Research Gap Analysis

UNIT-II

Codes of an application

- Country code is the universal two-letter
- EP: Europe
- CN: China
- US: United States
- DE: Germany
- CH: Switzerland
- JP: Japan
- KR: Korea
- WO: PCT international application published by WIPO

PCT Contracting States and Two letter codes

AE	United Arab Emirates
AG	Antigua and Barbuda
AL	Albania (EP)
AM	Armenia (EA)
AO	Angola
AT	Austria (EP)
AU	Australia
AZ	Azerbaijan (EA)
BA	Bosnia and Herzegovina[1]
BB	Barbados
BE	Belgium (EP)[2]
BF	Burkina Faso (OA)[2]
BG	Bulgaria (EP)
BH	Bahrain
BJ	Benin (OA)[2]
BN	Brunei Darussalam
BR	Brazil
BW	Botswana (AP)
BY	Belarus (EA)
BZ	Belize
CA	Canada
CF	Central African Republic (OA)[2]
CG	Congo (OA)[2]
CH	Switzerland (EP)
CI	Côte d'Ivoire (OA)[2]
CL	Chile
CM	Cameroon (OA)[2]
CN	China
CO	Colombia
CR	Costa Rica
CU	Cuba
CY	Cyprus (EP)[2]
CZ	Czechia (EP)
DE	Germany (EP)
DJ	Djibouti
DK	Denmark (EP)
DM	Dominica
DO	Dominican Republic
DZ	Algeria
EC	Ecuador
EE	Estonia (EP)
EG	Egypt
ES	Spain (EP)
FI	Finland (EP)
FR	France (EP)[2]
GA	Gabon (OA)[2]
GB	United Kingdom (EP)
GD	Grenada
GE	Georgia
GH	Ghana (AP)
GM	Gambia (AP)
GN	Guinea (OA)[2]
GQ	Equatorial Guinea (OA)[2]
GR	Greece (EP)[2]
GT	Guatemala
GW	Guinea-Bissau (OA)[2]
HN	Honduras
HR	Croatia (EP)
HU	Hungary (EP)
ID	Indonesia
IE	Ireland (EP)[2]
IL	Israel
IN	India
IR	Iran (Islamic Republic of)
IS	Iceland (EP)
IT	Italy (EP)[2]
JO	Jordan
JP	Japan
KE	Kenya (AP)
KG	Kyrgyzstan (EA)
KH	Cambodia[3]
KM	Comoros (OA)[2]
KN	Saint Kitts and Nevis
KP	Democratic People's Republic of Korea
KR	Republic of Korea
KW	Kuwait
KZ	Kazakhstan (EA)
LA	Lao People's Democratic Republic
LC	Saint Lucia
LI	Liechtenstein (EP)
LK	Sri Lanka
LR	Liberia (AP)
LS	Lesotho (AP)
LT	Lithuania (EP)[2]
LU	Luxembourg (EP)
LV	Latvia (EP)[2]
LY	Libya
MA	Morocco[4]
MC	Monaco (EP)[2]
MD	Republic of Moldova
ME	Montenegro[1]
MG	Madagascar
MK	The former Yugoslav Republic of Macedonia (EP)
ML	Mali (OA)[2]
MN	Mongolia
MR	Mauritania (OA)[2]
MT	Malta (EP)[2]
MW	Malawi (AP)
MX	Mexico
MY	Malaysia
MZ	Mozambique (AP)
NA	Namibia (AP)
NE	Niger (OA)[2]
NG	Nigeria
NI	Nicaragua
NL	Netherlands (EP)[2]
NO	Norway (EP)
NZ	New Zealand
OM	Oman
PA	Panama
PE	Peru
PG	Papua New Guinea
PH	Philippines
PL	Poland (EP)
PT	Portugal (EP)
QA	Qatar
RO	Romania (EP)
RS	Serbia (EP)
RU	Russian Federation (EA)
RW	Rwanda (AP)
SA	Saudi Arabia
SC	Seychelles
SD	Sudan (AP)
SE	Sweden (EP)
SG	Singapore
SI	Slovenia (EP)[2]
SK	Slovakia (EP)
SL	Sierra Leone (AP)
SM	San Marino (EP)
SN	Senegal (OA)[2]
ST	Sao Tome and Principe (AP)
SV	El Salvador
SY	Syrian Arab Republic
SZ	Eswatini (AP)[2]
TD	Chad (OA)[2]
TG	Togo (OA)[2]
TH	Thailand
TJ	Tajikistan (EA)
TM	Turkmenistan (EA)
TN	Tunisia[5]
TR	Turkey (EP)
TT	Trinidad and Tobago
TZ	United Republic of Tanzania (AP)
UA	Ukraine
UG	Uganda (AP)
US	United States of America
UZ	Uzbekistan
VC	Saint Vincent and the Grenadines
VN	Viet Nam
ZA	South Africa
ZM	Zambia (AP)
ZW	Zimbabwe (AP)

Codes of an application

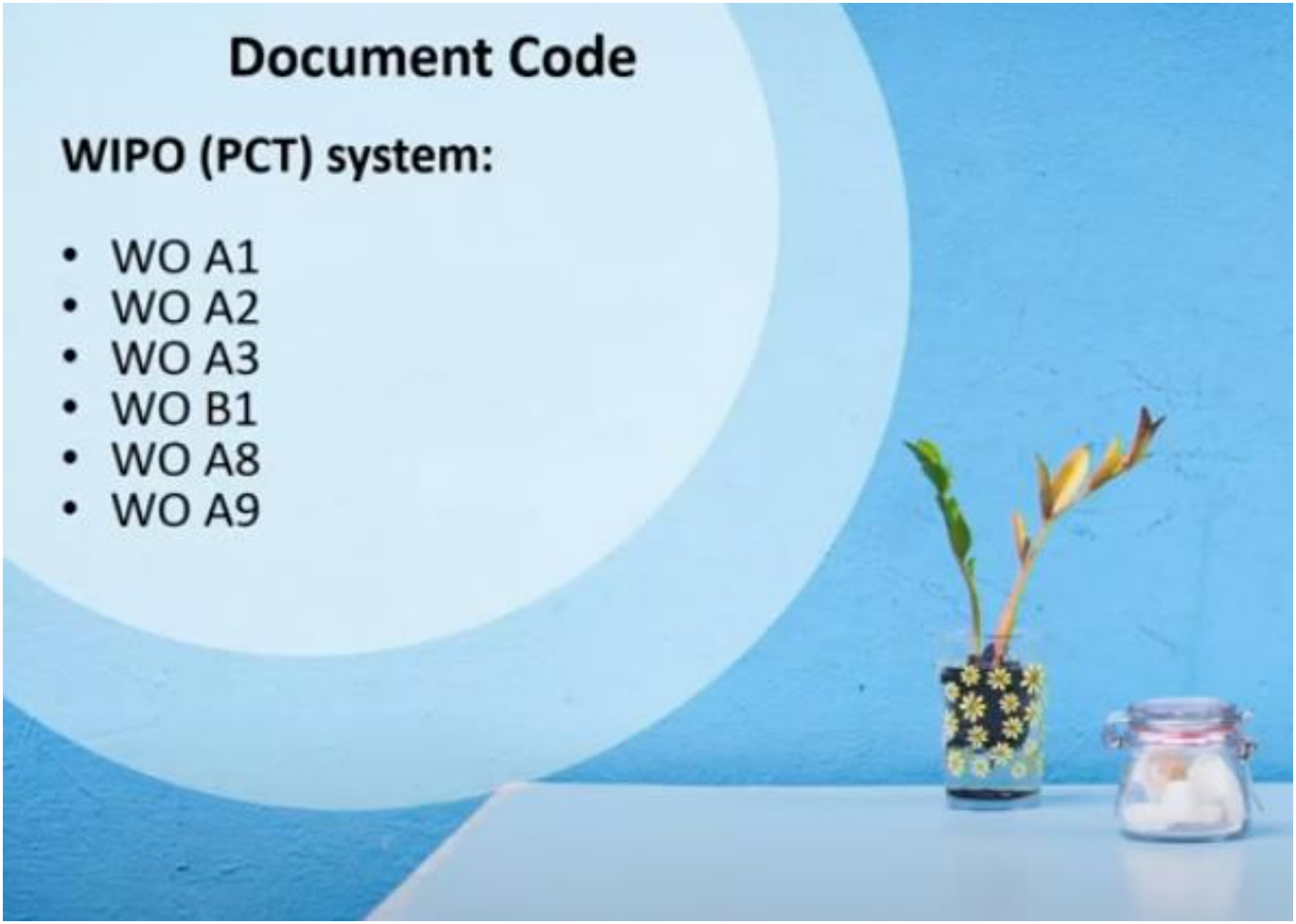
Document code: A, B in order of publication

- Codes such as A1, A2 etc. give further details within these general categories
- CN C, in the Chinese patent system
- EP B1

Document Code

WIPO (PCT) system:

- WO A1
- WO A2
- WO A3
- WO B1
- WO A8
- WO A9



Document Code

European Patent Office:

EP A1
EP A2
EP A3
EP A8
EP B2
EP B8

WO-A documents:

A1	International application published with international search report
A2	International application published without international search report or (from 1 January 2009 onwards) international application published with declaration under Article 17(2)(a)
A3	Later publication of ISR with revised front page
A4	(from 1 January 2009 onwards) Later publication of amended claims and/or statement (Art.19)

If you search by application, publication or priority number in Espacenet, only the country code (CC) and document number are mandatory and must be entered in one string. Leading zeros can generally be ignored, *e.g. EP453930.*

However kind codes, or parts of kind codes, must be attached to the number in the following cases:

- for documents with one of the following country codes: AT, AU, BA, BG, CN, DK, FI, IS, KR, NL, NO, PL, SK, UY, TW, YU, a kind code letter must be attached to the number, except when the kind code is A;
- for documents from all other authorities, a kind code letter must be attached to the number, except when the kind code is either A, B or C;
- for Japanese documents (JP) an entire kind code (a letter and possibly a digit) must be attached to the number, except when the kind code is A;
- for utility models enter the corresponding kind code U, *e.g. ES1005422U.*

The standard for document kind codes is set by the World Intellectual Proper Organization (WIPO).

EP-A documents:

European patent applications, published 18 months after filing with the EPO or 18 months after the priority date

A1	European patent application published with European search report
A2	European patent application published without European search report (search report not available at publication date)
A3	Separate publication of European search report
A4	Supplementary search report
A8	Corrected title page of A document, ie. A1 or A2 document
A9	Complete reprint of A document, ie. A1, A2 or A3 document.

EP-B documents:

European patent specifications

B1	European patent specification (granted patent)
B2	New European patent specification (amended specification after opposition procedure)
B3	European patent specification (after limitation procedure)
B8	Corrected title page of B document (i.e. B1 or B2 document)
B9	Complete reprint of B document (i.e. B1 or B2 document)

Summary of USPTO Kind Codes No Longer Used As of January 2, 2001*		
WIPO ST.16 Kind Codes	**Kind of document**	**Comments**
A	Patent	Kind code replaced by B1 or B2
P	Plant Patent	Kind code replaced by P2 or P3
B1, B2, B3	Reexamination Certificate	Kind code replaced by C1, C2, C3

*See the table below for the new uses for codes B1 and B2 beginning January 2, 2001.

Summary of USPTO Kind Codes Used on Documents Published Beginning January 2, 2001		
WIPO ST.16 Kind Codes	**Kind of document**	**Comments**
A1	Patent Application Publication	Pre-grant publication available March 2001
A2	Patent Application Publication (Republication)	Pre-grant publication available March 2001
A9	Patent Application Publication (Corrected Publication)	Pre-grant publication available March 2001
B1	Patent	No previously published pre-grant publication
B2	Patent	Having a previously published pre-grant publication and available March 2001

C1, C2, C3	Reexamination Certificate	Previously used codes B1 and B2 are now used for granted Patents
E	Reissue Patent	No change
H	Statutory Invention Registration (SIR)	No change
P1	Plant Patent Application Publication	Pre-grant publication available March 2001
P2	Plant Patent	No previously published pre-grant publication
P3	Plant Patent	Having a previously published pre-grant publication and available March 2001
E	Reissue Patent	No change
H	Statutory Invention Registration (SIR)	No change
P1	Plant Patent Application Publication	Pre-grant publication available March 2001
P2	Plant Patent	No previously published pre-grant publication
P3	Plant Patent	Having a previously published pre-grant publication and available March 2001
P4	Plant Patent Application Publication (Republication)	Pre-grant publication available after March 2001
P9	Plant Patent Application Publication (Corrected Publication)	Pre-grant publication available March 2001
S	Design Patent	No change

Summary of USPTO Kind Codes Added As Result of America Invents Act of 2011

WIPO ST.16 Kind Codes	Kind of document	Comments
F1, F2, F3	Supplemental Examination Certificate	Procedure in effect September 16, 2012
J1, J2, J3	Post Grant Review Certificate	Procedure in effect September 16, 2012
K1, K2, K3	Inter Partes Review Certificate	Procedure in effect September 16, 2012
O1, O2, O3	Derivation Certificate	Procedure in effect March 16, 2013

PATENTS/ SPC- LIST OF INID CODES

(10) Identification of the patent, SPC or patent document

(11) Number of the patent, SPC or patent document

(15) Patent correction information

(21) Number(s) assigned to the application(s) e.g., "Numéro d'enregistrement national", "Aktenzeichen"

(22) Date(s) of filing the application(s)

(23) Other date(s), including date of filing complete specification following provisional specification and date of Exhibition

(31) Number(s) assigned to priority application(s)

(32) Date(s) of filing of priority application(s)

(33) WIPO Standard ST.3 code identifying the national industrial property office allotting the priority application number or the organization allotting the regional priority application number

(43) Date of making available to the public by printing or similar process of an unexamined patent document, on which no grant has taken place on or before the said date

(45) Date of making available to the public by printing or similar process of a patent document on which grant has taken place on or before the said date

(46) Date of making available to the public the claim(s) only of a patent document

(51) International Patent Classification

(54) Title of the invention

(57) Abstract or claim

(60) Data on the application filed with the former Federal Patent Office

(62) Number and, if possible, filing date of the earlier application from which the present patent document has been divided up

(68) For an SPC, number of the basic patent and/or, where appropriate, the publication number of the patent document

(71) Name(s) of applicant(s)

(72) Name(s) of inventor(s) if known to be such

(73) Name(s) of grantee(s), holder(s), assignee(s) or owner(s)

(74) Name(s) of attorney(s) or agent(s)

(86) Filing data of the PCT international application, i.e., international filing date, international application number

(87) Publication data of the PCT international application, i.e., international publication date, international publication number

(92) For an SPC, number and date of the first national authorization to place the product on the market as a medicinal productor plant protection product

(93) For an SPC, number, date and, where applicable, country of origin, of the first authorization to place the product on the market as a medicinal product or plant protection product within a regional economic community

(94) Calculated date of expiry of the SPC or the duration of the SPC

(95) Name of the product protected by the basic patent and in respect of which the SPC or the extension of the SPC has been applied for or granted

(96) Filing data of the regional application, i.e., application filing date, application number, and, optionally, the language in which the published application was originally filed

(97) Publication data of the regional application (or of the regional patent, if already granted), i.e., publication date, publication number, and, optionally, the language in which the application (or, where applicable, the patent) is published

(10) Identification of the patent, SPC or patent document

(11) Number of the patent, SPC or patent document

(15) Patent correction information

(21) Number(s) assigned to the application(s) e.g., "Numéro d'enregistrement national", "Aktenzeichen"

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(68) For an SPC, number of the basic patent and/or, where appropriate, the publication number of the patent document

(71) Name(s) of applicant(s)

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(94) Calculated date of expiry of the SPC or the duration of the SPC

(95) Name of the product protected by the basic patent and in respect of which the SPC or the extension of the SPC has been applied for or granted

(96) Filing data of the regional application, i.e., application filing date, application number, and, optionally, the language in which the published application was originally filed

(97) Publication data of the regional application (or of the regional patent, if already granted), i.e., publication date, publication number, and, optionally, the language in which the application (or, where applicable, the patent) is published

References :

. https://pixabay.com/
. https://www.wipo.int/portal/en/index.html
. http://www.ipindia.nic.in/
. https://www.google.com/

You can cite us rfpc3.2gg//

Intellectual Property Rights (IPR)

- It usually gives the Creator an Exclusive Right over the Use of his Creations for a Certain Period of Time.

- IP Rights are Territorial in Natures

- In the current **knowledge-driven**, **private sector oriented** economic development paradigm, the different types of **intangible assets** of a business are often more important and valuable than its tangible assets.

Overview of IP Filing Activity

Overview of IP Filing Activity

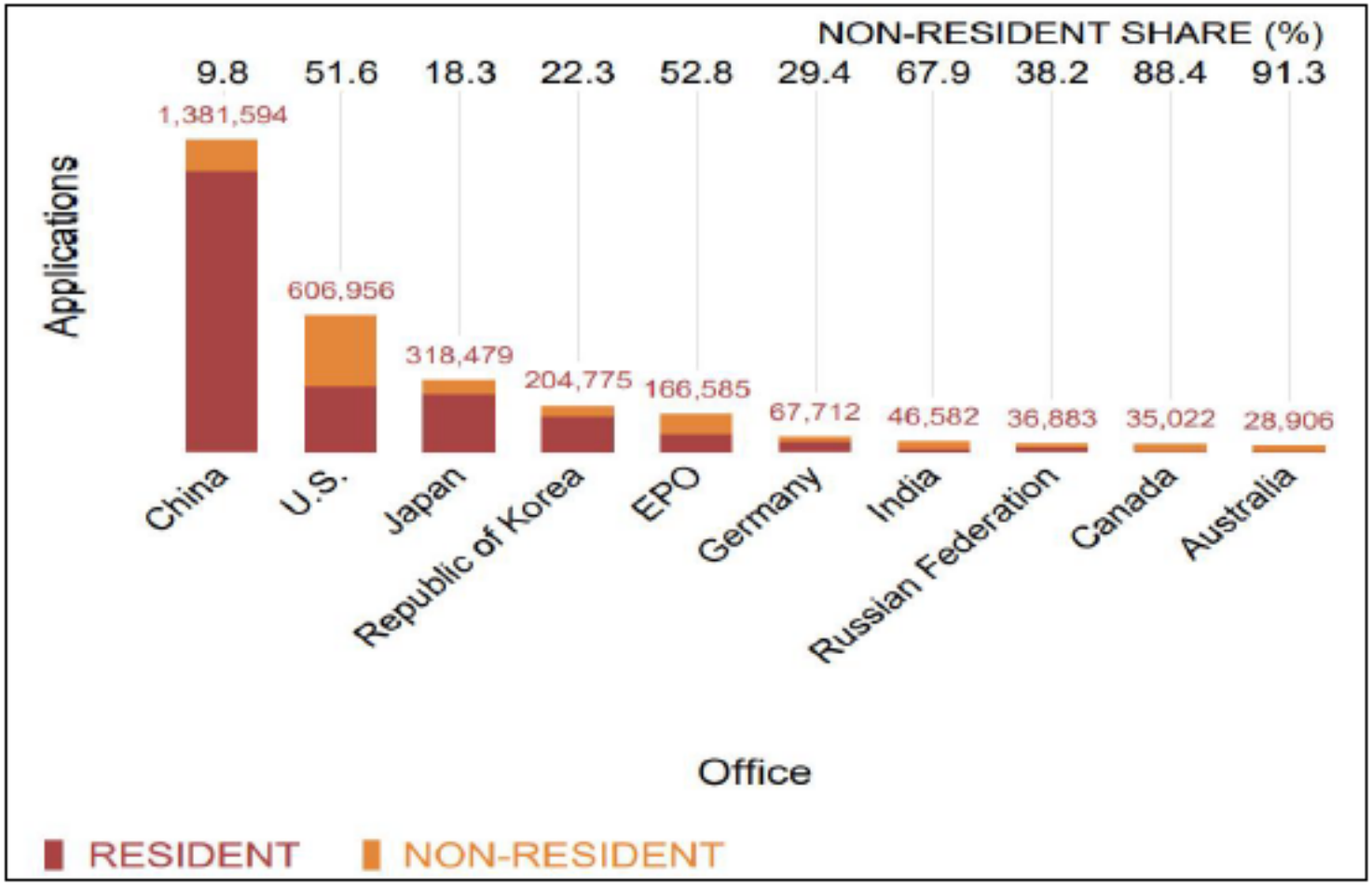
Patents	2016	2017	Growth rate (%)	Share of world total (%)
Applications worldwide	**3,125,100**	**3,168,900**	**..**	**100.0**
China	1,338,503	1,381,594	..	43.6
U.S.	605,571	606,956	0.2	19.2
Japan	318,381	318,479	0.0	10.1

Origin	Patents	Marks	Designs
China	1	1	1
U.S.	2	2	4
Germany	5	4	2
Japan	3	3	6
Republic of Korea	4	11	3
France	6	5	8
U.K.	7	8	9
Italy	10	12	5
India	11	9	13

Ranking of total (resident and abroad) IP filing activity by origin, 2017

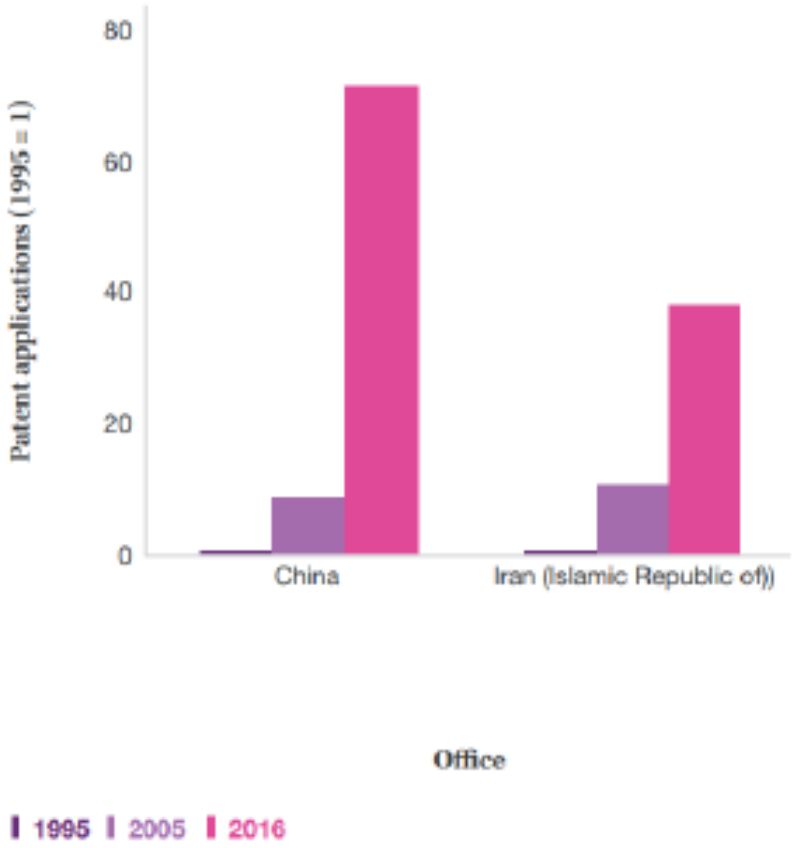
Reference: World Intellectual Property Indicators 2018

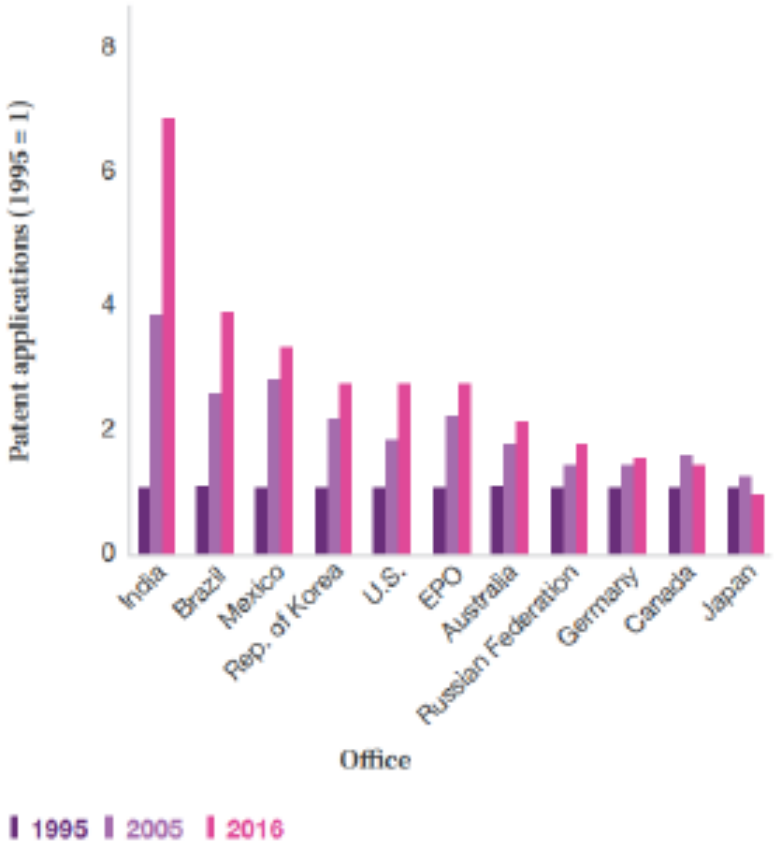
Patent applications at the top 10 offices, 2017



Reference: World Intellectual Property Indicators 2018

Evolution of the number of patent applications filed at selected offices





Source: WIPO Statistics Database, September 2017.

Reference: World Intellectual Property Indicators 2017

Global Innovation Index

Global Innovation Index Ranking

Year	India Ranking	China Ranking
2010	56	
2011	62	
2012	64	34
2013	66	35
2014	76	29
2015	81	29
2016	66	25
2017	60	22
2018	57	17

Trends in IP Filing in India

Trends of Last Five Years in IP Applications Filing

Application	2012-13	2013-14	2014-15	2015-16	2016-17
Patent	43,674	42,951	42,763	**46,904**	**45444**
Design	8,337	8,533	9,327	**11,108**	**10213**
Trade mark	1,94,216	2,00,005	2,10,501	**2,83,060**	278170
Geographical Indication	24	75	47	14	32
Copyrights	Copyright administration shifted to DIPP/ CGPDTM in 2016-17			14812	16617
Semiconductor Integrated Layout Designs (SCILD)	SCILD administration shifted to DIPP/ CGPDTM in 2016-17			-	--
Total	**2,46,251**	**2,51,564**	**2,62,638**	**3,55,898**	**3,50,467**

Applications filed by Indian Applicants

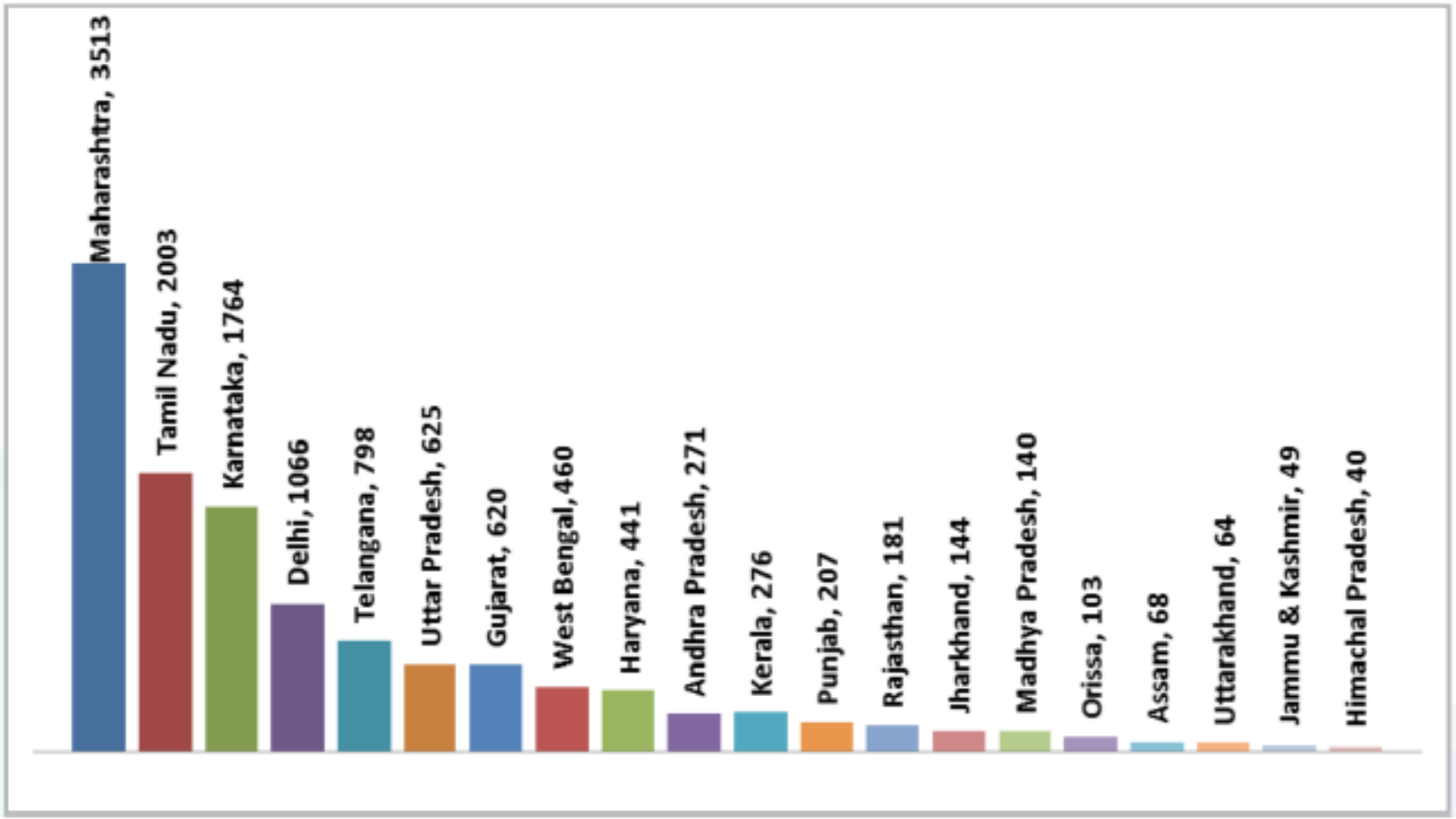
- **Year 2016-17**

  – Total Applications: 45,444

  – Applications by Indians: 13,219

  – Applications by foreigners: 32,225

Applications filed by Indian applicants (State-wise)



Patent

- The **exclusive right** granted by a **government** to an **inventor** to **manufacture, use, distribute or sell** an invention for **a certain number of years.**
- A **new way of doing something**, or offers a **new technical solution to a problem.**

- Patent protection means that the invention cannot be commercially
  - **Made,**
  - **Used,**
  - **Distributed or**
  - **Sold**
- **WITHOUT** the patent owner's **CONSENT.**

Patentability Requirement Principle of "3I"

Any Invention has to follow the principle of **"3 I"**

1) Innovativeness (**Novelty**)

2) Inventive Step (**Non-obviousness**)

3) Industrial Utility (**Usefulness**)

Patent Search

- **“Search”** means to find out all relevant information related to invention and which is already existed before the date of invention.

- **“Patent search”** is the process by which prior patented inventions are examined, with the goal being to find information that bears close similarity to a given patent or proposed invention.

Prior art search includes

- Previous patents
- Trade journal articles
- Publications (including data books and catalogs)
- Public discussions (conference and seminar)
- Trade shows
- Brochures
- Products, devices & equipments
- Research Papers

Need of Patent Search

- Understand competition
- Avoid patent infringement
- Write your patent application
- Learn more about your field of invention
- Save the cost of patenting process
- Getting a general idea of how an application and patent is structured to help in the preparation or your own application
- Learning more about a new field
- For market information
- Competitor tracking
- Technology tracking

Types of Patent Search

Sr. No.	Type of Search	Scope of Search
1	Novelty Search/ Patentability Search	• Patents (worldwide) • Publications
2	Validity Search	• Claims of Patents (worldwide) • Publications (Before priority date)
3	Infringement Search	• Claims of Patents (specific country) (last 20 years data only)
4	Clearance Search/Freedom-to-Operate Searches	• Claims of Patents (worldwide) • Publications
5	State-of-the-art search	• Patents (worldwide) • Publications [For whole technical field]
6	Patent Landscape Search	• Analysis of State of the art Search

Fields of Patent Document

- Application Number
- Date of Application
- Date of Publication
- Title Of Invention
- International Patent Classification (IPC)
- Name And Address Of The Applicant
- Name Of Inventors
- Priority Details (if any)
- Abstract (With OR Without Figure)
- Field of invention
- Background of Invention
- Object of invention
- Summery of Invention
- Detailed description
- Claims
- Figures (if any)
- Country
- Date
- Legal Status

Tools for Patent Search (Free Databases)

Free Databases	Web link	Scope of search
USPTO	http://patft.uspto.gov/	US Patents only
EPO	http://ep.espacenet.com/?locale=en_EP	EP Patents WIPO patents World wide patens
Patent Scope (WIPO)	http://www.wipo.int/pctdb/en/	WIPO Patents
Indian Patent Office	http://ipindia.nic.in/patent/patents.htm	Indian Patents (Granted as well as 18 month Published Patents)
Google's Patent Search	http://www.google.com/patents	US patents only
Free Patents Online	http://www.freepatentsonline.com/	US Patents EP Patents JP Patents WIPO Patents
BigPatent India	http://india.bigpatents.org/	Indian Patents (Granted as well as 18 month published Patents)
Patent Facilitation Centre (PFC)	http://www.indianpatents.org.in/db/db.htm	Indian Patents (Abstract only)

Paid Databases

Paid Databases	Web link	Scope of search
PatSeer	https://acc.patseer.com/	World wide patents
Micropatent	http://www.micropatent.com	World wide patents
Derwent	http://www.thomsonreuters.com/products_services/scientific/DWPI	World wide patents
Aureka	http://www.thomsonreuters.com/products_services/scientific/Aureka	World wide patents
Delphion	http://www.delphion.com/	World wide patents
LexisNexis	http://www.lexisnexis.com/patentservices/priorart/	World wide patents
Dialog	http://www.dialog.com/	World wide patents
Hoover	http://www.hoovers.com/free/	World wide patents
Patent Search Express	http://www.patentsearchexpress.com/	World wide patents
PatBase & Patent Insight Pro	http://www.patentinsightpro.com/	World wide patents

Methods of Conducting Patent Search

- Identifying Subject **Features**
- Generating **Keywords**
- Preparing Initial Text **Queries**
- Conducting the Patent **Search**:- By Text Search

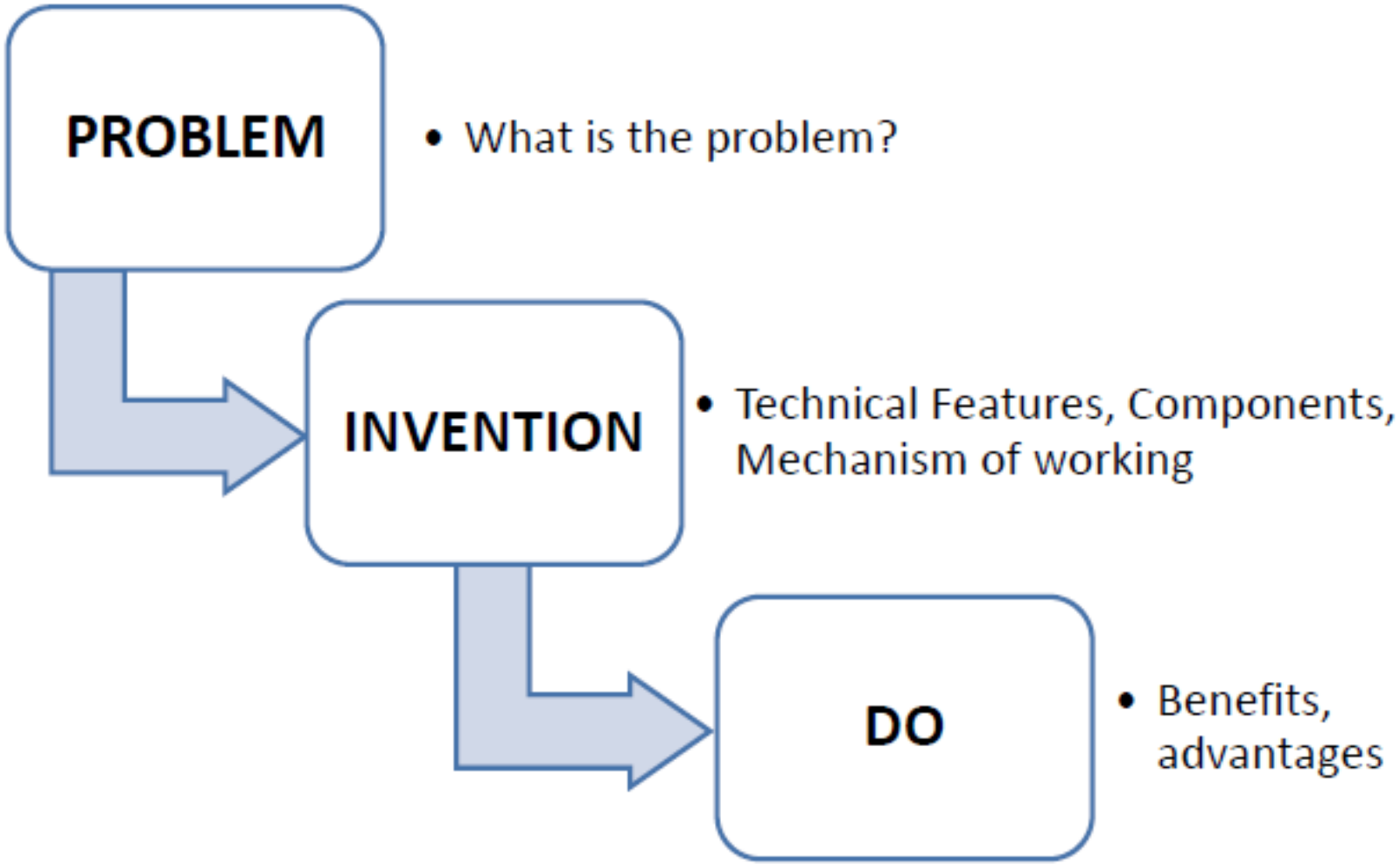
Identifying Subject Features

Problem-solution Approach

Before starting the search, you have to **divide the inventions into clear cut searchable features** by answering following questions:

- What **problem** does the invention address?
- What is the **invention**?
- What does the invention **do**?

Keywords Selection



Patent Search Operators

- **Boolean operators**
  - AND, OR, NOT are allowed. The default operator is AND.
- **Proximity operators**
  - mouse **prox/distance<3** trap
  - mouse **prox/unit=sentence** trap
  - mouse **prox/unit=paragraph** trap
- **Wildcard operators**
  - **?**
  - *
  - “ ”
  - ( )

Search String Preparation

- Identify Key words
- Synonyms
- IPC classification codes

- Merge all above using suitable search operators to get good result.

Patent Search Databases

- Open Source
  - Google Patent
  - Espacenet from EPO
  - PatentScope from WIPO
  - Patent office database of all countries
- Paid databases
  - PatSeer
  - STN
  - Delphion
  - Derwent
  - TotalPatent

STEPS FOR PATENT SEARCH

1. List out keywords
2. List out synonyms
3. Define search string (AND, OR & NOT)
4. List out IPC classes
5. Filter & narrow down most relevant results
6. Identify most relevant patent & references

IPC - International Patent Classification

1. IPC provides for a hierarchical system of language independent symbols for the classification of patents and utility models according to the different areas of technology to which they pertain.
2. Latest version 2019.01 released on December 19 2018

http://www.wipo.int/classifications/ipc/en/

http://web2.wipo.int/ipcpub/#refresh=page

IPC - International Patent Classification

SECTION A — HUMAN NECESSITIES

SECTION B — PERFORMING OPERATIONS; TRANSPORTING

SECTION C — CHEMISTRY; METALLURGY

SECTION D — TEXTILES; PAPER

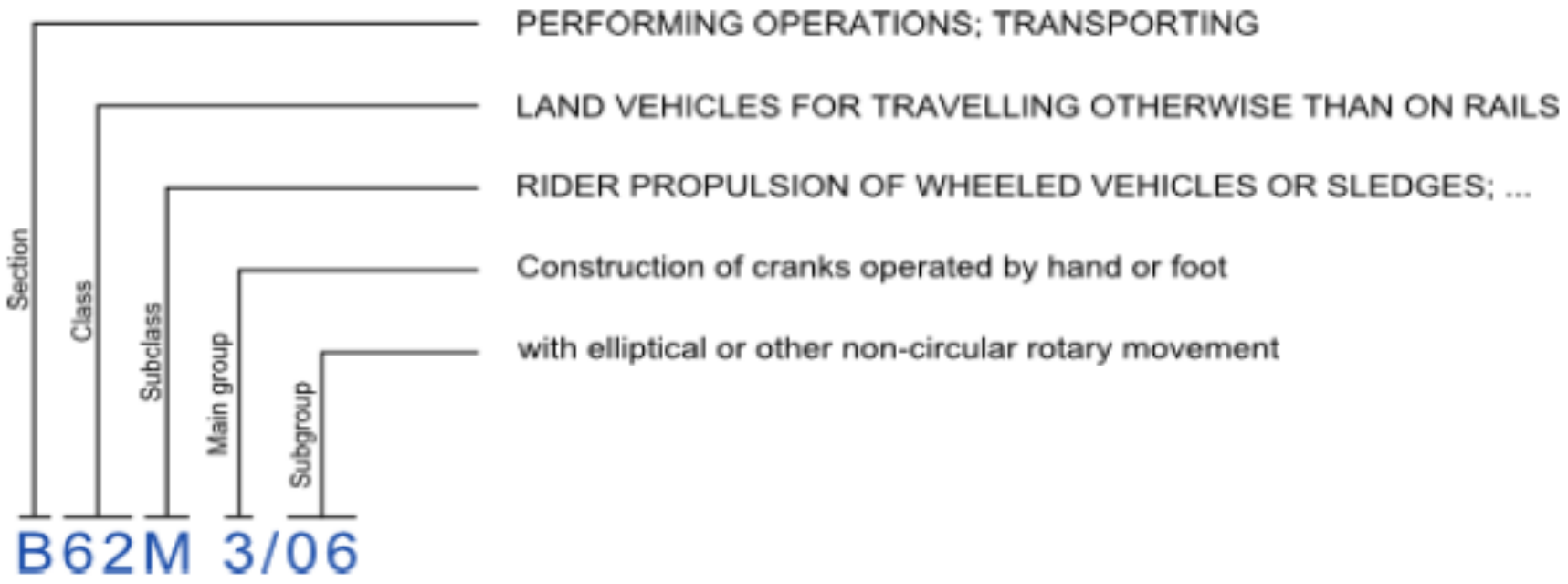
SECTION E — FIXED CONSTRUCTIONS

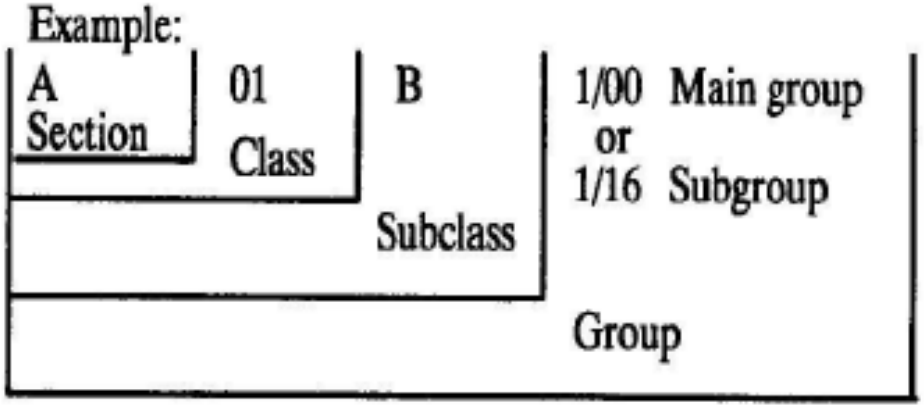
SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING

SECTION G — PHYSICS

SECTION H — ELECTRICITY

IPC - International Patent Classification





IPC - International Patent Classification

Section	No. of classes	No. of subclasses	No. of main groups	No. of subgroups	Total no. of groups
A	16	84	1136	8048	9184
B	38	169	1983	15259	17242
C	21	87	1322	13387	14709
D	9	39	350	2726	3076
E	8	31	323	3122	3445
F	18	99	1099	8121	9220
G	15	85	723	7831	8554
H	6	51	547	8526	9073
Total	**131**	**645**	**7483**	**67020**	**74503**

Live demo for IPC

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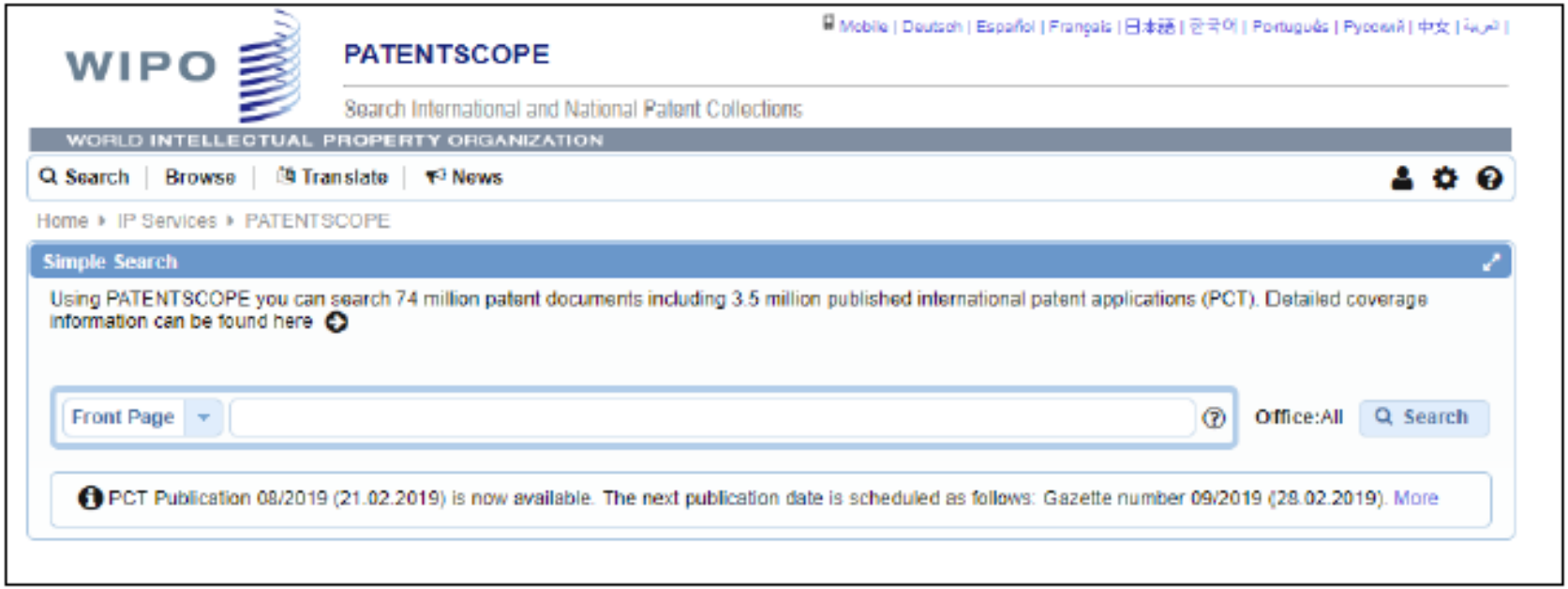

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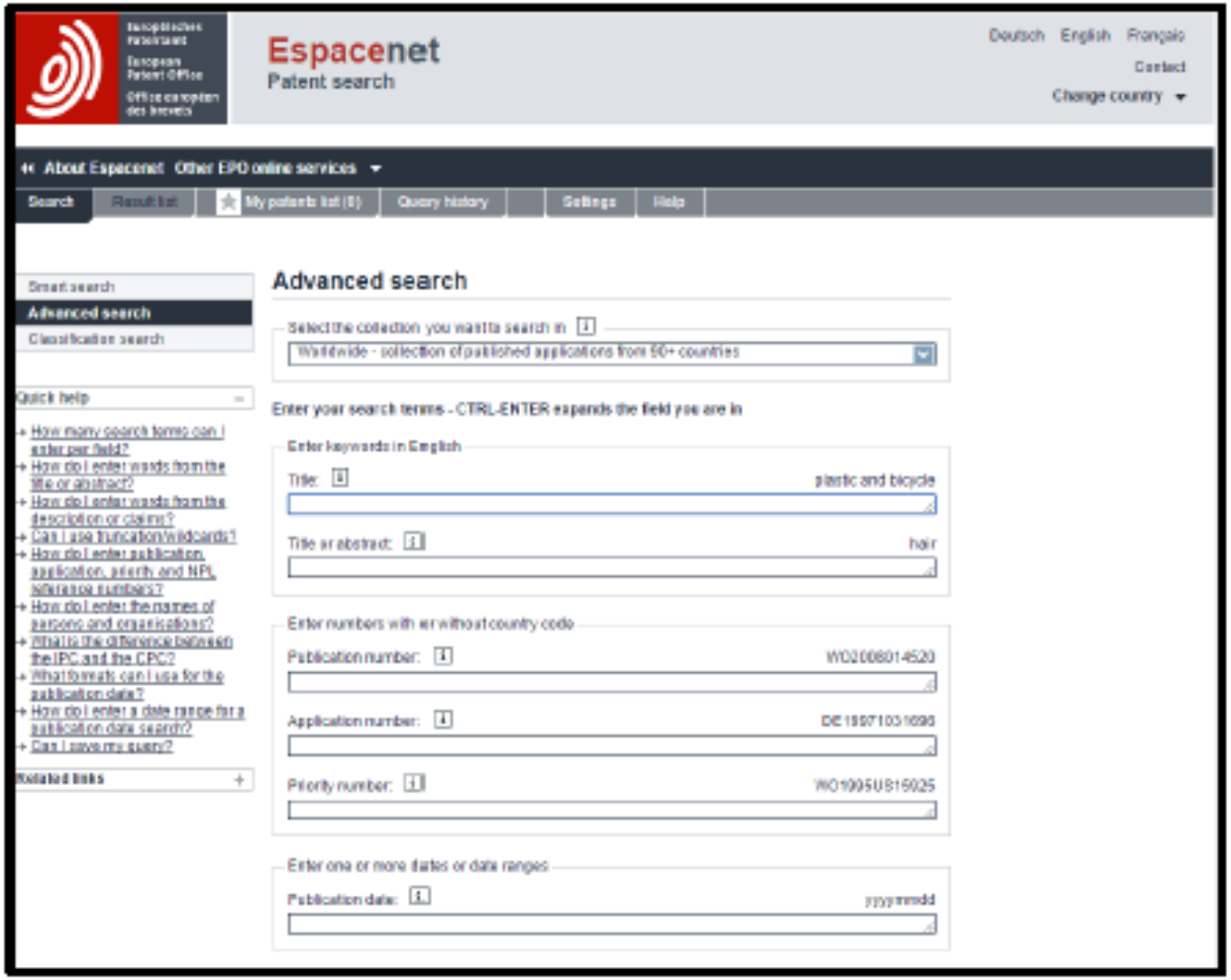
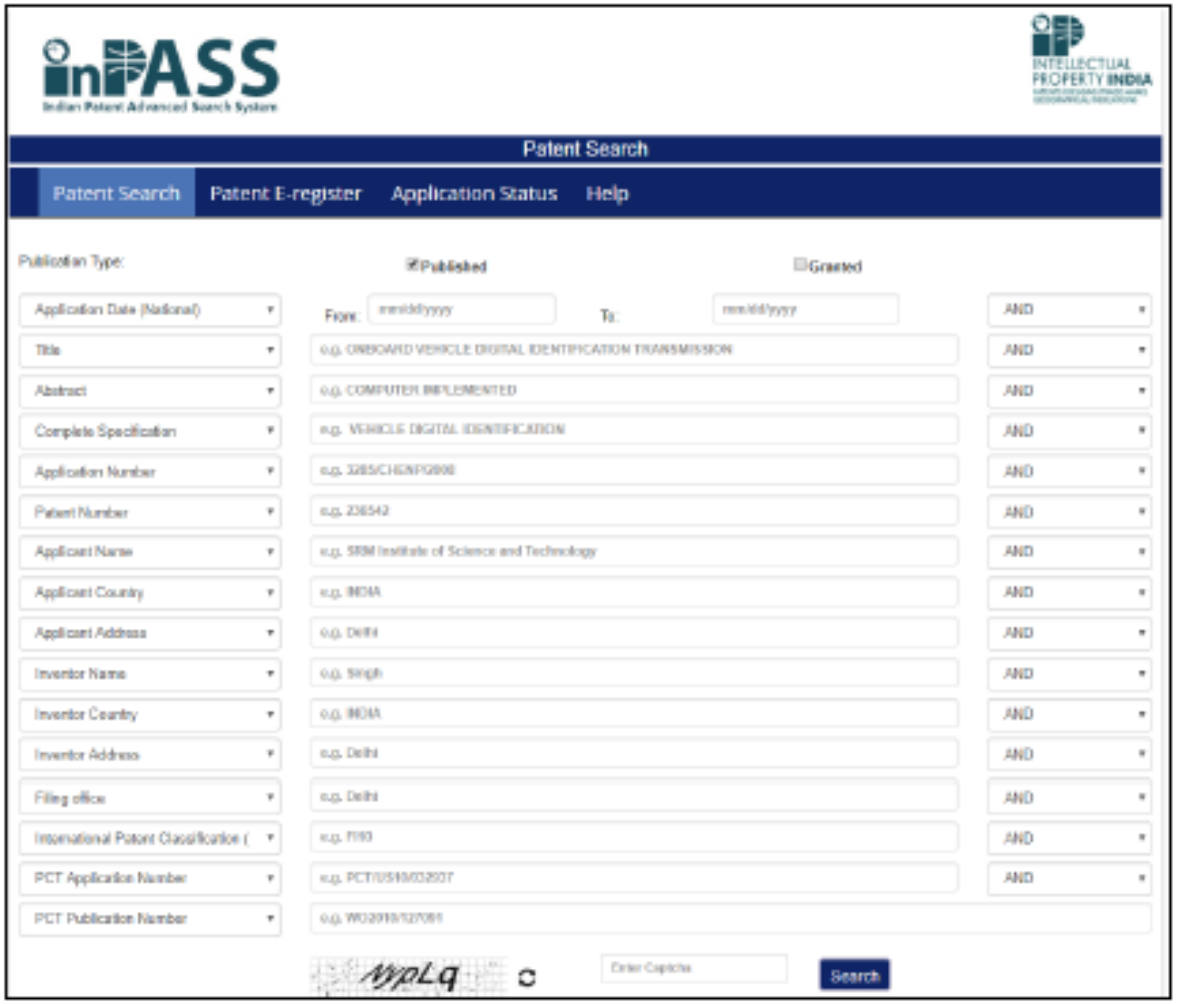


InPASS - Indian Patent Advanced Search System

http://ipindiaservices.gov.in/publicsearch/



Google Patent

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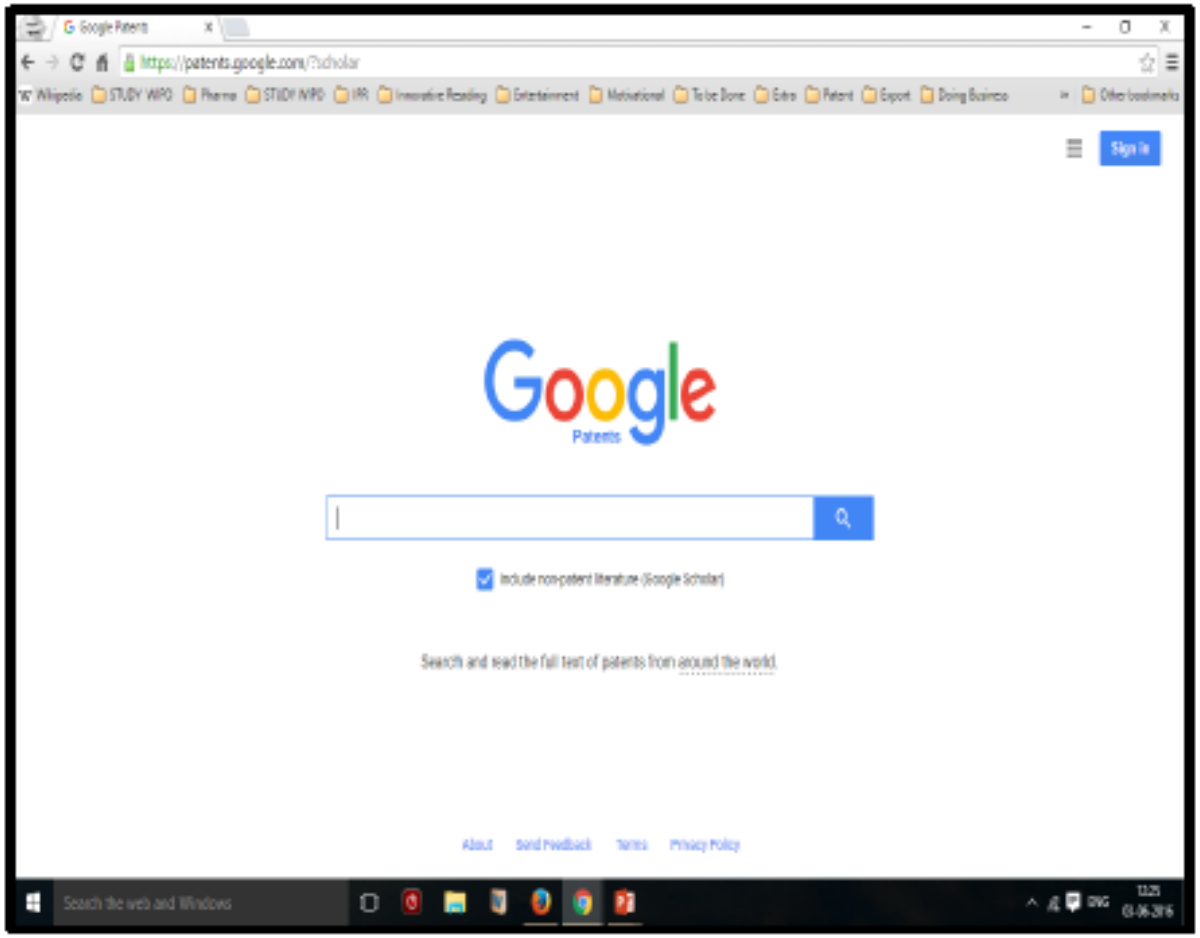

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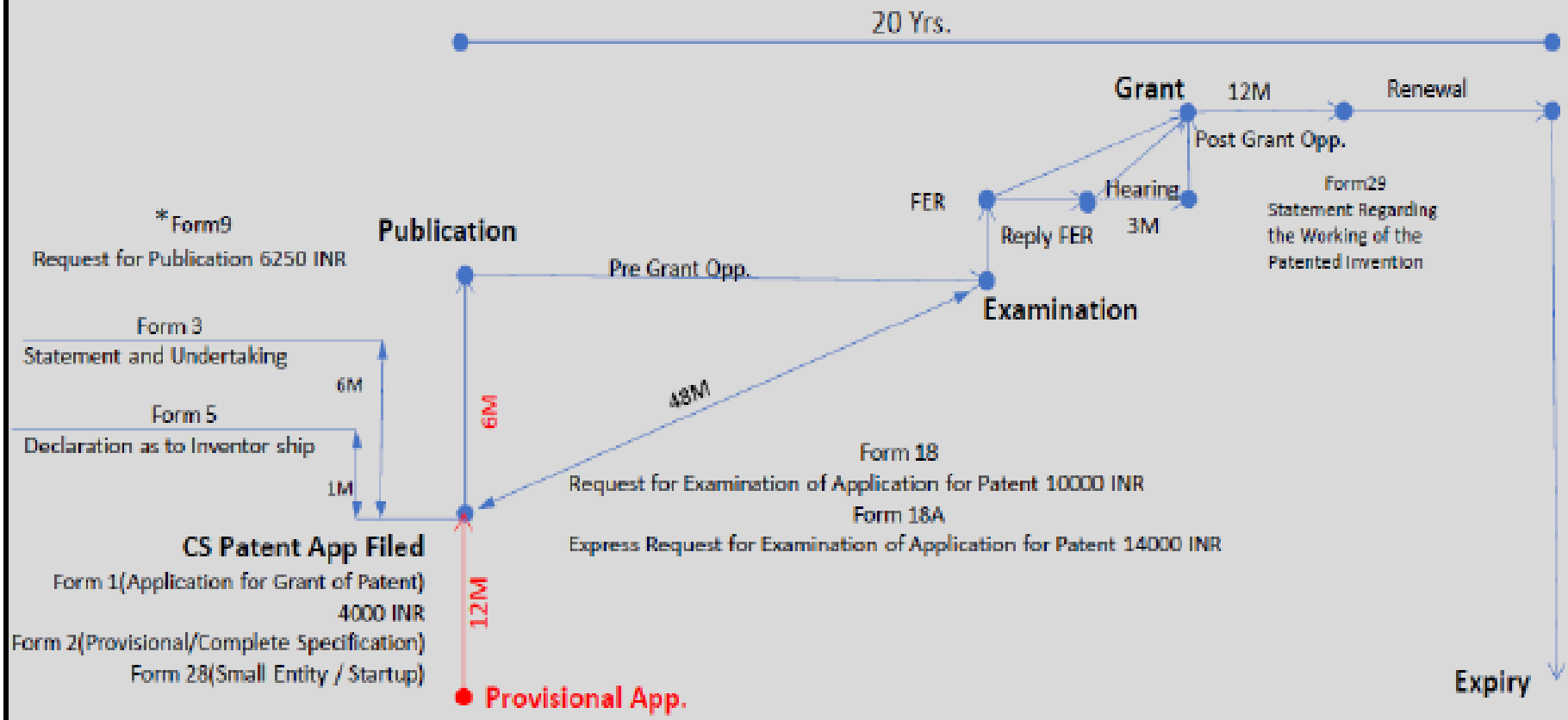
Patent Prosecution in India

Provisional Filing



(WO/2006/121222) VECTOR AND RODENT HOLDING DEVICES DURING PARASITE TRANSMISSION EXPERIMENTS IN THE LABORATORY

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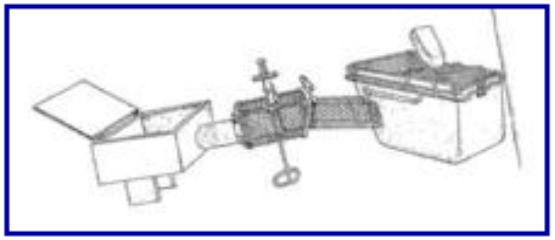
Inventor: **KARIUKI, Ndungu**; (KE).

Priority Data: KE/P/04/00409 11.05.2005 KE

Title: VECTOR AND RODENT HOLDING DEVICES DURING PARASITE TRANSMISSION EXPERIMENTS IN THE LABORATORY

Abstract: A device for holding rodent and vector during vector infection and transmission process (Fig: 7 & 8) comprising of a rodent holding compartment (Fig 1 & 2 - 1, 2, 3, 4, 5 & 6) and a vector cage (Fig 4); said rodent holding compartment having means for resting it on the bench (1 & 2 - 14, 15), and further fitted with means for engaging the vector cage (Fig 1; 12, 13) and fitted with a rodent release sliding door (Fig 1; 18) and a ladder (Fig 1 & 2 -A); said ladder leading the rodent to a resting cage (Fig 6) through entrance (75) that is closed with door (74) and the said rodent holding compartment accompanied by a special rodent cage (Fig 3)for introducing the rodent into the rodent holding compartment; said special rodent cage comprises of component A joined together and a door B to form an enclosure and a rodent escape route C.



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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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Declarations under Rule 4.17:
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
— *of inventorship (Rule 4.17(iv))*

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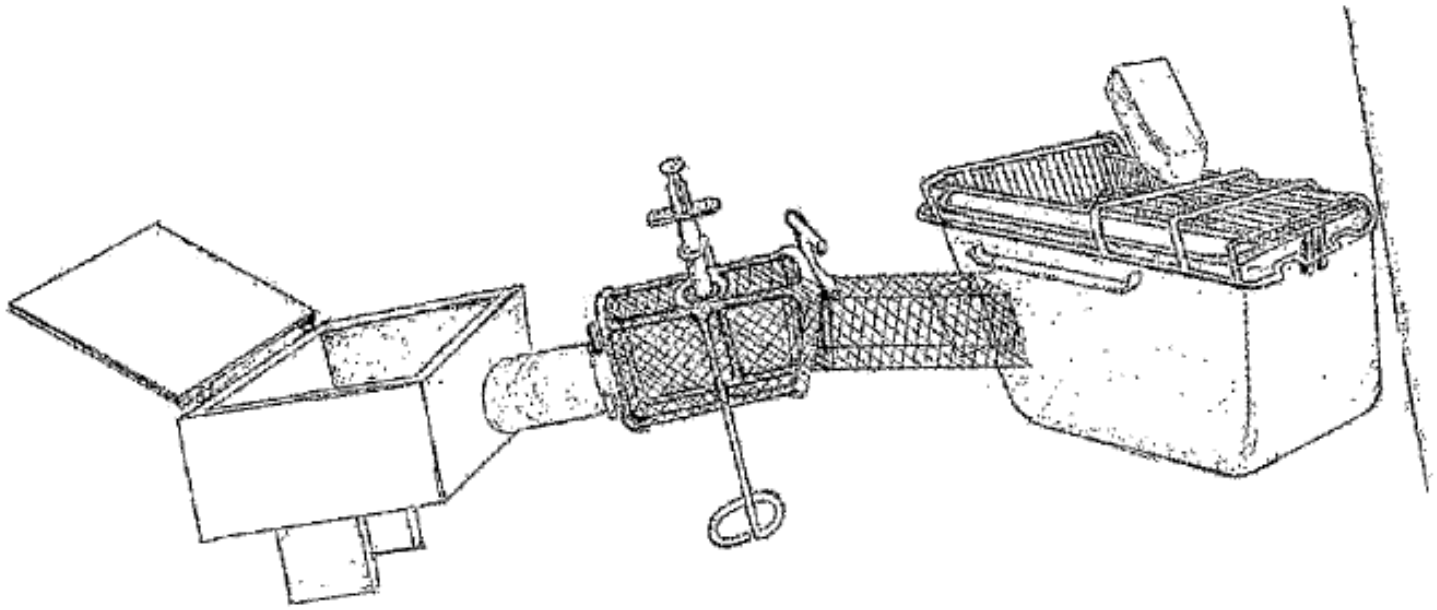

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