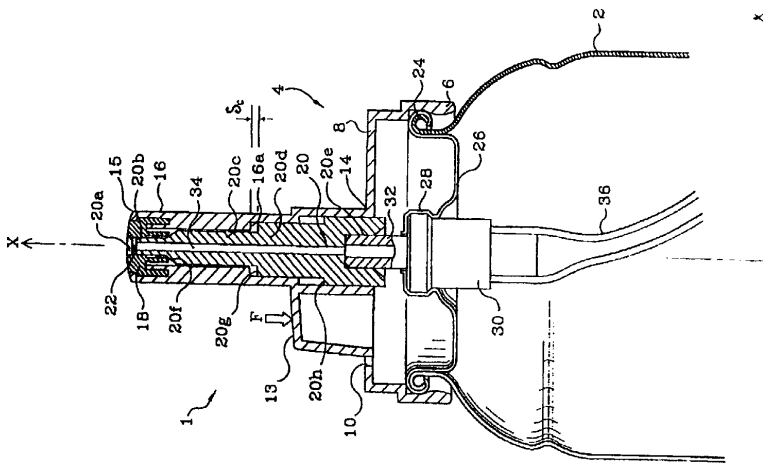
- **DWPI Basic** is defined as the first member of a patent family containing a certain invention which our system received; this may not necessarily be the priority patent filing
- **DWPI Equivalent** is any subsequent family members that is contain the same invention as the basic
- The DWPI basic-equivalent process matches priorities on all incoming applications to priorities existent in the DWPI database
- The algorithm identifies the closely related members of the family through direct priority matches and also indirectly linked family members and creates links between related families
- A team of experts add to the family the non- Convention equivalents that do not have the priority information because were filed after the 12 months period from the priority filing

DWPI Patent Volumes (Basics)



EP0939039 - Our Invention

- Filed at French Patent Office
  - 25/02/1998
- Filed in European Patent Office
  - 30/12/1998
- Filed at Japanese Patent Office
  - 19/02/1999
- Filed at American Patent Office
  - 25/02/1999



EP0939039 - Biblio 1

DWPI applied company code

Applicant Details

Patent Assignee: L'OREAL SA (OREA)
Inventor: LASSERRE P; SANCHEZ M

Indicates Basic

Patent Family

Number of Countries: 027 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 939039	A1	19990901	EP 98403341	A	19981230	199942 B
FR 2775262	A1	19990827	FR 982279	A	19980225	199942
JP 11285656	A	19991019	JP 9942164	A	19990219	200001
US 6202899	B1	20010320	US 99257038	A	19990225	200118

Priority Applications (No Type Date): FR 982279 A 19980225

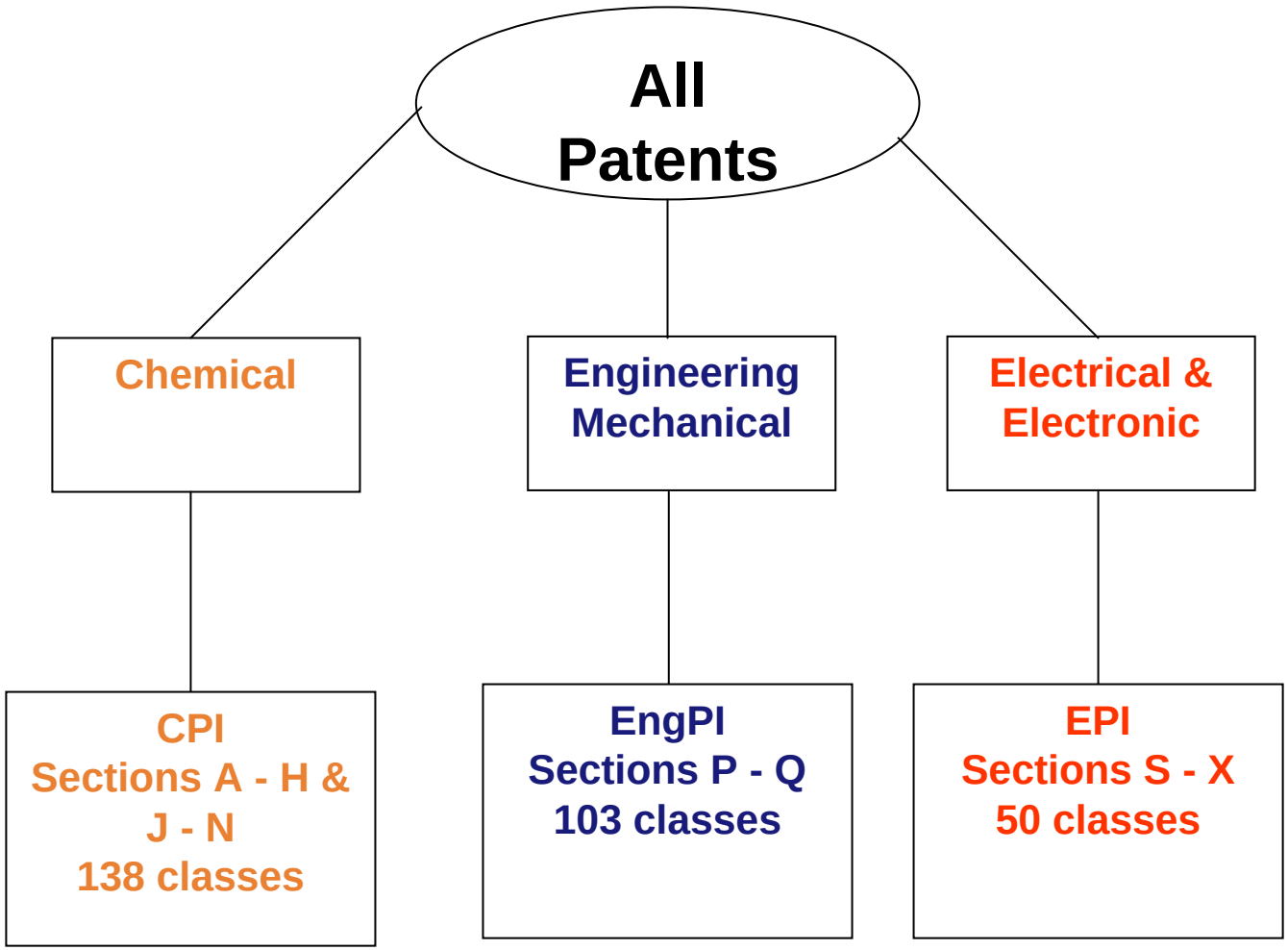
EP0939039 - Biblio 2

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 939039	A1	F	11	B65D-083/16	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
FR 2775262	A1			B65D-083/16	
JP 11285656	A		8	B05B-009/04	
US 6202899	B1			B65D-083/00	

ICIREPAT Country Codes

Classification



EP0939039 - Classes

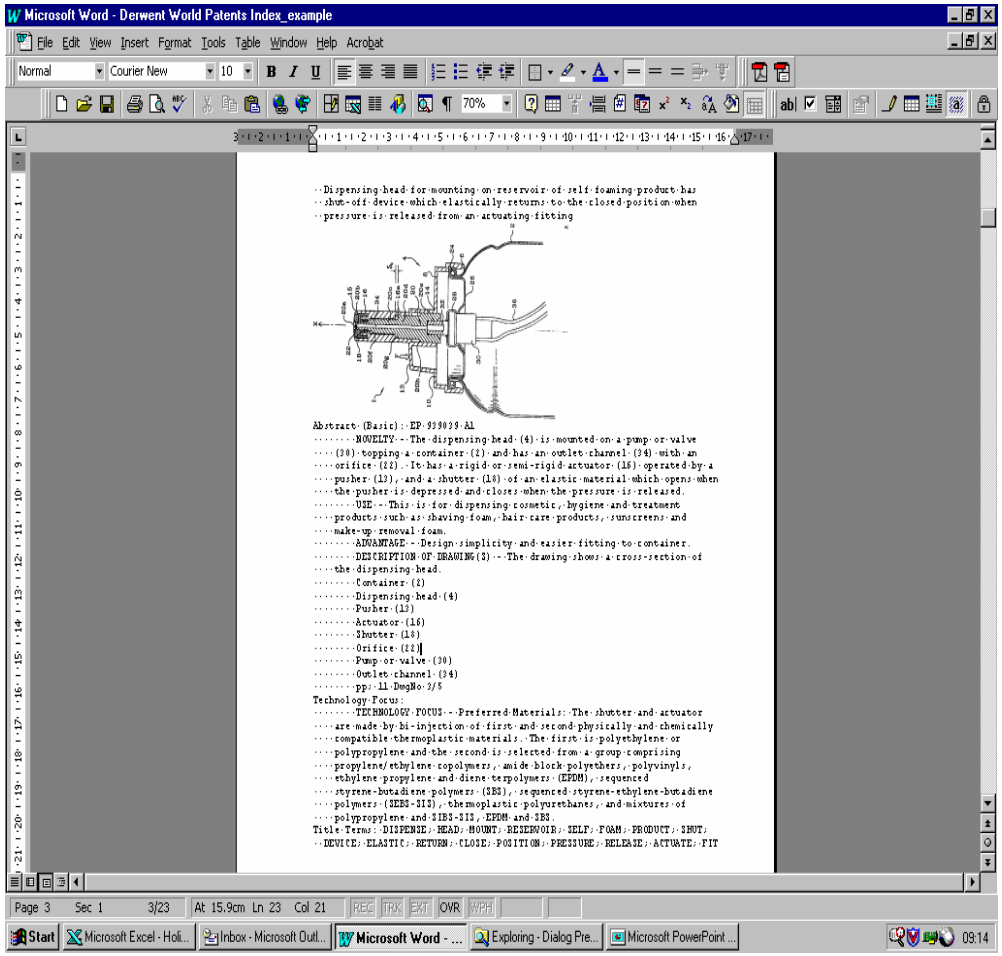
- CPI Interest
  - Claim 7 covers polymer interest
    - must be section A as involves use of specific polymers
      - A8/9 - Applications
        - A92 = Packaging & Containers
- EPI Interest
  - None
- EngPI
  - IPC guarantees class
    - B05 = P42
    - B65D-083 = Q34

DWPI Editorial Teams

- Analysts split into teams:
  - Polymers
  - General Chemistry
  - Pharmaceuticals (Chemistry)
  - Pharmaceuticals (Biological)
  - Instrumentation
  - Semiconductors
  - Audio-Visual and Signal Processing
  - Computing
  - Telecommunications
  - Transportation
  - Industrial
  - Power Electronics
- Editorial Hub is based in the UK
- TS Editorial facilities are currently being set up in India
  - Additional resources will enable improvements in quality and timeliness

The Abstract

1. Title
2. “Alerting” abstract
3. Technology Focus
4. Extension abstract



The DWPI Title

- Not the title on the patent
- In English
- Rewritten to cover:
  - Scope = what the invention is
  - Use = what the invention is used for
  - Novelty = what is new about the invention
- Title Terms
  - Autogenerated from title

EP0939039 - Title

- Tête de distribution d'un produit et ensemble de distribution sous pression équipé de cette tête

  becomes

- Dispensing head for mounting on reservoir of self foaming product has shut-off device which elastically returns to the closed position when pressure is released from an actuating fitting

- Title Terms: DISPENSE; HEAD; MOUNT; RESERVOIR; SELF; FOAM; PRODUCT; SHUT; DEVICE; ELASTIC; RETURN; CLOSE; POSITION; PRESSURE; RELEASE; ACTUATE; FIT

"Alerting" Abstract

- Up to 7 Fields
  - Novelty
  - Detailed Description
  - Use
  - Advantage
  - Activity
  - Mechanism of Action
  - Description of Drawing(s)

EP0939039 - Novelty/Advantage

- NOVELTY - The dispensing head (4) is mounted on a pump or valve (30) topping a container (2) and has an outlet channel (34) with an orifice (22). It has a rigid or semi-rigid actuator (16) operated by a pusher (13), and a shutter (18) of an elastic material which opens when the pusher is depressed and closes when the pressure is released.

- ADVANTAGE - Design simplicity and easier fitting to container.

EP0939039 - Use/Description of Drawing(s)

- USE - This is for dispensing cosmetic, hygiene and treatment products such as shaving foam, hair care products, sunscreens and make-up removal foam.
- DESCRIPTION OF DRAWING(S) - The drawing shows a cross-section of the dispensing head.

  Container (2)

  Dispensing head (4)

  Pusher (13)

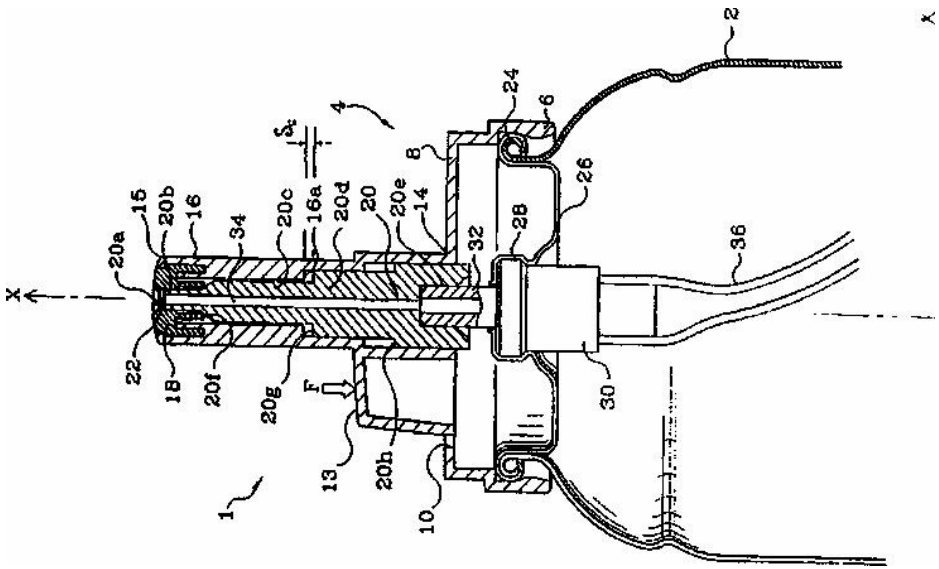
  Actuator (16)

  Shutter (18)

  Orifice (22)

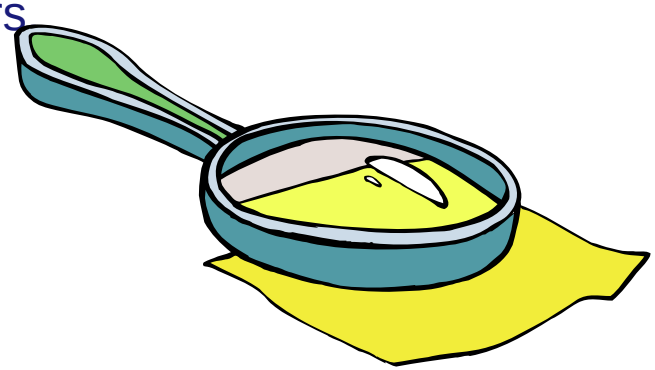
  Pump or valve (30)

  Outlet channel (34)



Technology Focus

- Technology Specific
  - scientist
- Preferred methods
- Easy to scan headings: agriculture, imaging and communications, biology, pharmaceuticals, polymers, textiles and paper, computing and control, etc
  - sub-headings



EP0939039 - Technology Focus

TECHNOLOGY FOCUS - POLYMERS - Preferred Materials: The shutter and actuator are made by bi-injection of first and second physically and chemically compatible thermoplastic materials. The first is polyethylene or polypropylene and the second is selected from a group comprising propylene/ethylene copolymers, amide block polyethers, polyvinyls, ethylene propylene and diene terpolymers (EPDM), sequenced styrene-butadiene polymers (SBS), sequenced styrene-ethylene-butadiene polymers (SEBS-SIS), thermoplastic polyurethanes, and mixtures of polypropylene and SIBS-SIS, EPDM and SBS.

The Extension Abstract

- Wider Disclosure
  - ‘inventions’ not covered in the claim
- Specific Substances
- Administration
- Example
- Definitions

What Does This Look Like?

SPECIFIC COMPOUNDS - 25 Compounds are specifically claimed as (I) for e.g. 5-(2-ethoxy-5-(4-(2-hydroxyethyl)piperazine-1-sulfonyl)phenyl)-1-methyl-3-propyl-1,6-dihydropyrazolo(4,3-d)pyrimidine-7-thione (Ia).

ADMINISTRATION - A composition containing (I) is administered orally, as injection solution (claimed) or parenterally. The dosage is 0.01 – 100 (0.1 - 50) mg/kg.

EXAMPLE - 4-Methoxy-3-(1-methyl-3-propyl-7-thioxo-6,7-dihydro-1H-pyrazolo(4,3-d)pyrimidin-5-yl)-benzenesulfonyl chloride (104.6 mg) was suspended in ethanol (10 ml) and then 1-(2-hydroxyethyl)-piperazine (0.10 ml)was added. After the suspension was stirred at room temperature for 12 hours, ethyl acetate (50 ml) and saturated aqueous sodium bicarbonate solution (20 ml) were added. Work-up gave 5-(2-ethoxy-5-(4-(2-hydroxyethyl)piperazine-1-sulfonyl)phenyl)-1-methyl-3-propyl-1,6-dihydropyrazolo(4,3-d)pyrimidine-7-thione (Ia) (56.6%) as a yellow solid.

DWPI Indexing – Manual Codes

- Hierarchical, giving more detail as the code gets longer (up to seven levels)
- Intellectually applied, based on the patent content and technology specialist's knowledge of the area of invention
- Highlight novel technical aspects of the invention, as well as applications – taken from e.g. body of the patent specification or the drawings
- Multiple codes applied to a single document to cover all relevant aspects
- Updated yearly by technology specialists based on technology trends and customer feedback

U11-C04G [1992]

Ion beam lithography for semiconductor mfr.
(H01L-021/027)

U11-C04G1 [1992]

Apparatus and method for ion beam lithography
(H01J-037/30, H01L-021/027)
For control and focusing aspects see also U11-C04A6 and U11-C04C2 respectively. See V05-F codes for novel details of apparatus and methods of apparatus monitoring, operation and control..

U11-C04G2 [1992]

Masks for ion beam lithography
(H01L-021/027, H01J-037/30) (U11-C04A4)
Also see V05-F codes for novel ion beam lithography masks.
stencil mask

U11-C04H [1992]

X-ray lithography for semiconductor mfr.
(H01L-021/027)
Roentgen

U11-C04H1 [1992]

Apparatus and method for X-ray lithography
(H01L-021/027, H01J-035) (U11-C04C, U11-C04C1)
Includes exposure using X-ray, soft X-ray and ionising ultraviolet radiation (for exposure using non-ionising ultraviolet radiation e.g. DUV see U11-C04E codes). For control and confinement aspects see also U11-C04A6 and U11-C04C2 respectively. See V05-E and V05-F codes for novel details of apparatus and methods of monitoring, operation and control.
extreme ultraviolet, EUV

U11-C04H2 [1992]

X-ray masks
(H01L-021/027) (U11-C04A3)
Also see V05-E08 codes and V05-F codes for novel X-ray, soft X-ray and EUV lithography masks.

U11-C04J [2005]

Imprint lithography for semiconductor mfr.
(H01L-021, B41M-003)
Includes use of stamps and presses to form pattern.

EP0939039 - Manual Codes

- How are polymers involved?
  - Use of invention = dispensing head for e.g. cosmetic products

  ∴ Packaging = A12-P

  More specific - Closures = A12-P03

  Other containers = A12-P06

  Bottles, aerosol containers = A12-P06A

- How is packaging formed?
  - Injection moulding = A11-B12
    - To form specific goods A11-B12A

DWPI Indexing – Deep Indexing

- Used to define specific novel features of chemical structures
- Separated into chemical fragments, then translated into chemical codes
- Hierarchical structure allows both specific and generic searching
- Includes formulae and activity coding
- Covers all chemical compounds listed in a document

{ACETONE-FORMALDEHYDE POLYMER}

USE Acetone, Formaldehyde and Aldehyde/Ketone resin, other

ACETONITRILE *[chemicals]* **R00342**

UF Methyl cyanide

R00342 [8]

- No equivalent AM, KS or DR codes

ACETOPHENONE *[chemicals]* **R00675**

UF Phenyl methyl ketone; Acetylbenzene

681 [1]
0036 [5]
0675 [7]
R00675 [8]

- AM and KS codes represent 'Aldehyde or ketone'; DR exact correspondence

ACETOXYBENZOIC ACID, 4- *[polymer formers]* **R03993**

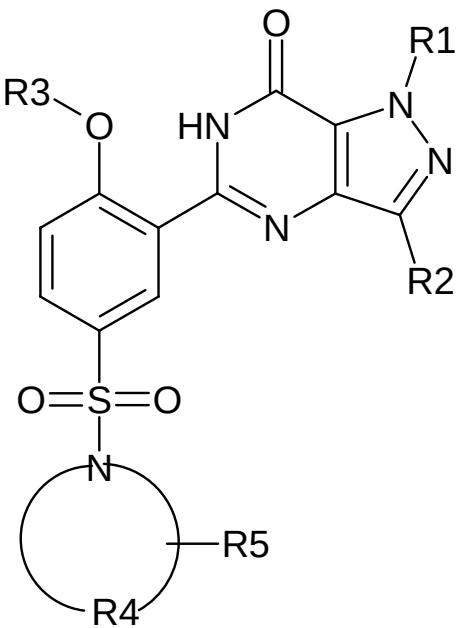
BT Monobasic carboxylic acids
BT Carboxylic acids
BT Carboxylic derivatives (96)

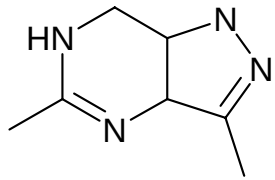
(195 OR (225 (L) 075 (L) (720 OR 163))) [1]
163 [3]
R03993 [8]

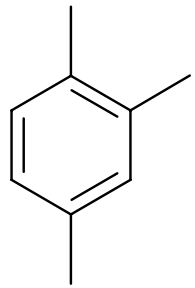
- AM codes represent 'Aromatic hydroxy acids' or 'Other aromatic condensants' and 'Acid'

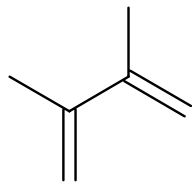
Deep Indexing - 1

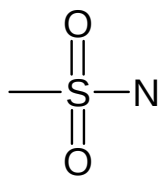
Chemical Indexing: Sections B, C & E

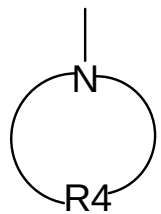












Deep Indexing - 1

Chemical Indexing: What does it look like?

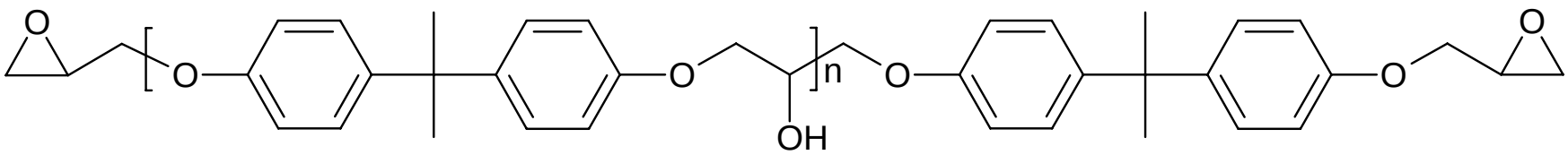
M2 *01* C316 D013 D019 D920 F011 F014 F553 G015 G100 H1 H181 H2 H201 H212 H5 H541 H8 J5 J521 K0 K3 K353 L9 L941 M1 M113 M210 M211 M212 M213 M231 M240 M272 M273 M281 M282 M320 M412 M431 M511 M521 M531 M540 M782 M904 M905 P520 R023 R031 R038 RIN: 01168 DCN: RA05WZ-K, RA05WZ-T, RA05WZ-M

M2 *02* D011 D014 D022 D030 D140 E330 H2 H211 J5 J522 L9 L941 L999 M1 M115 M210 M211 M273 M281 M320 M412 M431 M512 M520 M530 M540 M782 M904 M905 P520 R023 R031 R038 RIN: 40336 DCN: RA2HIY-K, RA2HIY-T, RA2-HIY-M

M2 *03* D011 D023 E310 H1 H181 H2 H201 H4 H402 H442 H8 M210 M211 M273 M281 M320 M412 M431 M511 M520 M530 M540 M782 M904 M905 M910 P520 R023 R031 R038 RIN: 05171 05171 DCN: R00151-K, R00151-K, R00151-T, R00151-M, R10188-K, R10188-K, R10188-T, R10188-M

Deep Indexing - 2

Enhanced Polymer Indexing - Section A



DWPI – Building a Record

JP2003297276

Title:
Sample holder cooling device for transmission electron microscope, includes heat insulation unit provided between inner and outer portions of protrusion of sample holder.

Patent Assignee:
JEOL Co Ltd

IPC:
Main: H01J037-20
Secondary: G01N001-28

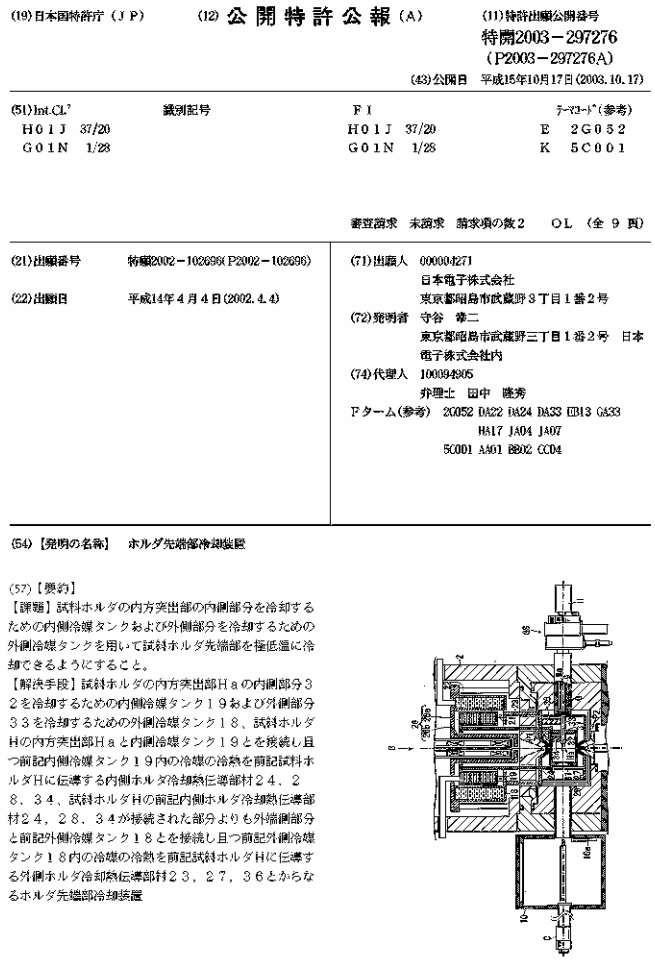
Novelty:
A sample holder (H) holds a sample at an inner portion (32) of a protrusion (Ha). The coolant tanks (18, 19) respectively cool the outer-side portion (33) and inner portion of the protrusion. The heat conduction elements (23, 24, 26-28, 34), respectively connect the inner portion with the inner tank (19), and the outer portion with the outer tank (18). A heat insulation unit (37) is provided between the inner and outer portions.

Use:
For cooling the tip of the sample holder of charged particle-beam apparatus such as transmission electron microscope (TEM).

Advantage:
By providing heat insulation unit between the inner and outer portions of the protrusion, the conduction of the heat from the inner portion to the outer portion is prevented. The sample is more efficiently cooled.

Description of Drawing(s):
The figure shows a schematic view of the sample holder cooling device.

Coolant tanks 18, 19
Heat conduction elements 23, 24, 26-28,34
Inner portion 32
Outer-side portion 33
Heat insulation unit 37
Sample holder H
Protrusion Ha
Derwent Class: S03; V05
Manual Codes: S03-E06B1; S03-E06C; V05-F01A1A; V05-F01B3; V05-F04G; V05-F04K



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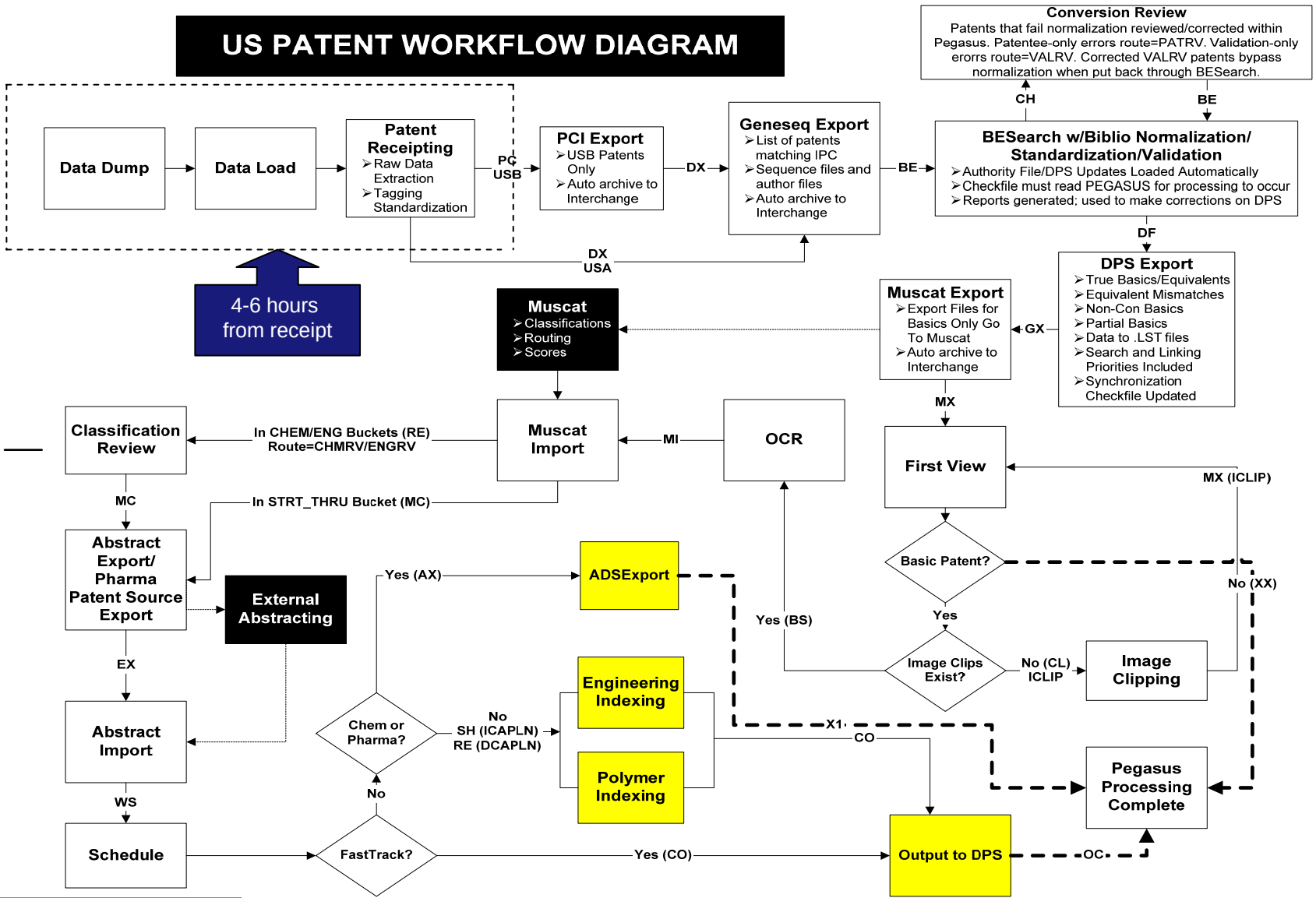
(54)【発明の名称】　ホルダ先端部冷却装置

(57)【要約】
【課題】試料ホルダの内方突出部の内側部分を冷却するための内側冷媒タンクおよび外側部分を冷却するための外側冷媒タンクを用いて試料ホルダ先端部を極低温に冷却できるようにすること。
【解決手段】試料ホルダの内方突出部Ｈａの内側部分３２を冷却するための内側冷媒タンク１９および外側部分３３を冷却するための外側冷媒タンク１８、試料ホルダＨの内方突出部Ｈａと内側冷媒タンク１９とを接続し且つ前記内側冷媒タンク１９内の冷媒の冷熱を前記試料ホルダＨに伝導する内側ホルダ冷却熱伝導部材２４，２８，３４、試料ホルダＨの前記内側ホルダ冷却熱伝導部材２４，２８，３４が接続された部分よりも外端側部分と前記外側冷媒タンク１８とを接続し且つ前記外側冷媒タンク１８内の冷媒の冷熱を前記試料ホルダＨに伝導する外側ホルダ冷却熱伝導部材２３，２７，３６とからなるホルダ先端部冷却装置

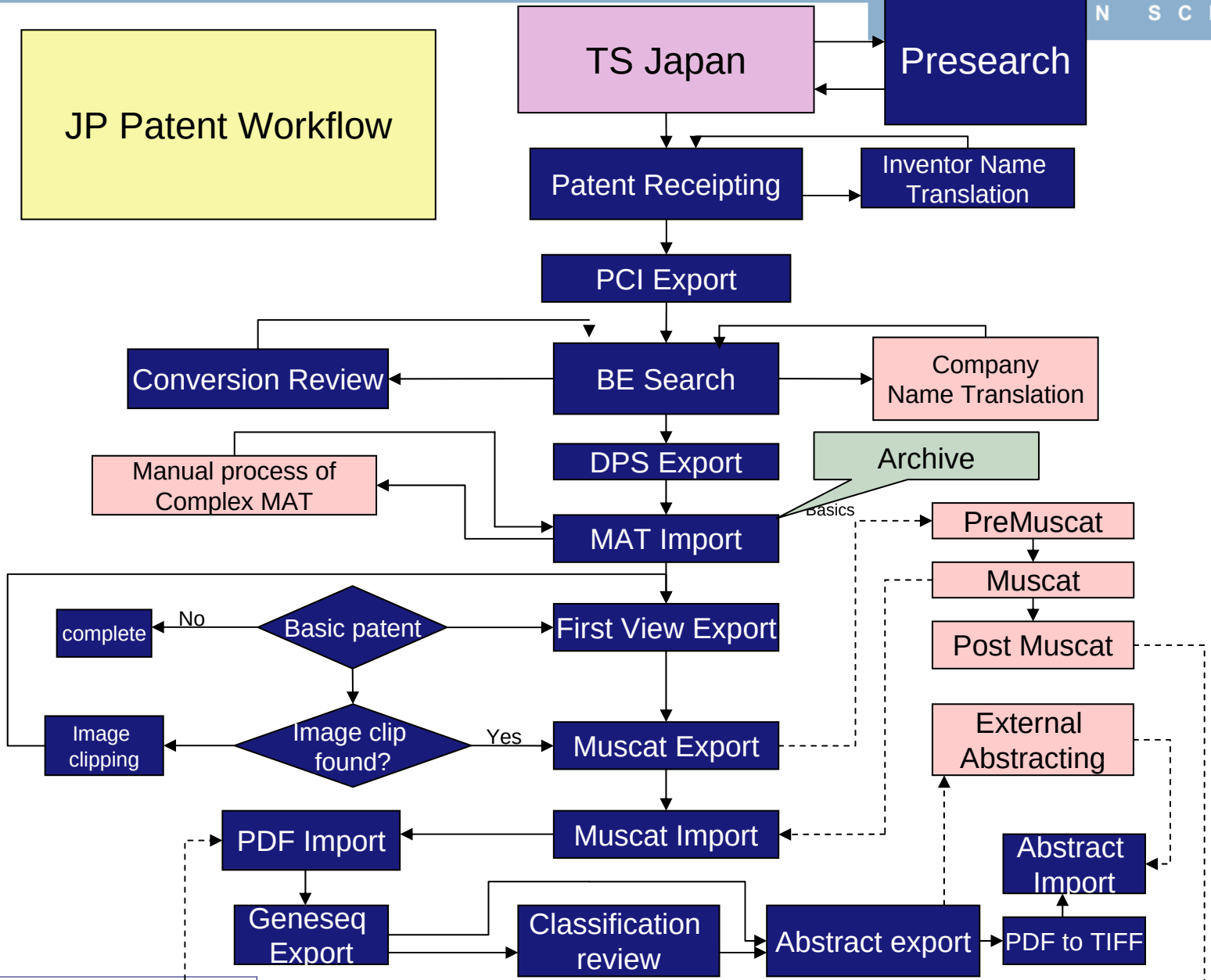
DWPI – technical system

- Editorial Desktop Tool used by Analysts is called *Pegasus*
  - Automatic routing of documents to Analyst
  - Allows parallel working between editorial departments
  - Electronic access to full patent specification
  - DWPI Analyst can select/deselect and manipulate images
  - Drop down menus allowing Analysts to assign relevant manual codes
  - Indexing screens to allow for deep indexing
- Patents are monitored throughout the process from patent receipt to product
- Validation checks built into the system to stop records from being uploaded with missing/incorrect data fields

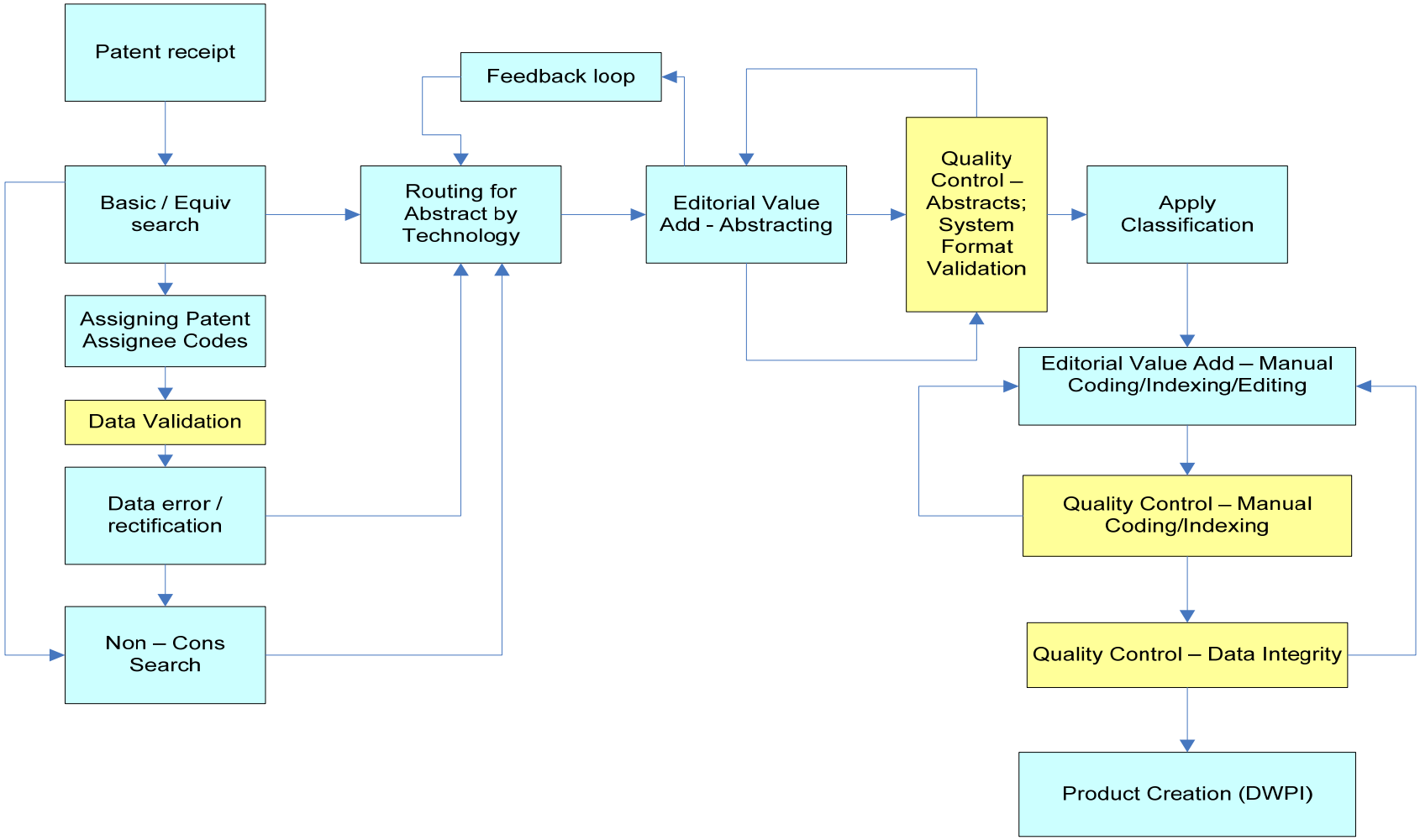
US PATENT WORKFLOW DIAGRAM



JP Patent Workflow



DWPI Editorial Workflow – Quality Checkpoints



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- ***World's Leading database of value added patent information***
- *Enhanced* patent information database
- Based on one record *per invention* (Patent Family)
- Concise abstract of complete patent document
- *Manually coded/indexed* to allow consistent and accurate searching
- Includes documents from over 41 major patent issuing authorities – over 120 Countries
    - Japanese Patent Office; US Patent and Trademark Office; European Patent Office; WIPO
    - China, Korea and Taiwanese Patent Offices
    - Majority of European offices
- Contains over 15.4 million records (33 million patents)
- Updated every 3/4 working days (approximately)

Thank you

Q&A