

Research status of logistics enterprise patent based on smart Logistics

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Abstract: with the rapid development of Internet and big data technology and so on, the logistics industry has also increased its development efforts to the leapfrog development of intelligent logistics. At the same time, the intellectual property rights have been paid more attention to, and the innovation of intelligent logistics technology has been improved, which makes the factory building and the logistics industry which used to be in the leading position of the enterprise. The focus of tangible assets such as equipment has now shifted to intangible assets of intellectual property patents. Through literature analysis and patent analysis, this paper further explores the development status of logistics enterprise patent under the background of intelligent logistics, and puts forward corresponding solutions.

Key words: Smart logistics; Logistics enterprises; Patents; Research status

Introduction

Nowadays, the technological development of various industries is the research focus in the patent field under the provisions of the intellectual property law. Whether it is traditional industries or emerging industries, technological innovation has become an important force to change the mode of economic development. At the same time, the logistics industry also actively conforms to the development trend of the times, accelerates the development, and completes the transformation of the industry. Based on this, intelligent logistics is playing an important role in the industry. Patent has become an important product of invention and creation, which is closely connected with technological innovation. In view of the mutual push between patent and industry, this is the research angle chosen by the author.

1. Patent application of logistics enterprises under the background of smart logistics

Since the State Council issued the medium and long-term plan for the development of logistics industry (2014-2020), it has become the driving force for the continuous development of logistics industry under the new normal of China's economic development^[1]. The plan emphasizes that China should increase the pace of logistics intensive development. Now China's logistics industry has opened a new situation. The development trend of smart logistics has been significantly enhanced. Relying on Internet big data and other technologies, the field of smart logistics has also been widely improved, truly realizing automation, intelligence and informatization. At the same time, the promulgation of patent law promotes the application of logistics patent.

The so-called intelligent logistics refers to the modern logistics system that uses intelligent achievements to solve a series of problems generated by the logistics system. It has the characteristics of data connectivity, efficient collaboration and independent decision-making. Its development is not achieved overnight.^[2] It has experienced five stages of logistics digitization, networking, automation, integration and intelligence. With the help of big data and Internet of

things and other technologies, smart logistics has become the leading force in the development of the industry, and also an important direction of the logistics industry, Moreover, the application of this technology has greatly improved the operation efficiency of the industry.

A large number of technologies are used in the intelligent logistics technology system, including radio frequency identification technology, Beidou navigation, GPS, laser, etc., as well as advanced tools such as automatic three-dimensional shelves, unmanned forklifts and handling robots. Science and technology promote the development of intelligent logistics industry, and it is in this context that relevant logistics patents can be continuously invented.^[3]

Through the high-level data retrieval of CNKI, we can select 144 literatures on Logistics patents, 2 literatures on intelligent logistics patents, and 24 literatures on logistics handling, 18 literatures on logistics warehousing, 12 literatures on Logistics loading and unloading, and 2 literatures on logistics packaging, There are 6 patents on logistics distribution, 3 patents on logistics transportation and 1 patent on logistics information technology. The patent literature in the database can show the frontier and research level of domestic academia in the field of logistics patent research.

2. Problems in patent development of logistics enterprises under the background of smart logistics

2.1 The degree of patent innovation of logistics enterprises is insufficient

Smart logistics has become a new driving force of logistics innovation. Only by constantly carrying out logistics patent innovation can we break the inherent shackles of thinking and enhance the operational efficiency of logistics enterprises. Although the level of modern logistics technology has been greatly improved, and patents as the external carrier of science and technology have also been greatly protected and valued, the innovation level of patents of logistics enterprises in China is still not high. In addition, logistics enterprises under the background of intelligent logistics should not only pay attention to the number of patents, but also the quality of patents. Only in this way can we improve the competitiveness of logistics enterprises.^[4]

2.2 Logistics enterprises have few patents

According to the national key industry patent information service platform data survey, there are only 151 technology patents related to smart logistics. However, in the logistics industry, there are 29160 related logistics patents, and the number of smart logistics patents can only account for 0.5% of the number of logistics patents. In the era of big data and artificial intelligence, the number of smart logistics patents is increasing. Relevant logistics personnel and enterprises should also keep up with the pace of the times, and make use of the technical level to increase the research and development of logistics patents.

2.3 Lack of patent awareness of logistics enterprises

With the rapid development of China's economic level, the state has strengthened the protection of intellectual property rights, and the patent system at the legal level has been further optimized. But the popularity of patent law is not comprehensive and widely involved in various industries. Some logistics enterprises lack the knowledge of intellectual property rights and the in-depth understanding of the concept.^[5] They may think that patents are related to the law and simply divide the connection between technology and patents into two. They are weak in the awareness of legal rights protection, which restricts the ability of enterprises to transform their technological innovation ability into patents, and to some extent leads to the missed development opportunities of logistics enterprises.

3. Solutions to patent of logistics enterprises under the background of smart logistics

3.1 Strengthen logistics patent research and development

Enterprises set up patent information department. Setting up a special patent information department in logistics enterprises is conducive to the development of the whole enterprise. It is a sensor within the organization. Patent R & D personnel can better carry out R & D and innovation in combination with the situation of logistics enterprises. It can not only provide research direction, but also engage in more challenging and complex strategic R & D, which is conducive to surpassing other competitors and promoting the steady development of logistics enterprises.^[6]

The government should introduce appropriate incentive policies. As a new force, small and medium-sized enterprises are vulnerable to their own development. At the same time, the external financial pressure will also be greater.^[7] If the government gives certain financial support, it can help small and medium-sized enterprises relieve the pressure. And the government should also play the role of guidance and supervision to enhance the efficiency of R & D and capital use. At the same time, the government should strengthen the protection of intellectual property rights. When a patent comes out, the government should increase the protection of the rights of patent developers, and when the patent fruits are stolen, it should increase the punishment for plagiarists.

3.2 Strengthen the integration of logistics talents and intellectual property

Based on the deep integration of the logistics industry and the Internet industry, the era of the original logistics enterprises taking assets and scale as the competitive advantage has passed, and now they are more competitive with technology and intellectual achievements. Therefore, the development of intelligent logistics must be based on a group of talents who master modern information technology.^[8] In order to promote the logistics enterprises to develop vigorously and show the vitality of the new century, enterprises should pay more attention to the research and development of logistics patents, strengthen the integration of logistics talents and intellectual property, and build an efficient patent research and development team. At the same time, the successful application of patent can not only make an enterprise obtain huge intangible assets, but also can continuously promote the development of the enterprise, and form a good cycle of technology promoting development and development boosting technology.

3.3 Strengthen the publicity of intellectual property rights

It is necessary for the government to take effective measures to popularize the law. Regular visits to enterprises should be conducted to strengthen the comprehensive education of intellectual property rights. At the same time, government departments not only publicize enterprises, but also focus on the new generation of college students who are the main force of production.^[9] Although we are in a society ruled by law, how to apply the specific law is still in the knowledge blind area. Under the guidance of the government departments, the school should further improve the training program, strengthen the legal education of college students, and hold corresponding legal lectures and legal knowledge competition activities.^[10] Receiving legal education in schools and enhancing legal awareness will also play a guiding role in stepping into work for the students in the future.

4 Conclusion

To sum up, through the national key industry patent information service platform and the data survey of China intellectual property network, this paper understands that intellectual property under the background of intelligent logistics has achieved certain results. And with the help of literature analysis, it expounds the characteristics of the logistics industry and the current development trend of intelligent logistics. The intelligent logistics has become an important part of China's economy, but there are still some problems in logistics patents due to relatively weak consciousness in protecting of intellectual property right. Therefore, Logistics enterprises should quickly transform patent awareness into patent practice, and constantly promote the development of 21st century sunrise industry - intelligent logistics.

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