

Research on Constructing Effective Patent Early Warning Mechanism in Central Region of China

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Abstract: In this text, taking reviews on the research literature of the domestic academic circle on patent early warning mechanism, the foreign cases of effective patent early-warning mechanism are analyzed, patent the current work of early warning in central region is discussed, finally constructing a effective path of early warning mechanism patent suited for central area was studied, and putting forward the principle of establishing the patent early warning mechanism, the text puts forward establishing a patent early warning mechanism of effective mode.

Key words: Central region; Intellectual property; Patent early warning mechanism; Effective path

1 Introduction

Implementing patent technology analysis, establishing a patent early warning mechanism is the basic means of effective exploitation and utilization of intellectual property resources, also can better strengthen intellectual property protection and improve enterprise's innovation ability in our country. Constructing a suited for China's patent early warning mechanism were given attention from different angles by the domestic academic circle, especially in recent years, the topic of increasingly focus. Huang Youling (2005) put forward that if you want to figure out the enterprise's patent state, we shall analyze the patent infringement or tort risk faced by the enterprises and evaluate its damage degree. Xie Xiaoyong (2007) put forward that patent has both the incompatibility of "spear" and "shield" for companies. In order to fully, flexible and in-depth using this tool, it is very necessary to construct the patent early warning mechanism for the enterprise and making full use of patent information is the foundation of constructing patent warning mechanism. Bao Yiping (2008) put forward that patent for pre-warning system is mainly founded for problems and risk appeared in the patent design and in the course of using. It is a systematic project, the organic unity up to the main body such as enterprise, government and industry association and relevant services and so on by using modern information network technology and through expert system to do the collection, arrangement, analysis for patent information, and with comparisons to the pre-set warning index to issues corresponding warning, and offer the reference for enterprise decision-making in order to achieve the purpose of preventing enterprise patent risk. Li Jing (2009) said that rethinking dimensions and each dimension under chosen early-warning index the patent early-warning index established by using the principles and methods set by BSC index, choosing commonly used the analytic hierarchy process, the index after immeasurable tempered and normalized can calculate enterprise patent early warning's warning degrees, it is the basis to decide whether it is issued a warning.

To sum up, the academic circles for establishing the patent warning mechanism have had pondered, but as for domestic specific regional patent early warning, establishing of the service platform have not form a concrete plan. The author think that, based on the current work of patent warning of central China, the establishment of patent early warning mechanism of the central area needs starting from two aspects that constructing subject constitutes module and the content module, which ranges such as elements from the patent and periodical literature do novelty search retrieval, the patent of retrieval, the technical tracking retrieval, infringement defense retrieval and patent effectiveness retrieval, thus avoid earlier technology, prevent infringing risk, seizes the market share, saving development time and funds.

2 Effect Analysis of Foreign Patents Warning Mechanism

Guide domestic enterprise development route and strengthen the deployment of patent independent research. Timely patent analysis report also can guide enterprises make reasonable positioning in the development direction. Japanese franchise hall annual leave 10% budget used exclusively for patent literature in-depth processing. If Japanese companies can make full use of this produced relevant database products, can reduce production of patent map, investigation euramerican rivals patent deployment condition as well as the cost of development of new technology line. On this basis, the company can produce sophisticated map of technical development line, show the related technical

roadmap of historical development of context, guide the company deploy reasonably patent development route.

In a competitor's core technology network secretly deploy against weapons. For example in the case of MOTOROLA accused of Hitachi, MOTOROLA accuse Hitachi's production of microprocessor infringing upon the patent right. Aiming at MOTOROLA's prosecution, Hitachi effectively utilization of the prior of patent deployment strategy. Hitachi have already deploy core patent in the field of research which MOTOROLA have set foot in, through the deployment of patent analysis, Hitachi patent engineer carry out patent which can counterbalance the MOTOROLA's that the MOTOROLA itself also exist the behavior of using patent that belong to Hitachi and force the MOTOROLA signed interactive license agreement.

Through the patent analysis, implementing patent strategy for the company's the development of finding suitable talents. It is a normal phenomenon that each other between Multinational companies dig high-end talent in the world, and the acquisition of excellent talents is the best way of allowing companies' patent strategy in the short term has effect. CHI Company in American had done a patent analysis report, shows that most enterprise's core technology is made by 1 ~ 2 bits inventor, and once the core the inventor's achievements outs, would greatly reduce enterprise patent be cited rate. Thus by patent analysis, find out the core inventor and related fields will their hiring to our company, for the development of the company, it may be the most rapid advance the patent strategy.

Put patent early warning mechanism to use can evade operational risk. Made beforehand patent analysis can help companies make a pre-designed market deployment strategy of lower risk. For example in the case of a lawsuit Procter & gamble charge Paragon of United States, American Paragon with intentional encroach on Procter & gamble, the manufacturing process of elastic diapers of Kimberly - Clark, was sentenced to compensate 4.2 billion dollars. Afterwards professional personage analysis if Paragon can use patent early warning mechanism, through the patent analysis, design patent map, establishing the production factory in the state of the relevant patent not protected and most of the company's operating revenue legally shifted to these areas, , while product distribution in the United States by a large number of small and medium-sized importers to finish, then Paragon can completely avoid operational risks, and the late blow is just. Simply part importers

Nowadays governments and companies begin to be aware of the huge function of the patent analysis and early warning and take various measures to improve the degree of attention. As for China which begin to advocate of intellectual property rights strategy, especially in inland provinces developing high-tech industry in central China, This phenomenon is a necessary reference.

3 Current Work of the Central Region Patent Early Warning

The six provinces of central China already have a certain foundation in the construction of patent warning mechanism, and the middle part of intellectual property service system is forming. Through years of construction, the unceasing development of organizations such as patent service organizations, intermediary service agencies, , provides the support of technical services to protect intellectual property .Central region government departments at all levels, especially intellectual property office have set up their own web site, released knowledge headline news, statistical information, patent query, application procedures, such as links to related content concerning intellectual property, we can say the basic structures of network platform, public affairs have begun. According to statistics released by the state intellectual property office, in 2008, the Hubei province single patent application 21,147 pieces, a year-on-year growth of 17,376 pieces, 21.7%, country ranking in the first eight. By 2008. For an application for a patent, the Hubei province cumulative 116,283 pieces. Among them applications of inventions, utility models and designs patent, respectively 24,341 pieces, 58,501 parts and 33,534 pieces, the proportion in the total respectively 20.7% 52.2% and 27.1%. Hubei province have opened Sino-foreign patent information service platform, for improving the level of relevant enterprises deal with foreign-related patent disputes and avoid damage brought by overseas malicious patent trap at the same time. The information got from Hubei institute of science and technology, after three years' construction, science and technology information sharing service platform in Hubei has become the national advanced provincial service platform, through advanced hardware facilities and abundant information resources, provides excellent information services for the whole society, effectively promoting local economic and social development. From 2006, Hubei science and technology information sharing service platform project formally since the launch of the provincial science and technology information institute vigorously promote platform hardware facilities, realized the

inter-communication with China's higher education with the literature guarantee system, a national science and technology library (NSTL)center, CAS library system and become the first national provincial platform which technology information service platform setting scientific literature, nation and industry standard, Sino-foreign patent, science and technological achievements, technical report in one, has the kind of rich Chinese basic guarantee, the co-construction and sharing , peripheral information resources, provincial characteristics of information resources, etc. At present, the Hubei provincial science and technology information sharing service platform has already formed the brand, enter the national advanced ranks.

The implementation of intellectual property cooperation development strategy of the central area, and has the very big relations with their own existing central intelligence resources foundation. Central regions gathered a large number of research institutes, colleges and universities and the enterprise research and development center, here large numbers of technical personnel insist struggling, they are engaged in basic research and applied research development or testing, It seems like small inconspicuous, without producing apparent benefit, but accumulated rich knowledge and technical reserves for economic development in the central region. But central region in after all belong to are lagged areas in China's reform global, either system construction or practical experience are relatively weak, and there are many challenges, especially leading industry at present for the high-tech industry, It is urgent matter that establish and improve the patent early warning mechanism. The level of patent resources and information sharing is not high in Central region, across a network platform not integrated hinders the cooperation and development of intellectual property. Although all are established in various provinces of their respective website and database, but lack of direct links between each other, not formed a complete system. Because previously is fragmented, and therefore the standard, format and the interface Of released information is not entirely uniform, needs to establish a unified information released, exchange and sharing platform. In addition, in the protection of intellectual property rights, law enforcement agencies of the provinces, lacking in experience of cooperation and coordination and mechanism did not straighten, cross-regional intellectual property rights action in many cases cannot good enforced, the efficiency is low, the enormous waste of resources.

Table 1 2008 Hubei Patent Application Status and National Contrast

	2008				over2007 amount(PCS)		Over 2007 growth rate (%)		Growth rate compared of Hubei with national (%)
	Count quantity (PCS)		Accounted for total ratio (%)		Hubei	national	Hubei	throughout	
	Hubei	national	Hubei	national					
Total	21147	717144	2.95	?	3771	130410	21.70	22.23	-0.52
Invention	4616	194579	21.83	27.13	911	41519	24.59	27.13	-2.54
Utility model	8793	223945	41.58	31.23	1625	43946	22.67	24.41	-1.744
Appearance design	7738	298620	36.59	41.64	1235	44945	18.99	17.72	1.27
Personal	9199	352758	43.50	49.19	893	42131	10.75	13.56	-2.81
Colleges and universities	1968	45145	9.30	6.29	-86	12465	-4.19	38.14	-42.33
R&D institution	1101	18612	5.21	2.59	487	4493	79.32	31.82	47.49
Industrial and mining enterprises	8774	295715	41.49	41.23	3013	72237	52.30	32.32	19.98
Organizations	105	5119	0.50	0.71	-536	-711	-83.62	-12.20	-71.42

Note: * for accounts for the national total ratio

The six provinces of central China together in central China, and the level of economic development basic is rather alike, the protection of intellectual property and strategic implement is basic synchronous. The implementation of intellectual property cooperation development strategy, on the one hand, helps achieve resource sharing, complementary strengths in intellectual property work aspects, on the other hand, it can form a cohesive force to the common development, and better promote the central regions economic development. Hubei intellectual property office first proposed initiatively "the six provinces of central China intellectual property development and cooperation, and immediately got the

state intellectual property office vigorously support and the other five provinces have also consistent response, and has established the six provinces of central China intellectual property development coordination leadership team, in November 2005, in Yichang City signed "the six provinces of central China intellectual property development cooperation mechanism agreement".

4 The Central Regions to Establish Patent Warning Mechanism of Effective Path

4.1 Establish patent warning mechanism principles

(1) Purposiveness principle. The purpose of establishing patent pre-warning mechanism is through collecting patent information of technology and related technical fields in the industry, domestic and international market information, analyzing it and providing timely the effective reference material including possible patent dispute precursors and the harm, present situation of research of competitors in the industry field for our country and government of this district and industry organizations and businesses, then provide reasonable suggestions for trade organizations and business to measures. So establishing patent pre-warning mechanism must be closely around the fundamental purpose in the central regions, providing legal protection for the enterprises in the area herein are involved in international trade

(2) Structural principle. Establish patent warning mechanism is a systematic project, central region starts relatively late, insufficient capital investment, under this kind of circumstance patent early warning mechanism should set up by the government, industry association, companies together, forming a perfect structure that the government-led, industry associations to do as the medium of communicate, companies actively attend, input, and related services institutions closely cooperate with others.

(3) Predictability principle. patent information database of early warning mechanism should be dynamic, according to the time sequence reflects related technical field in different periods patent information, related companies can reasonable to predict future patent activity of domestic and foreign key industries and enterprises, through the patent analysis report makes related company enterprise can obtain prior warning, do the work to cope with, so as to improve the company business enterprise to keep our industry patent development trend sensitivity, can deal with emergency patent litigation events occur.

4.2 Establish patent warning mechanism of effective mode

(1) The subject of patent warning mechanism constitute mode should be suitable for central area of patent protection status. In the perfect patent pre-warning system in three of the main body, function undertaking is different, the function is different too. The government and its subordinate departments in the whole system plays a leading role, responsible for warning strategy formulation, warning technology system establishment, and around warning mechanism formulation and implementation of necessary regulations, responsible for form expert consultant team, etc. Along with the national political system reform advancement, the present government role in society from regulators change to public service-oriented government role model, the government-led constructing patent early warning mechanism serve for related industries or enterprises are also reflects the transformation of governmental functions to this point. At the same time in practice there are many defects that no matter by enterprises or industry association to independently bear build patent warning mechanism task, It is difficult for both from whole and from on macroscopic to understand specific processes, this problem must be solved by the government to leading. Moreover the government as the executor of the public power, holds a lot of resources, the government has other department incomparable manpower and wealth of resources advantage, so the government-led constructing patent warning mechanism can accomplish overall consideration, guarantee the early warning mechanism consummation and perpetuate. Central six provinces in relatively backward position in the reform and open policy the global life, perfect market mechanism is not formed, industry associations and companies of autonomy is still far from the peer of delta and Guangdong coastal areas, the whole social and ecological environment has been used to the government to dominant and lead everything, conception change also needs time. In this case, constructing patent warning mechanism, by the government to the dominant mode in the central area more feasible.

Industry associations in constructing the patent warning mechanism have a mainly coordinate and supervise role. After the same type of business component uniform industry association, related information exchange between enterprises, relevant standard unified aspects can gain great convenience. While in enterprise encounter tort litigation, industry associations can provide enterprises with strong the support behind, the enterprise will no longer potential stretch solitary. But the industry association in

the patent pre-warning system only can do the communication and coordinating role, because its just folk organization, no sound economic source ensure to establish perfect patent pre-warning system. Because of its industry and industry association characteristic, have gathered information also often confined to this industry, in other fields is not taken into account. And because of trade associations, which aimed to professionalism and their staff also determines the knowledge structure is single, for a constant change of domestic and foreign markets and patent information it is difficult to analyze the correct analysis and judgment, also hard to put forward the timely and accurate warning signs and prevention countermeasures and Suggestions. As the enterprise, especially small and medium enterprises because information asymmetry's sake, it is difficult to obtain enough information to ensure that make the right design patent strategy, independent research and development at the same time avoid in the product's development process of "crash" phenomenon, so a patent dispute and resource waste phenomenon in reality appear also unavoidable. Although some large and medium-sized enterprises may set special patent management departments, but the majority of small and medium-sized enterprises are not possible in this respect to pounce. Therefore looking at from whole, the government in the patent warning mechanism plays a leading role, related industries and enterprises provide coordination and help is more reasonable main constitute pattern of patent warning mechanism.

(2) The central area of intellectual property management department can be jointly build special-purpose patent laws, regulations and technical standards of dynamic database and set up a corresponding information consultation service network, providing reliable business decision-making information source for export-oriented enterprises. Established in different industries, professional patent nets, causes the enterprise to prompt understanding profession or this professional patent situation from the patent nets for compiling breakthrough, based on the analysis of patent nets, relevant departments can give timely patent warning, such as export early warning and research and development warning, etc. Meanwhile, as the government management department also should actively and collect and grasp foreign trade with China policy development trend, are implementing or the trade related worked with technical barriers, establish and improve technical barriers bulletin and quick reaction mechanism, that we learn of trade partners trade policies and measures of changes, can quickly effectively evaluate the changes to our country's the impact to the relevant industry and the ministry of foreign trade , and analyzes that whether it is compliance with multilateral trade rules, and inform industrial zone, adopting adjust and adapt to measure. For foreign enterprises abuse of litigation and intellectual property rights, it shall encourage enterprises to dare bold sues or responds. When there are barriers of intellectual property, we should be actively using the WTO's dispute settlement mechanism for defense. In 2006, Shenzhen LangKe technology Co., LTD is suing the U.S. PNY infringed its flash disk of the patent right, "use" litigation earn fame. The final settlement agreement by both parties sign of year ended, LangKe patent income of tens of millions of dollars. LangKe's case of successful experience for central enterprise that has a very good reference value.

In the process of establishing the patent warning mechanism, we should established funds continuous input mechanism, to put a warning mechanism construction as the government provides public service innovation foundation platform, the construction funds into the annual budget. When the warning message should exert the strength of intermediary, improve the intermediary service level, and relying on the basis of local intermediary power, attempt actively to introducing well-known participate in patent intermediary agencies, make great efforts to make the co-construction and released early warning information more level, with more authority, to the enterprise guidance is bigger.

(3) Analysis and identification of information gathered and establish the crisis evaluation standard. Take statistics tools to the already obtained information statistic summary, establish analysis and identification model, pay attention to combine qualitative and quantitative analysis. With patent filings for the unit, statistical according to patent classification, the patentee, annual, national standard for relevant patent information, from which we can understand the patent technology development trend and potential market, competitors existed in domestic and foreign, present situation of technical development and market occupation of foreign enterprise, life cycle of patent technology and life cycle of product. After obtaining results of analysis, the ring of most important is for crisis evaluation. Through results of the above analysis, we can draw the state of current patent application or authorized. If belongs to the normal state, it needs to continue monitoring and management. If there is alert crisis, it needed to give timely crisis warning and emergency management, implementation for crisis decision, strive to eliminate or reduce crisis negative influence. Patent crisis assessment is the key element of patent early-warning index system. for is It is the key Whether the warning index is proper to evaluation and decision. Formulation of Patent early-warning index need reference current patent technology status,

protection status, foreign specific related measures, national current reality; attention should be paid to the dynamic management at the same, timely updates according to the patent technology research and development situation and data changes.

(4) To combine the construction of early warning mechanism with implementation of industry organically the patent strategy, and we should fully understand the patent warning analysis in the implementation of the basic industry patent strategy fundamental function, in early warning mechanism construction into the industry of survival and development, enhance the core competitiveness of the overall strategic plan of. Guide key enterprises implementing patent strategy, carry out the key, the core technology research. The leading enterprise implementing patent strategy is to enhance the core competitiveness of key industries. Owing to the central region, most enterprise though, but improve patent consciousness practice to the patent strategy is still not skilled in using ability. Therefore, the government should play a leading role fully; vigorously promote key enterprises of the patent strategy implementation work. First to further increase the patent demonstration enterprises constantly cultivate dynamics, promote the enterprise to establish and perfect the including organization setup and system construction, patent management system and patent strategy analysis, formulation and implementation of patent information platform. Secondly, we should increase the core patent technology and industrialization of direct funds investment, encourage key enterprises to develop key, core patent technology research and industrialization, and strive to make enterprise with independent property of core technologies and get rid of foreign counterpart's patent technology of containment. The third to actively promote the industry enterprise conducting production-teaching-research combination, the introduction of foreign within the industry quality technology resources and building high-end institution, create powerful technical support. Meanwhile, guide enterprises "mainland, to strengthen the technical alliance, strengthen the key technologies input intensity. Finally to actively use the patent document follow-up studies, international key well-known enterprise patent application, patent deployment, patent technology innovation points wait for a circumstance, learn to use and has publicly by the patent technology to circumvent others have a purpose of the patent technology research.

(5) Further strengthen patent talents. Constructing patent early warning mechanism, talent is the foundation and depend on. First to strengthen patent popularization training, to put enterprise patent worker training system long survive, down to strengthen enterprise technicians and management personnel especially enterprise controller for patent application, patent information using, patent protection and patent strategy application etc knowledge system training, continuously improve the company's patent awareness and the ability to use the patent system. Secondly, we should strengthen strategic and multiplex high quality talent introduction and training, on the one hand, encourages enterprises and intermediary organizations are willing to spend money, introduce or hiring batch of domestic and foreign understand technology, familiar with law and management knowledge, proficiency in a foreign language authoritative experts and scholars to enterprise work or as enterprise consultants, on the other hand, we should actively create conditions, submitted a batch of personnel to the developed countries or regions of college or research institutions for further study, raises native high-level talents. The 3rd should strengthen intellectual property management department's self building, intellectual property rights (patent) system in the current market competition, the economic development of increasingly apparent effect, no doubt of intellectual property management department of work put forward higher request, intellectual property management department must keep pace with The Times, broaden their horizons, and constantly improve on enterprise patent guidance and services, and constantly improve the ability of government work efficiency.

5 Conclusion

The establishment of patent warning mechanism not only for the inventor, small and medium-sized enterprises, laboratory, university knowledge such as the creator is of great value, but also in big business, government agencies also is of great value. Through constructing applies to the central region patent warning platform, through this powerful patent information analysis pipeline, can guide, assist local governments, businesses in the correct development route conducting self-help patent information analysis activity, only such, inland areas to develop high-tech enterprise, implementing patent strategy can obtain the substantial progress.

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