

Current Status of Pharmaceutical Patenting in India

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Patenting inventions is one parameter that enhances the strengths of a country economically. India has emerged as a manufacturing source for high quality pharmaceuticals which are recognized and accepted globally. India has become WTO/TRIPs compliant in post-GATT era. There is a significant improvement in patent grants for Indian pharmaceutical companies, however the number of companies with patents is very less when compared to the total number of pharmaceutical companies in India. The present article mainly discusses about pharmaceutical patents granted in India and at USPTO.

Introduction

Inventions that are novel, non-obvious, useful and enabled may be protected as patents for a period of 20 years from the date of filing. Inventions are patented by inventor in individual country or on behalf of corporates or other entities through convention route or through Patent Co-operation Treat (PCT). Inventions relating to processes or products are eligible for grant of a patent. Nowadays, several patents are granted wherein formulations developed are protected by claiming every class of drug. The current article briefly deals with pharmaceutical patents granted in India and in United States under US Patent Class 424, 514.

Statistics of Patent Application filings at Indian Patent Office-All Fields

Patent system was implemented in India since 1970s wherein, process patents were granted since then. Table 1, figure 1 indicates

28064 applications (other than through PCT National Phase) were filed under the category of drugs during the term 1997 to 2010 which contributes to about 12 percent of total filings.

Percent year on year patent application filings at Indian Patent Office during 1997-2010 (Drugs, Chemicals, Bio-technology)

During the term 1997-2010, figure 2 indicates patent application filings relating to drugs ranging from 9 to 22 percent based on year by year basis. The patent application filings are high during the transition period 1995-2005 wherein, India made a mailbox facility in accepting product patents as well. It is necessary to understand that several patent applications belong to chemical class and may also belong to pharmaceuticals. It is observed that patent applications relating to biotechnology are below 10 percent.

Table 1: Patent Applications Filed at IPO during 1997-2010-All Fields

Year	Chemical	Drug	Food	Electrical	Mechanical	General	Bio-technology	Computer/Electronics	Other fields	Total
Grand Total	44730	28064	3170	21015	44459	17659	10697	33860	21057	226501
Overall percent based on grand total (of all fields)	19.75	12.39	1.40	9.28	19.63	7.80	4.72	14.95	9.30	100

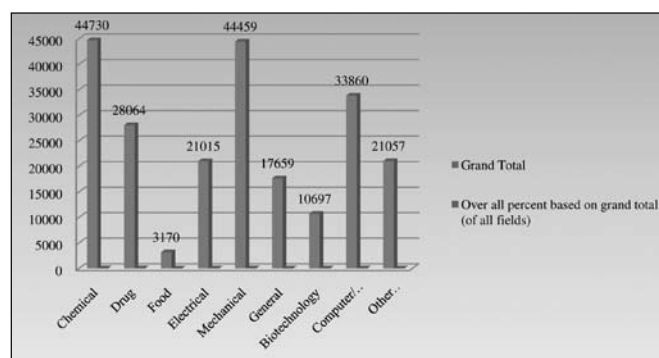


Figure 1: Trend in Patent Application Filings at IPO during 1997-2010 (based on Grand Total)

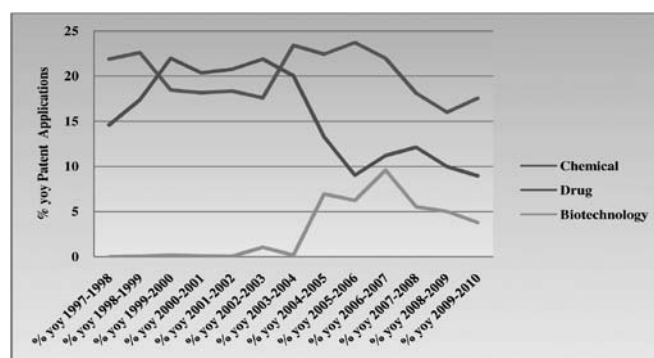


Figure 2: Trend in % yoy Patent Application Filings at IPO - Drugs, Chemicals, Bio-technology

Statistics of Patents granted at Indian Patent Office-All Fields

Among the 63597 patents granted by Indian patent office for different fields, table 2, figure 3 indicates a total of 6164 patents relating to drugs, contributing to about 10 percent.

Patents granted at Indian Patent office under drug category-year wise

During the term 1997 to 2010, figure 5, Indian patent office has granted patents ranging from 150 to 1207 under the category of drugs. A total of 6164 patents were granted under the category

Table 2: Patents Granted at IPO during 1997-2010 (All Fields)

Year	Chemical	Drug	Food	Electrical	Mechanical	General	Bio-technology	Computer/Electronics	Other fields	Total
Grand Total	13632	6164	1402	5351	14901	5346	2158	4909	6931	63597
Overall percent based on grand total	21.43	9.69	2.20	8.41	23.43	8.41	3.39	7.72	10.90	100

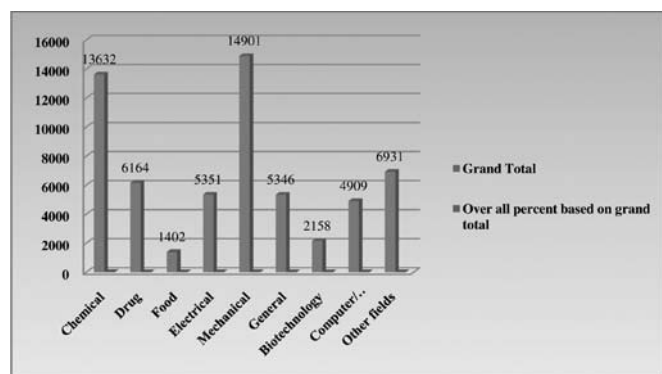


Figure 3: Trend in Patents Granted at IPO during 1997-2010 (based on Grand Total)

Percent year on year patents granted at Indian Patent Office during 1997-2010 (Drugs, Chemicals, Bio-technology)

During the term 1997-2010, figure 4 indicates patent grant relating to drugs ranging from 6 to 23 percent based on year on year basis. It is observed that patents were granted ranging from 14 to 33 percent under chemical class, which may include chemicals relating to pharmaceuticals. It is observed that patents relating to bio-technology were granted ranging 1 to 7 percent during the period 2004-2010.

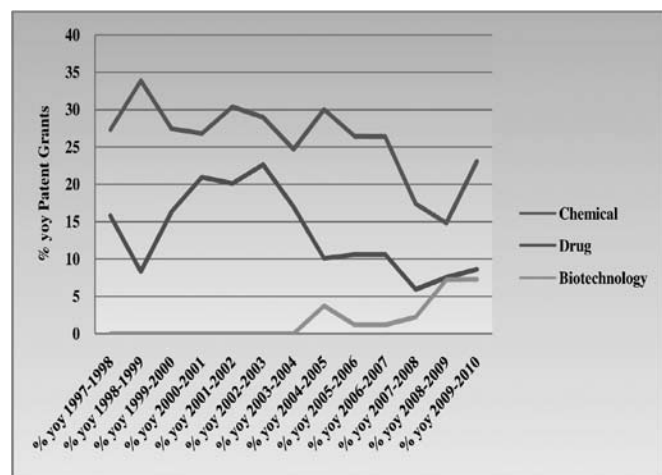


Figure 4: Trend in % yoy Patent Grants at IPO during 1997-2010-Chemical, Drug, Bio-technology

of drugs during the 13 year period. These patents included either process or product patents relating to drugs. The trend in patent grants during 2005-2010 has increased significantly indicating majority as product patent filings after India's TRIPS agreement with WTO.

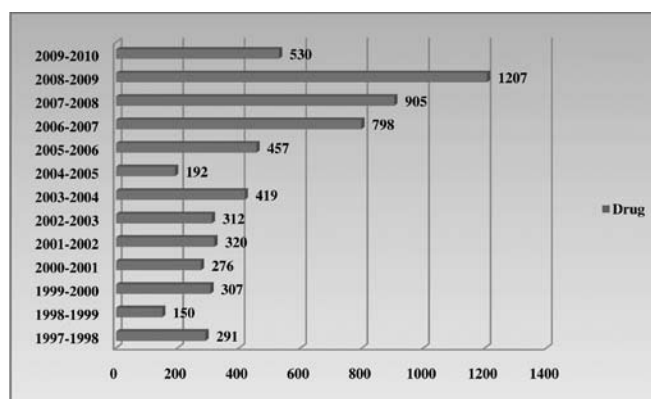


Figure 5: Number of Patents Granted at IPO under Drug Category during 1997-2010

Statistics of Pharma Product Patents Granted in India

Pharmaceutical product patents granted by Indian patent office are indicated in Table 3, Figure 6 signifying India's initiation of grant of Pharma product patents. A total of 3488 pharma product patents were granted during the year 2005-2010. The figure indicates grant relating to mail box filings as well, during the period of 1995-2005 wherein India amended The Patents Act, 1970 for grant of product patent in the year 2005.

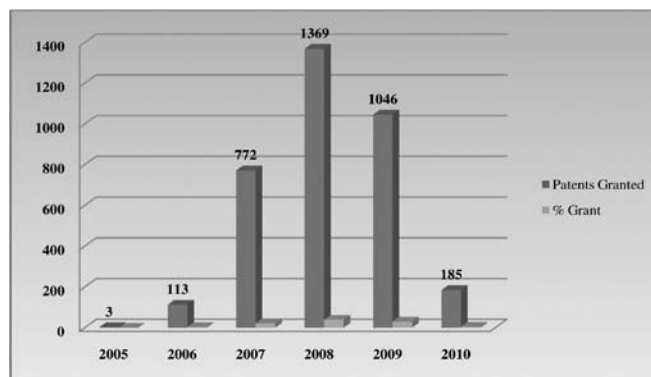


Figure 6: Pharma Product Patents Granted in India

Year	2005	2006	2007	2008	2009	2010	Total
Patents Granted	3	113	772	1369	1046	185	3488
% Grant	0.09	3.24	22.13	39.25	29.99	5.30	100

Statistics of Pharma Product Patents Granted in India-Country wise-2010

Out of 185 pharma product patents granted by Indian patent office in the year 2010, about 38 percent of product patents were granted to United States, while India's contribution is about 10 percent.

Statistics of Pharmaceutical Patenting at USPTO

US patent class 424, 514 are considered to be pharmaceutical approximations. A total of 30035 pharmaceutical patents were granted during the period of 2007-2011. Figure 7, clearly indicates pharmaceutical patents ranging from 4760 to 7509 were granted during 2007-2011 at USPTO.

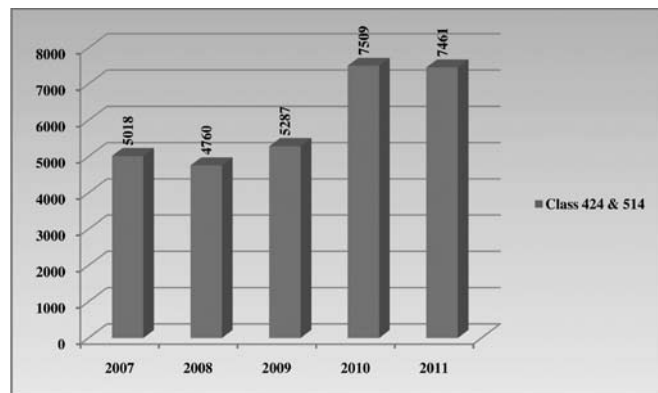


Figure 7: Pharmaceutical Patents Granted at USPTO (All Countries)

Statistics of pharmaceutical patents granted at USPTO (Country wise-Top 20)

A study was made based on the total number of pharmaceutical patents granted during 2007-2011 country wise at USPTO. Figure 8

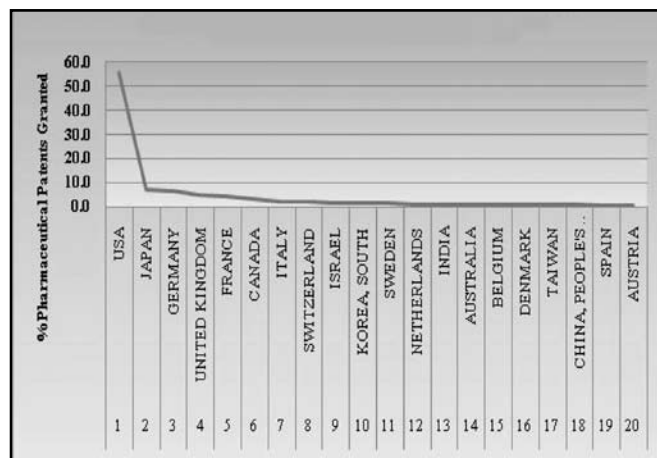


Figure 8: Percent Pharmaceutical Patents Granted at USPTO based on total patents granted during 2007-2011 (Country wise-Top 20)

indicates the top 20 countries with ranking. It is observed that about 55 percent of patents granted are belonging to US while the other countries' individual contribution is less than 10 percent. The statistics signify India with 13th rank with granted pharmaceutical patents at USPTO.

Conclusion

It is observed that out of 226501 patent applications filed in all fields, 63597 patents were granted in all fields, indicating 28 percent grants. Out of a 28064 patent applications, 6164 patents were granted under the category of drugs, indicating 22 percent grants. India has made three amendments in The Patents Act, 1970 to comply with TRIPS obligation. Product patent regime with national treatment is a great challenge to Indian pharmaceutical industry to identify leads for innovation and for a grant of a patent. Studies reveal that the number of applications and grant of patents are gradually increasing. Filing of patent applications is an outcome of innovation efforts which need to be followed up with necessary forecast strategies involving creativity, money and time. As a whole, the number of pharmaceutical industries filing for patents has to increase drastically in coming years from India.

References:

1. www.uspto.gov
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