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PATENT TROLLING: NEGATIVE IMPACT AND NEED FOR PROTECTION

Patenting of products, technologies and designs for manufacturers should be one of the key elements of the production process. Intellectual property and enterprise innovation are increasingly being the subject of illegal actions, so-called «Patent Trolling». The result of patent trolling for the manufacturer (importer) or seller can be unforeseen losses from litigation, product delays at the border, loss of foreign partners, loss of image and reputation.

As a result of the analysis made such a phenomenon as «Patent Trolling» and the need for patenting products was investigated. The key benefits of patenting for the manufacturer have been identified and characterized. Considered what is a patent and the rights granted by the patent to the owner. It is determined which result of intellectual and creative activity is subject to patenting. The state and tendencies of patenting in Ukraine are investigated. The peculiarities of the activity of patent trolls in the world and in Ukraine are analyzed and compared. The mechanism of patent troll's activity in Ukraine and abroad is developed. The main reasons for the emergence of patent trolling in Ukraine are identified and ways to overcome it at the legislative level are formed. These measures will help the manufacturer to avoid patent trolling and minimize its impact on economic activity.

The patent gives the owner (manufacturer) the opportunity to single-handedly produce a unique product, take a leading position in the market, receive royalties, and protect products and reputation from the actions of unfair competitors and patent trolls. Patent trolling causes great damage to industry and the country. After all, with each case of patent trolling the country loses its image, investment attractiveness, foreign exporters and reduced imports of Ukrainian goods. The solution to this problem is possible if manufacturers (importers) will use the right to patent the product, as well as change the legislation on patenting products.

Key words: patenting, patent trolling, intellectual property, royalties, competition, inventions, trademark.

Fig. – 3, Tabl. – 2, Ref. – 15.

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ПАТЕНТНИЙ «ТРОЛЛІНГ»: ВИЗНАЧЕННЯ НЕГАТИВНОГО ВПЛИВУ ТА НЕОБХІДНОСТІ ЗАХИСТУ

Патентування виробів, технологій та конструкцій для виробників має бути одним із ключових елементів виробничого процесу. Інтелектуальна власність та інновації підприємств все частіше стають предметом незаконних дій, так званого патентного «троллінгу». Результатом патентного «троллінгу» для виробника (імпортера) або продавця можуть бути непередбачені втрати від судових процесів, затримка товару на кордоні, втрата іноземних партнерів, втрата іміджу та репутації тощо.

У статті досліджено явище «патентний «троллінг» та означена необхідність патентування виробів. Визначено та охарактеризовано ключові переваги патентування для виробника. Розглянуто, що представляє собою патент та права, які надає патент власникові. Визначено, який результат інтелектуальної і творчої діяльності підлягає патентуванню. Досліджено стан і тенденції патентування в Україні. Проаналізовано та порівняно особливості діяльності патентних «тролів» у світі та Україні. Розроблено механізм діяльності патентних «тролів» в Україні та за кордоном. Виокремлено основні причини виникнення патентного «троллінгу» в Україні та сформовано шляхи його подолання на законодавчому рівні. Зазначені заходи, які допоможуть виробникові уникнути патентного «троллінгу» та мінімізувати його вплив на господарську діяльність.

Таким чином, патент дає власнику (виробнику) можливість самостійно виготовляти унікальний товар, зайняти лідируючі позиції на ринку, отримувати роялті та захищати продукцію та репутацію від дій недобросовісних конкурентів та патентних «тролів». Патентний «троллінг» завдає великої шкоди промисловості та країні. Адже з кожним випадком патентного «троллінгу» країна втрачає імідж, інвестиційну привабливість, іноземних експортерів та зменшується імпорт українських товарів. Вирішення цієї проблеми можливо, якщо виробники (імпортери) скористаються правом патентувати товар, та відбудуться зміни в законодавстві про патентування продукції.

Ключові слова: патентування, патентний «троллінг», інтелектуальна власність, роялті, конкуренція, винаходи, торгова марка.

Рис. – 3, Табл. – 2, Літ. – 15.

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ПАТЕНТНЫЙ «ТРОЛЛИНГ»: НЕГАТИВНОЕ ВЛИЯНИЕ И НЕОБХОДИМОСТЬ ЗАЩИТЫ

Патентирование изделий, технологий и конструкций для производителей должно быть одним из ключевых элементов производственного процесса. Интеллектуальная собственность и инновации предприятий все чаще становятся предметом незаконных действий, так называемого патентного «троллинга». Результатом патентного «троллинга» для производителя (импортера) или продавца могут быть непредвиденные потери от судебных процессов, задержка товара на границе, потеря иностранных партнеров, имиджа, репутации и т. п.

В статье исследовано явление «патентный «троллинг» и показана необходимость патентирования изделий. Определены и охарактеризированы ключевые преимущества патентирования для производителя. Рассмотрено, что представляет собой патент и права, которые дает патент собственнику. Определено, какой результат интеллектуальной и творческой деятельности подлежит патентированию. Исследовано современное состояние и тенденции патентирования в Украине. Выполнен анализ и выявлены особенности деятельности патентных «троллей» в мире и Украине. Разработан механизм деятельности патентных «троллей» в Украине и за рубежом. Выделены основные причины возникновения патентного «троллинга» в Украине и сформированы пути его преодоления на законодательном уровне. Обозначены мероприятия, которые помогут производителю избежать патентного «троллинга» и минимизировать его влияние на хозяйственную деятельность.

Таким образом, патент дает собственнику (производителю) возможность самостоятельно изготавливать уникальный товар, занять лидирующие позиции на рынке, получать роялти и защищать продукцию и репутацию от действий недобросовестных конкурентов и патентных «троллей». Патентный «троллинг» наносит большой ущерб промышленности и экономике страны в целом. При каждом случае патентного «троллинга» страна теряет имидж, инвестиционную привлекательность, иностранных партнеров и сокращается импорт украинских товаров. Разрешение этой проблемы возможно, если производители (импортеры) воспользуются правом патентовать товар и произойдут изменения в законодательстве относительно патентования продукции.

Ключевые слова: *патентование, патентный «троллинг», интеллектуальная собственность, роялти, конкуренция, изобретения, торговая марка.*

Рис. – 3, Табл. – 2, Лит. – 15.

Problem definition. Today, intellectual property is an important component of the business process and one of the most valuable assets of the enterprise. After all, in a market economy, the profitability of the business and products competitiveness depends on the innovations used in production. Patenting will ensure the uniqueness of technology or product and protect the manufacturer from unfair competition. A patent is not only a security guarantee of intellectual property rights against encroachment, but also an additional source of income for the company.

From year to year, the intellectual property and innovations are increasingly the object of illegal actions, the so-called patent trolling. The result of patent trolling for manufacturer (importer) and seller can be unforeseen losses from litigation, product delays at the border, loss of foreign partners, loss of image and reputation. Economy also suffers from the actions of patent trolls: decrease in the level of investment attractiveness and budget revenues because of producers and sellers' losses, decrease currency volume in the country from the loss of foreign investors. As a result of patent trolling consumers also suffer. If the company suffers losses or is in a state of litigation, products' prices or quality may negative change, and if budget revenues are not received, expenditures on social, financial, production and other areas will decrease.

Review recent research and publications. The impact of patenting on the country's economy, patent activity in Ukraine, emergence and patent trolls activity in Ukraine and abroad have been studied by scientists: L. Linnyk, P. Sullivan, I. Cherkashin, M. Arkhipova, V. Hriha, L. Fedulova, O. Kot, Y. Okhromeev, D. Tisa, R. Kaplan, D. Nort, M. Kotenko, L. Hluchovskii.

Definition of objectives. The aim of the article is to analyze the state and features of patenting in Ukraine, to determine the benefits of patenting for enterprises and to study patent trolling as one of the threats from which a patent can protect.

Outline of main researching. Patenting in Ukraine and around the world is one of the means of competition in the market and an effective tool to protect the intellectual property rights of both the inventor and the manufacturer. Intellectual property in the enterprise is part of the intangible assets, which include goodwill, patents, copyrights, trademarks and more.

Intellectual property rights to a particular product or technology enable an enterprise to carry out cross-licensing. Cross-licensing is the exchange of licenses between two or more interested parties, which involves granting each party the right to use the intellectual property necessary to produce products [1]. This licensing allows competitors to obtain the desired technology with minimal costs and disputes. Cross-licensing will help any company to make high profits from the already patented technologies of a partner or competitor, by improving and optimizing production, improving product quality, and increasing consumer demand.

Patenting a unique technology or product allows the company to produce a special product that will be a monopolist in the market in a particular area and will have no analogues. Patenting will also provide control over production, pricing policy and demand for goods or services, for patented goods or goods for the production of which patented technology has been used. For example, well-known Ukrainian companies as Kernel, Nibulon or Myronivsky Hliboproduct are profitable and competitive due to the use of innovative technologies in the production products.

Product patenting will help the company to actively promote the product, brand and trademark, which is possible as a result of the following factors:

- 1) New unique characteristics and quality of the product, which will differ and stand out it among similar products on the market;
- 2) Availability of quality different from competitors, which will be more attractive and useful for the consumer;
- 3) Active advertising campaign.

These factors will be effective and will be able to bring the company to a leading position by protecting technology and goods at all stages of production, promotion and sale: products must be protected from counterfeiting; new technologies, design from theft by unscrupulous competitors and their misuse in production. The patent is an effective tool for such protection. A patent is a security document that certifies the priority, authorship and ownership of an invention (industrial design, utility model) [2]. The presence of a patent allows a manufacturer or inventor in a certain area, for a period specified by law to use the result of intellectual property alone and to give permission or prohibit the use of others. You can patent products, technology, process or application of an already known product for a new purpose, trademarks, geographical indications, plant varieties, innovative solutions that have no analogues, and so on.

Invention (utility model) - the result of human intellectual activity in any field of technology. An industrial design is the result of a person's creative activity in the field of artistic design [2].

Patenting of products, trademarks, technologies and design in Ukraine is gaining more popularity from year to year (Table 1).

Table 1

Indicators of security documents registration for objects of industrial (intellectual) property, objects

Objects of industrial property	2017	2018	2019	2019 to 2018, %
Inventions	2590	2469	2255	91,3
Utility model	9442	8620	8412	97,6
Industrial designs	2390	2297	2599	113,1
Trademarks for goods and services	15248	15877	17321	109,1
Qualified indications of origin	1	4	2	-
Right for using qualified indications of origin	1	4	1	-
Total	27282	26974	30590	113,4

Source: built by authors on [3]

The total number of registered patents in 2019 compared to 2018 increased by 13.4%, due to an increase in the number of patents for industrial designs and trademarks. This increase can be explained by both positive phenomena (scientific and technical progress, manufacturers' understanding of the importance of product patenting) and negative phenomena (patent trolling). From 2017 to 2019, the number of registered patents for inventions and utility models decreased, which may be a consequence of reduced implementation of the latest technologies in production.

Patenting a product or trademark provides the company with the following advantages:

1. receiving royalties;
2. active promotion of their products in the markets;
3. cross-licensing;
4. minimization of competition in the market;
5. strengthening market position and the ability to dictate «the rules of the game»;
6. reducing the risk of falling victim to patent trolling.

Royalty is any payment received as a reward for the use or granting of the right to use an object of intellectual property rights [2]. The amount and procedure for payment of royalties is established during the conclusion of an agreement between the owner of the invention and the persons who will use the invention.

In 2018, royalties worth about UAH 100 million, or USD 3 million, were paid in Ukraine. It is about 50 times less than in Poland, where the amount of all royalties paid fluctuates within the range of USD 150 million. In developed countries, such as the United States, the share of intellectual property in GDP is about 40%. In Europe and the United States, royalty payments in 2018 ranged from 1 to 2 billion euros [4].

According to the Global Competitiveness Index, in 2019 Ukraine ranked 118th out of 141 countries in the world in terms of protection of intellectual property rights [5]. This negative figure is the result of many factors: high levels of piracy; imperfect legislation on the protection of intellectual property rights; underdeveloped and primitive mechanism for paying royalties and prosecuting infringers of intellectual property rights; high level of patent trolling in Ukraine and its illegal nature.

In the 2020 European Commission Annual Report on the Protection and Enforcement of Intellectual Property Rights in Third Countries Ukraine, India, Indonesia, Russia and Turkey, was assigned to the countries of the second priority. In terms of the number of violations and their consequences, it is second only to China, which occupies the first position. «Serious systemic problems have been identified in the area of IP protection and enforcement in these countries, causing significant harm to EU businesses. Compared to the previous report, these countries have made no progress or only limited progress in addressing these concerns» [6]. According to the GIPC for 2018, Ukraine was assigned 14.28 points out of 40 in terms of the degree on protection of intellectual property rights (Fig. 1). The United States and the United Kingdom take leading positions in this indicator, 37.98 and 37.97, respectively [7]. Core indicators IP Index are:

- Patents, Related Rights and Limitations;
- Copyrights, Related Rights and Limitations;
- Trademarks, Related Rights, and Limitations;
- Trade Secrets and Market Access;
- Enforcement;
- International Treaties.

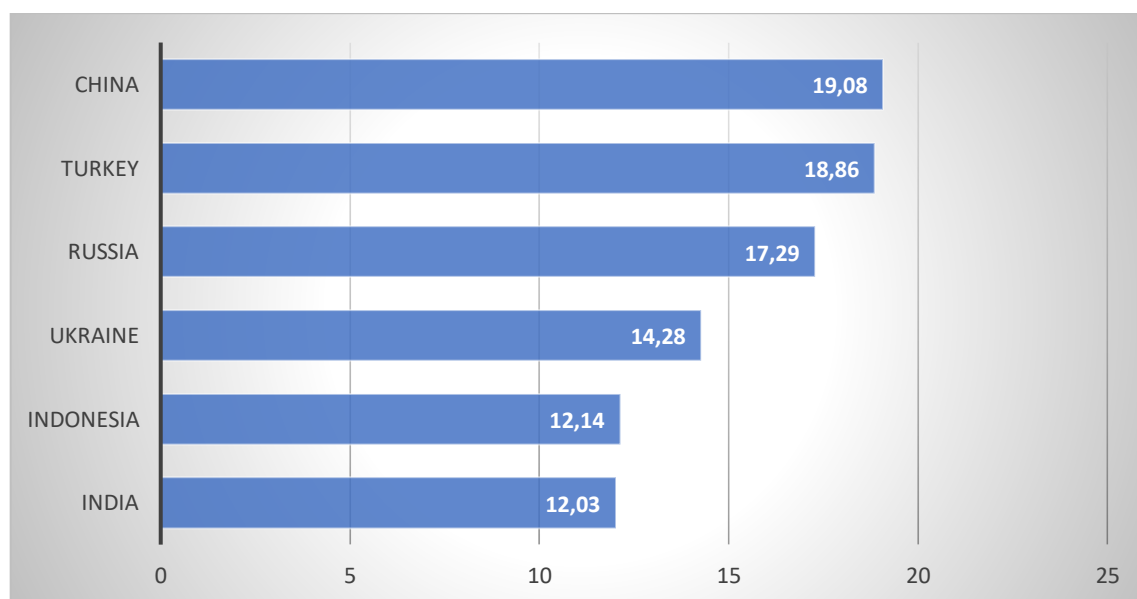


Figure 1 – U.S. Chamber International IP Index 2018 (Priority 1 and 2 countries), overall scores

All the available data permit to say that the level of intellectual property rights protection remains low. Table 2 shows that for the vast majority of economies, the IP environment has either weakened or stood still. Compared to the previous period in Ukraine, the assessment of intellectual property protection has improved precisely in terms of Patents, Related Rights and Limitations; Copyrights, Related Rights and Limitations; International Treaties.

Table 2

Change over time for 6 Index economies

Countries	Core Indicators					
	Patents, Related Rights and Limitations	Copyrights, Related Rights and Limitations	Trademarks, Related Rights, and Limitations	Trade Secrets and Market Access	Enforcement	International Treaties
China	👍	☒	👍	☒	👍	☒
Turkey	👎	👍	👍	☒	👍	☒
Russia	☒	☒	☒	👎	☒	☒
Ukraine	👍	👍	☒	👎	👎	👍
Indonesia	👎	👍	☒	☒	👎	☒
India	👍	☒	👍	👍	👎	☒

👍 - category score improve, ☒ - category score did not change, 👎 - category score deteriorated

Source: built by authors on [7]

However, as described above, patent trolling remains a common phenomenon both in Ukraine and abroad. It was first mentioned in the United States in the 1990s. A patent troll means a person who has registered or purchased a patent in order to obtain remuneration from producers, and not to use it in their production activities [8]. This type of fraud in Ukraine has its own national feature in comparison with the United States and European countries.

In Europe and United States, the patent troll operates on the basis of law and affects only unscrupulous manufacturers who ignore the intellectual property rights to certain goods. The mechanism of action of patent trolls is approximately as follows: the company (patent holding, patent dealer, patent shark, marketer) buys many patents for unique products and benefits from manufacturers, in the form of royalties and compensation based on court decisions for misuse of products from unscrupulous manufacturers (Fig. 2).

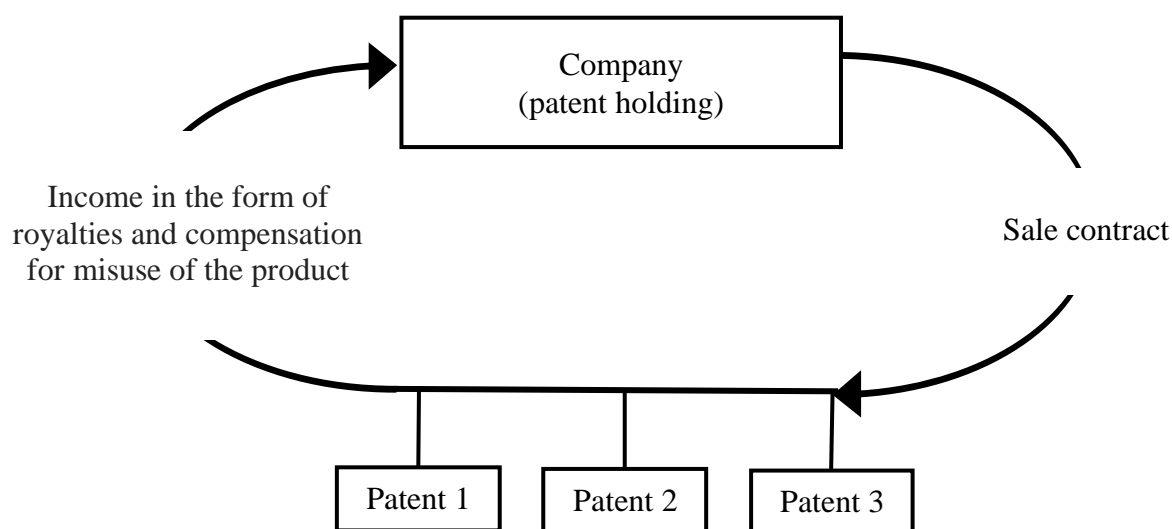


Figure 2 - The mechanism of patent troll action in Europe and United States

Source: built by authors

Key takeaways:

- A patent troll exploits existing structural issues within the patent and court systems in order to generate revenue.
- Patent trolls use a number of legal activities and loopholes that involve patents and the court system to earn money, including filing false patent infringement claims.
- While the practice of patent trolling is not technically illegal, a company that acts as a patent troll files patent claims without any intention of ever developing a product or service [11].

An example of a worldwide patent holding company is IPCom GmbH, which owns 1,000 patents in Europe, the United States and Asia. It owns more than 160 patent families of 2G, 2.5G, 3G and LTE technologies; technologies that cover areas of the portfolio, including interface, MMS management; digital rights, applications, packet data synchronization and transmission, etc. This company is known for high-profile lawsuits with such large companies as Apple, Samsung, Vodafone, HTC and others. In 2019, IPCom GmbH filed a lawsuit in a British court against Vodafone for infringement of intellectual property rights for 3G and 4G network infrastructure equipment. In the same year, the company accused companies such as HTC, Lenovo and Xiaomi of infringing patent rights.

In Ukraine, patent trolls are neither inventors, nor designers, nor legal owners after the purchase of patent ownership. In Ukraine, this is a person who has registered patents for commonly used products (hangers, pans, tire treads, batteries), common technology or design in order to demand from manufacturers (importers) and sellers royalties, threatening to ban the import of products or other related activities using it. The objects of patent trolling are inventions and industrial designs [10].

One can safely say that as a result of patent trolling, the manufacturer or seller loses import revenue and funds in the event of a lawsuit with the troll, in part or in full, the reputation foreign partners. The threat of a ban on the import of goods is based on the Customs Code of Ukraine. According to the law, a patent troll has the right to enter a patent in the customs register of intellectual property, according to which imported products may not be allowed abroad without the permission of the patent owner (Fig. 3).

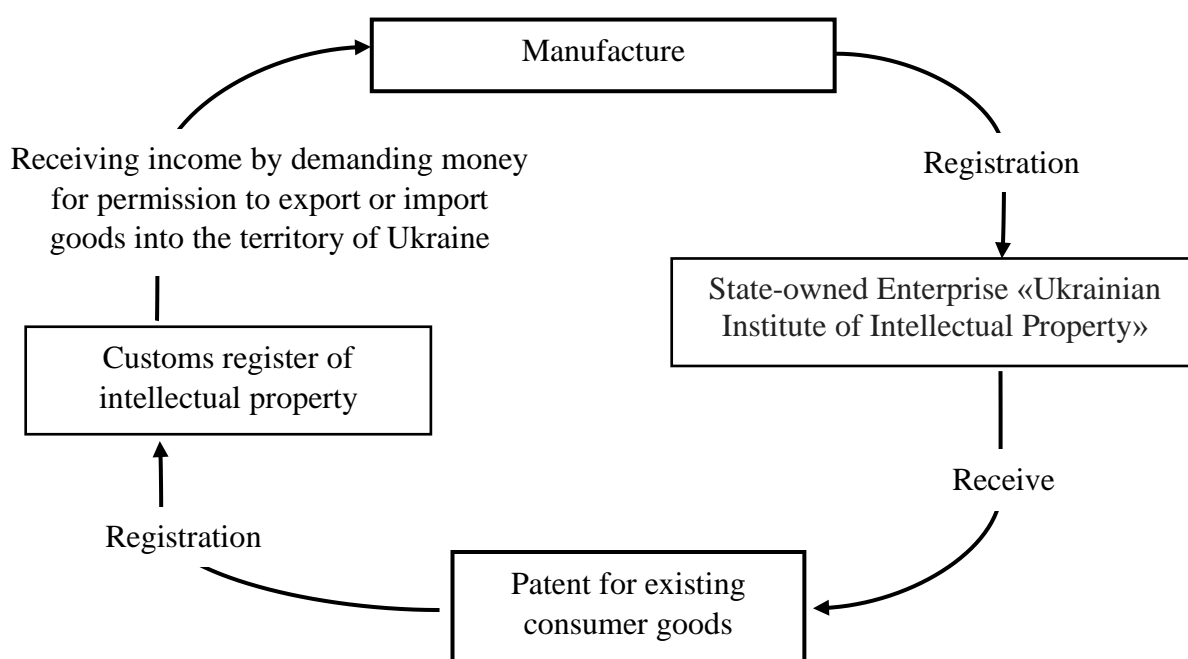


Figure 3 - The mechanism of patent troll action in Ukraine

Source: built by authors

In Ukraine, in April 2015, an entrepreneur from the Kharkiv region Andriy Chub patented several granite products - a tombstone, a pedestal for a monument, a border for flowers. The condition for approval of the import and export of these products was the payment of compensation in the amount of UAH 25,000 per month or UAH 11,000 from each consignment exported or imported from abroad. As a result of patent trolling the export and import of granite products was suspended for more than a week, which led to:

- significant financial losses of producers and sellers, both Ukrainian and foreign;
- a series of protests by manufacturers and sellers during the two days of 2016, which restricted the movement of the international route «Kyiv-Chop»;
- reduction of Ukraine's foreign trade as a whole and individual regions. Zhytomyr region produces about 66% of granite products in Ukraine. Exports of granite products in the Zhytomyr region in 2015 amounted to 52958.2 thousand US dollars, which is 9% less than in 2016 (58161 thousand US dollars). One of the reasons for this decrease is the suspension of exports and imports of granite products for 7 days;
- a lawsuit to invalidate the patent of Andriy Chub [13].

In Ukraine, there are also several cases of patent trolling in relation to trademarks. In 2017-2018, a lawsuit was filed by the Chinese company Alibaba Group against Ukrainian Konstantin Velychka, who in 2013 registered a patent for the trademark ALIEXPRESS. As a result of the lawsuit, the registration of this patent was canceled [14].

The main reasons for the emergence of patent trolling in Ukraine are:

- Low level of patenting by manufacturers of their own products;
- Imperfect current legislation, because by law a person wishing to obtain a patent must pass only a formal examination of the sample;
- High level of corruption in this area, which allows unscrupulous persons to pass without hindrance examination and obtain patents for consumer goods;

- Low patent fee and more.

The most common illegal means that use patent trolls are:

a) use of the «territorial principle» of intellectual property protection (using an imperfect system of acquiring intellectual property rights, a person tries to obtain a patent for unprotected products in Ukraine);

b) the principle of «fishing for cuttings» (patent troll by deception or manipulation forces the manufacturer or a person who provides certain services to take actions that violate his intellectual property rights to the patented product).

This phenomenon has a negative impact on Ukraine's economy. To prove this statement, we shall present a few facts. As a result of patent trolling, it is losing a lot of investors from abroad. After all, an investor, supplier or manufacturer who faces unforeseen costs at the customs border in the form of payments (royalties) to the patent owner is more likely to stop supplying their goods and investing in Ukraine. For example, one of the biggest scandals in the history of Ukrainian patent trolling is the case of the Japanese company Bridgestone. The patent troll, taking advantage of loopholes in the law, patented the appearance of car tires manufactured and exported by Bridgestone. When the company tried to import its products to Ukraine under an international trade contract, Bridgestone fell victim to a patent troll. As a result, there was an international scandal, the exchange of diplomatic notes, a lawsuit that invalidated the patent and led to significant image losses in Ukraine.

As of March 1, 2019, 553,305 security documents for various industrial property objects have been entered into the state registers in Ukraine. According to experts, more than a third of them belong to patent trolls.

In order to avoid financial and moral damages, lawsuits and other negative phenomena that occur when a patent troll appears, and to protect against illegal actions, manufacturers (importers) and sellers of products need:

1. Before starting production, patent the product, its appearance, special or unique qualities of the product, etc.

2. Before importing the manufactured products abroad, check the availability of the same products in the customs register of intellectual property rights in order to avoid further problems at customs and not to lose foreign partners.

3. If the product is already patented by a troll, the manufacturer can use the right of the previous user. That is, if the product has already been manufactured (imported) or sold by a certain person before the product was patented, it is considered a previous user and has the right to free further use, import and sale of invention, utility model and industrial design. For example, in 2015, the decision of the Commercial Court of Kyiv recognized the right of PE «Water Treatment and Equipment» to continue the free use of industrial design «Connector for pipes».

4. If the product has already been patented at the time of commencement of production, the manufacturer (importer) or seller may file a lawsuit to invalidate the patent for an invention, utility model and industrial design. 41 industrial design patents of the foreign company Jia Sheng Holding Limited were declared invalid. Among the patents declared invalid were patents for bottle caps, gloves, clothespins, frying pans, clothes hangers, screws, etc [15].

The law «On Amendments to Certain Legislative Acts of Ukraine on Strengthening the Protection and Protection of Rights to Trademarks and Industrial Designs and Combating Patent Abuse» was adopted on July 21, 2020. According to which, the process of obtaining a patent for an industrial design and a trademark has been complicated, the procedure for recognizing a patent as invalid has been simplified. According to the law, the registration of a

patent can be revoked by the National Intellectual Property Authority Appeals Chamber within 3 months after the filing of the application, without many years of litigation.

It is from these facts we can guess reduction of activity and elimination of patent trolling, elimination of the reasons of its occurrence is possible under the following conditions:

- Providing a real and effective scientific and technical approach when testing the invention of an industrial design, utility model or design, to prevent the receipt of patents for known and commonly used products that are not unique and new;

- Regulatory consolidation of criminal and administrative liability of patent trolls, because today, if the fact of patent trolling is proved, only the patent is deprived of its own and is not responsible;

- Audit of already registered patents for intellectual property, to identify patent "trolls", their immediate liquidation and prosecution of owners;

- Deprivation of patent trolls, after its discovery, the right to register patents in the future.

Conclusions. Patenting of products, technologies and designs for manufacturers should be one of the key elements of the production process. Because a patent gives owner (manufacturer) the opportunity to single-handedly release a unique product, take a leading position in the market, receive additional income from licensing others in the form of royalties, and protect their products and reputation from unfair competitors and patent trolls. Patent trolling causes great damage to both production and the country as a whole. After all, with each case of patent trolling the country loses its image, investment attractiveness, foreign exporters and reduced imports of Ukrainian goods. The solution to this problem is possible under two conditions: if manufacturers (importers) will use the right to patent the product and change the legislation on patenting products and verification during the entry in the patent register and customs register.

Further research requires a quantitative assessment of the damage to Ukraine's economy from patent trolling and the definition of strategic actions to achieve a higher level of compliance with the protection of intellectual property rights.

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