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Mitigation of Penalties for Patent Crimes: Theories, Trends and Mechanisms

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Abstract

The knowledge economy has made the protection of patent rights an increasingly important issue. This paper analyses the jurisprudential basis, social motivation of mitigation and the specific manifestations of mitigation in the legislation of patent crimes in different countries. It indicates that although some countries have increased the statutory penalty for counterfeiting patent crime, yet inflation and other factors have actually weakened the punitive strength of the fine penalty, reflecting the trend of mitigation of penalties for patent crimes. Nevertheless, this study applies three main research methods: theoretical analysis, comparative analysis, and empirical analysis whereas qualitative data will be textually analyzed. It also considers the influence of the progress of human civilization, the limited nature of penal resources, and the principles of behavioral economics on the mitigation of penalties, and offers recommendations for China's patent crimes legislation. The key findings of this paper that how to identify the theory and practice of mitigating the penalties of patent crimes, legislative trends and its development mechanisms.

Keywords: Patent Crimes, Mitigation of Penalties, Patent Rights, Penal Reform, Legislative Comparison

Introduction

In the context of globalization and the emergence of a knowledge-based economy, the protection of intellectual property rights, in particular patent rights, have become an indispensable component of the global legal system. The protection of patent rights is not only related to the impetus of innovation and economic development, but also touches upon the core of legal justice and social equity. Patent crimes, particularly counterfeiting, not only violate the legal rights and interests of patentees, but also erode the competitive landscape within the market and jeopardize the public interest (Chu & Tang, 2023). However, the legislative approaches to addressing patent crimes differ significantly across countries. For

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instance, although both China and Pakistan provide for the crime of patent counterfeiting, yet there are more significant differences in the corresponding statutory penalties.

Behind the mitigation of penalties, as a concept of criminal law, is a reflection of society's new understanding of the relationship between crime and penalty. It advocates reducing the severity of the penalty as much as possible, on the premise of ensuring the effectiveness of the penalty, in order to achieve education and rehabilitation of offenders, rather than mere punishment. In the field of patent law, the trend towards lighter penalties appears to be directly linked with the economic characteristics and social impact of patent crimes. Patent crimes often involve complex technical issues and huge economic interests, and their social harm is different from that of traditional crimes (Dong, 2016). Therefore, as society re-examines the purpose and function of penalties, it has become a major challenge in the design of legal systems as to how to effectively curb patent crimes through penal means, which not only protects the fruits of innovation and incentivizes scientific and technological progress, but also embodies the spirit of judicial fairness and humanitarianism.

The purpose of this paper is to discuss the theory and practice of mitigating the penalties of patent crimes, analyze its theoretical background, legislative trends and its development mechanisms, with a view to providing useful perspectives and references for the theoretical discussion and practical application of mitigation of penalties for patent crimes.

Research Questions

1. What is the relationship between mitigating penalties for patent crimes and traditional ideas against heavy or severe punishment?

2. Are there specific manifestations of mitigating penalties for patent crimes in domestic legislation?

3. What are the influencing factors behind the trend toward mitigating penalties for patent crimes?

Research Objectives

1. To analyze the theoretical background of the mitigation of penalties for patent crimes and to determine that the concept is a manifestation of the modern idea of criminal law, reflecting the new understanding of society of the relationship between crime and penalties;

2. To examine the manifestations and trends of mitigating penalties in the legislation on patent crimes in different countries, including the United Kingdom, Germany, Japan, South Korea, and Pakistan;

3. To study the influencing factors of mitigating penalties for patent crimes and their development mechanism from three aspects, namely, human rights protection, resource allocation, and laws of economics;

4. To provide feasible suggestions for the construction of a fairer, more reasonable, and more effective patent criminal law system.

Methodology

This study mainly adopts three research methods: theoretical analysis, comparative analysis, and empirical analysis. Through theoretical analysis, this paper explores the theoretical basis of mitigating penalties and its application in the field of patent crimes. Through comparative analysis, this paper examines the specific manifestations of mitigated penalties and their development trends in patent crime legislation in different countries. Through empirical analysis, this paper explores the social motivation and corresponding influence mechanism of mitigating penalties for patent crimes.

Theoretical Background to the Mitigation of Penalties for Patent Crimes

Mitigation of penalties is a concept that is opposed to heavy penalties or harsh penalties. It generally means that, in the course of criminal legislation or judicial process, the State will never use heavier penalties for acts that meet the criminal composition if the expected effect of crime prevention and control can be achieved by adopting lighter penalties. This is reflected in the reduction of the total amount of punishment in the penal system and the wide application of light penalties, probation, and parole (Criminal Law Research Center of China University of Political Science and Law, 2001). In simple terms, mitigation of penalties is a developing tendency for penalties to become lighter and more lenient.

Mitigation of penalties can be understood in both a narrow and a broad sense. In the narrow sense, it is limited to the lightening of penalties, which refers to the lowering of the statutory range of penalties for some crimes through legislation, thus achieving the mitigation of the entire system of criminal sanctions (Zhao, 1989). For example, the penalty is changed from a vital or physical sentence to a free sentence, or the duration of a free sentence is changed from an indefinite to a limited term, or a longer to a shorter term, but the penal sanction remains. Mitigation of penalties, in the broad sense, includes not only the leniency of the penalty itself, but also covers decriminalization, i.e., the removal of the penalty and its replacement by other non-penal measures (Criminal Law Research Center of China University of Political Science and Law, 2001). For example, the adoption of community service punishment as an alternative to the short-term liberty penalty as a non-custodial sanction in the United States is a case of mitigation of penalties in

the broad sense.

The idea of mitigating penalties was formed early in the development of jurisprudence and has a long history. As early as the ancient times of China, before about 2,000 B.C., the Shangshu Shundian recorded that Emperor Shun excused sinners who had committed the five penalties (all of which were corporal punishments) by means of exile, using whipping as a punishment for officials, wooden bars as a punishment for students, and payment of copper as a redemption for their sins, thus showing a tendency to apply mitigated penalties. Moreover, Emperor Shun advocated that penalties must be carried out with care and prudence. This may be the earliest expression of the idea of mitigating penalties in the ancient historical documents (He, 2016).

In modern times, Montesquieu argued that penalties should be used prudently. A good legislator is more concerned with preventing crime than with punishing it, and more interested in stimulating good customs than in imposing penalties. And he supported the imposition of mitigated penalties. He pointed out that human beings should not be governed by extreme methods, and that the State should be cautious about using the means that nature had given it to lead human beings (De Montesquieu, 1961). According to Beccaria, the scale of punishment should be commensurate with the conditions of the country. In countries just emerging from barbarism, the impression made by punishment on the hardened mind should be stronger and more perceptible. In order to bring down a lion that pounces furiously against a shot, it is necessary to use a blitzkrieg. But, as the human mind softens in the social state and the capacity for feeling grows, the intensity of punishment should be reduced if the stable relation between objectivity and feeling is to be maintained (Beccaria, 2002). Hegel made a similar point. He argued that if society itself is still volatile, then an example must be set by punishment because punishment itself is an example against crime. But in societies that are already stable in themselves, the crime is minor, and therefore, the punishment for the crime must be weighed according to this degree of weakness (Hegel, 1996). Bentham regarded the penalty as a necessary evil. He pointed out that every penalty has the evil of coercion, the suffering produced by the penalty, the evil of fear, the evil of false accusation, and the evil of derivation. These are the evils or costs that the legislator should always be aware of when prescribing penalties (Bentham, 1993). Thus, Bentham insisted that the forward-looking goal of crime prevention be achieved at the “lowest possible cost” (Golding, 1987). The British political scientist William Godwin, speaking of how he viewed penalties, pointed out that there is nothing more absurd than regarding the use of penalties as a source of progress. A true statesman will strive to keep the use of punishment to a minimum level, and will constantly seek to minimize its use, rather than increase its use and treat it as a

remedy for all moral failures (Xie, 1999).

In contemporary times, the Japanese criminal law scholar, Tokio Kogure, has argued that if it is difficult to deny the brutal nature of penalties, then the scope of their application should be limited as much as possible. In addition, while purifying the content of the penalty, the content of the penalties should be limited to the minimum extent that is necessary and reasonable. The above considerations are generally referred to as modesty or modestism, a term which may be unsophisticated in itself, but which essentially means that the exercise of penalties must be suppressed (Li, 1999). According to Chinese criminal law scholar, Zhang Mingkai, the application of lighter penalties should be expanded, and the application of heavier penalties should be reduced. The balance between crime and penalty should no longer be judged on the basis of heavy penalties, but rather on the basis of light penalties (Zhang, 2023).

Legislative Trends towards the Mitigation of Penalties for Patent Crimes

A. Comparison of Penalty Legislation for Patent Crimes

In the United Kingdom, the Patents, Designs, and Trade Marks Act 1883 provided that the statutory penalty for the crime of counterfeiting a patent was a fine not exceeding £5 for each crime. Neither the Patents and Designs Act 1907, nor the Patents Act 1949 made any adjustments to this statutory penalty until 1977. In that year, the Patents Act increased the maximum fine to £200. In 2014, the Patents Act amended the statutory penalty for the crime of patent counterfeiting to no more than level 3 on the standard scale. This fine penalty is equivalent to £1,000 under the UK Interpretation Act 1978 and related legislations (Lefranc, 2012).

In Germany, patent crimes under the Patent Act of 1877 include the crime of unlawful enforcement of a patent and the crime of counterfeiting a patent. The statutory penalty for counterfeiting was a fine of up to DM 150 or imprisonment. In 1891, the Patent Act amended the statutory penalty for counterfeiting to a fine of up to DM 1,000, but at the same time abolished the penalty of imprisonment. In 1936, the Patent Law was significantly changed with regard to patent crimes, i.e., the provisions on counterfeiting were deleted, and the corresponding statutory penalties ceased to exist. To this day, the German Patent Act still does not provide for the crime of patent counterfeiting (Harguth & Carlson, 2017).

In Japan, the Patent Ordinance of 1888 established the crime of patent counterfeiting with a statutory penalty of imprisonment of not less than 15 days and not more than 6 months or a fine of not less than 10 yen and not more than 100 yen. In 1899, the statutory penalty was adjusted to imprisonment of not less than 15 days and not more than 1 year or a fine of not less than 10 yen and not more than 300 yen. In 1921, the statutory penalty was further adjusted to imprisonment of not more

than 3 years or a fine of not more than 3,000 yen. Subsequently, the fine for the crime of patent counterfeiting was increased to less than 200,000 yen in 1959 and to less than 3 million yen in 1994 (Kotler & Hamilton, 1995).

In Korea, the Patent Act of 1961 stipulates that the statutory penalty for the crime of patent counterfeiting is imprisonment for up to three years or a fine of up to 500,000 won. This fine penalty was increased in 1986 to less than 5 million won and in 1990 to less than 20 million won (Kim & Heath, 2015). Then, in 2017, it was increased to under 30 million won.

B. Mitigation of Penalties Reflected in Legislation for Patent Crimes

Based on the review of domestic laws above, the United Kingdom, Japan and South Korea have been gradually increasing the statutory penalties for the crime of patent counterfeiting, and in particular, there has been a significant increase in the penalty of fines. Only Germany has abolished the crime of patent counterfeiting, which has resulted in the mitigation of the penalties for patent crimes. On the whole, it seems that the mitigation of the penalties for patent crimes is not manifested in the criminal legislations of most countries. However, this is only an appearance. It is because the object deprived of the penalty sentence, that is money, is always inflated with the development of the social economy, and the monetary content of its unitary currency is changing (Shao, 2002). Therefore, an increase in the amount of the fine does not represent an increase in the severity of the penalty, and the impact of inflationary factors also needs to be taken into account.

In the case of the UK, the fine penalty for counterfeiting a patent was under £1,000 in 2014, which after conversion based on inflation rate (calculated on the website of inflationcalculator.mes.fm) is equivalent to £180 in 1977. This is lower than the fine penalty of £200 prescribed in that year. In case of South Korea, the fine penalty for the crime of patent counterfeiting was less than 30 million won in 2017, which is equivalent to approximately 11.82 million won in 1990 after conversion based on the inflation rate. However, in that year, South Korea imposed a fine of up to 20 million won. This phenomenon actually occurs in Pakistan as well. In Pakistan, the statutory penalty for the crime of patent counterfeiting is a fine of up to five thousand rupees, and this provision has not changed since 2000. If inflation is taken into account, it has been calculated that the five thousand rupees in 2018 is equivalent to only 1,305 rupees in 2000, which is far less severe than the penalty of the fine sentence in that year.

As a result, in the statutory penalties for patent crimes in the United Kingdom, Japan, South Korea and Pakistan, although the penalty for fines has increased or remained unchanged, yet the punitive force of the penalty for fines has been substantially weakened as a result of the impact of inflation. This shows that the

trend towards mitigation of penalties for patent crimes has begun to emerge.

Development Mechanisms for the Mitigation of Penalties for Patent Crimes

A. The Progress of Human Civilization and the Mitigation of Penalties for Patent Crimes

An overview of the history of the human criminal system as a whole reveal that penalties have shown a tendency to develop from harshness to mildness. Karen Farrington elaborates that even Europeans, who prided themselves on their high level of civilization, could not believe that their forefathers had ever invented so many means of torturing suspected criminals. Until recent times, those declared guilty usually had only two paths: death or slavery. In England alone, the death penalty was applied to more than 200 crimes. Civilization has grown up with bloodshed, and history has finally turned a heavy page as we see torture gradually giving way to more humane punishments (Farrington, 2003). In the latter part of the twentieth century, with the further promotion of the criminal positivism school's ideas of purposive penalties, educational penalties, and the theory of social defense, penalties entered a phase of development centered around humanitarianism. The movement for the mitigation of penalties began to flourish around the world, with the dominance of penalties of liberty being significantly undermined by the imposition of fines of the system of community corrections, and the abolition of the death penalty in a number of countries. In this process, humanitarian developments and advances in human rights protection have been important driving forces for the mitigation of penalties.

Humanitarianism, which originated during the European Renaissance, is a human-centered worldview that advocates caring for, loving, and respecting human beings, and emphasizes the value of human beings themselves. However, punishment itself is a kind of pain, depriving the offender of his or her rights, including the right to freedom, the property right, and even the right to life. Thus, there is a conflict between the natural attributes of criminal law and the pursuit of humanitarianism. This inevitably makes punishment, subject to humanitarianism. That is to say, the penalty is required to treat the offender as a human being, rather than as a tool or means to achieve the purpose of the penalty and to control the pain caused by the penalty to the offender within the acceptable range of human dignity, so that the penalty is mitigated as much as possible. The humanity of penalties is reflected in the concern for human nature. As Kant said, human beings act in such a way as to regard humanity in their own person, as well as the humanity in other persons, at all times equally as an end, and never only as a means (Kant, 1997).

The humanity of penalties is also a "strategic consideration." According to Foucault, one should never use "inhuman" punishment for a criminal, even if he is

a rebel or a monster. If the law must now treat an "unnatural" human being in a "humane" way, it is not because of a certain humanity hidden in the criminal, but because of the need to regulate the effects of rights. This "economic" rationality necessitates the calculation of penalties and the prescription of appropriate methods. "Humanity" is a decent name for this economics and its calculations. Minimizing punishment is a humane command and a strategic consideration (Foucault, 1999).

Human rights protection is the embodiment of humanitarianism in legal norms. In 1948, the adoption of the Universal Declaration of Human Rights played an important role in guiding and promoting the cause of human rights for all mankind. In modern society, the greatest threat to human rights comes from public power. How to regulate the normal and orderly exercise of public power and avoid its infringement on human rights is a key initiative for the realization of human rights. Therefore, the essence of human rights lies not in material conditions, but in the mode of operation of public power and the related system (Chen, 2006). Criminal sanctions are the most representative coercive force of the State, and the exercise of this public power should likewise protect human rights. On the one hand, criminal law should protect the innocent and not allow citizens to be punished by criminal penalties as long as their acts do not constitute crimes. On the other hand, criminal law also protects the legitimate rights and interests of offenders by not imposing unnecessary extrajudicial penalties on those parts of their rights and interests that should not have been punished by criminal penalties, so that the crime and the punishment are proportional. Therefore, criminal law is both the "Magna Carta of good citizens" and the "Magna Carta of criminals" (Kimura, 1991).

It can be seen that, with the development of humanitarianism and the progress of human civilization, penalties will inevitably develop in the direction of mitigation (Zhao & Jin, 2012).

B. The Limited Nature of Penal Resources and the Mitigation of Penalties for Patent Crimes

First, penal resources are scarce and limited.

Analyzed from an economic point of view, penalties are a scarce resource. On the one hand, they reduce the loss of social interests through punishment and crime prevention, and has a corresponding economic value; on the other hand, they require the investment of a certain amount of social resources in order to be able to operate. Therefore, the limited nature of social resources determines the scarcity of penal resources. Penalties, as a kind of cost of the criminal law itself, become the necessary social investment for obtaining the benefits of the criminal law, which is not only productive, namely, to produce the benefits of the criminal law, but also consumptive, namely, to consume the necessary costs (Gao, 1994).

Secondly, the limited nature of penal resources requires the reduction of penal costs and the optimal allocation of resources.

The limited nature of penal resources determines that the State cannot simply pursue the use of penalties. From the point of view of the State and society, the cost of penalties refers to the resources that the State must or may invest or pay in order to utilize penalties. If penalties did not have any cost, resources, or price, then the State could create and apply penalties without restraint, and all aspects of social life could even be regulated by criminal means. Precisely because penal resources are limited, the State cannot use them as it wishes and extend them to all social relations, but is constrained by social conditions and resources, such as economic, political, and ethical ones. In particular, rulers have noted that punishment, as a "necessary evil," is usually a "mending" means of derogation, and can hardly bring about a positive increase in the wealth of society. In addition, recognizing that "death does not bring back life" and that "man can create wealth," the use of punishment became even more limited as life and body penalties were gradually replaced by liberty penalties and property-based penalties. In short, it is impossible for a country to use all the penalties it has, and it must consider how to allocate its limited penal resources more rationally and efficiently, so as to maximize the benefits of penalties at the lowest possible penal cost (Lu & Miao, 1997).

Thirdly, the cost of penalties is directly proportional to their severity.

As to how to reduce the cost of penalties, some people think that the death penalty is the least costly because it takes only one bullet to carry out an execution as fast as possible. But this idea is very different from the truth. Hood, a British scholar, pointed out that in those countries that still retain the death penalty, there is almost no country that does not set up more complicated procedures for death penalty cases than for ordinary criminal cases. The reason for this is that a miscarriage of justice in a death penalty case will cause irreparable damage (Hood, 2005). In 1982, the cost of reinstating the death penalty in New York State was approximately $1.8 million per case, which was three times the average cost of a life sentence (New York State Defenders Association, 1982). The total cost of imposing a single death sentence in Florida is $3.2 million, which is enough to support a 240-year prison sentence (Von Drehle, 1988). The death penalty adds at least $137 million to California's annual cost budget, and an additional $308 million per execution (California Commission on the Fair Administration of Justice, 2008). Marceau et al. note that a death penalty lawsuit can "drain a county's resources" or result in fewer police officers, fewer drug treatment programs, and less training for prosecutors in the state (Marceau & Whitson, 2013).

The penal cost of a sentence of imprisonment is not as high as the death penalty, but it is nonetheless quite expensive. Vold noted that in penal practice, imprisonment

is generally accepted as the most common method of punishment. Supervision, however, is extraordinarily expensive, and institutions cost a great deal of money to build, maintain, and operate (Vold, 1958). According to the U.S. Justice Statistics for 1997, the annual operating cost per prison bed averaged $2,000, while the cost of regular parole supervision for each parolee averaged $1,328 per year (Wu, 2002).

Obviously, there are costs associated with the application of penalties, and the higher the deterrent effect, the higher the social cost of the penalty (Liu, 2011). In order to optimize the allocation of limited penal resources and minimize the cost of penalties, it is necessary to correspondingly reduce the application of the death penalty and long-term imprisonment, and to gradually replace them with shorter-term sentences of imprisonment, or with fines. This is precisely a specific manifestation of the mitigation of penalties.

C. The Principles of Behavioral Economics and the Mitigation of Penalties for Patent Crimes

In analyzing criminal behavior, economics usually assumes that the actor chooses to commit a crime because the benefits of committing a crime exceed the benefits, he or she would have obtained through other activities using his or her time and other resources. Thus, committing a crime is not caused by the underlying motivation of the perpetrator being different from others, but rather by the difference in the cost of the benefits. Becker describes the mathematical relationship between the probability of conviction and penalties and the number of crimes committed. He notes that the number of crimes is correlated with the probability of conviction, the penalty upon conviction, and other variables (e.g., income available from engaging in lawful or other unlawful activities, frequency of escape from capture, willingness to break the law, etc.) (Becker, 1968). This can be expressed through a functional relationship as:

$$O_j = O_j(p_j, f_j, u_j) ,$$

where O_j is the number of crimes, p_j is the probability of conviction for a crime, f_j is the penalty for a crime, and u_j represents other variables of influence. If p_j or f_j increases, the probability of "paying" a higher "cost" increases, or the "cost" itself increases. This reduces the expected benefits of crime and thus the number of crimes committed. This is expressed as a function of:

$$O_{pj} = \frac{\partial O_j}{\partial p_j} < 0 \quad \text{and} \quad O_{fj} = \frac{\partial O_j}{\partial f_j} < 0 \text{。}$$

In this case, reducing the harshness of the penalty is driven by behavioral economics principles. Behavioral economics research on actors' risk preferences

and cognitive biases suggests that harsher sentences are less effective than the probability of conviction. Becker notes that if actor j is a risk preference, with equal percentage increases in p_j and f_j, p_j results in a greater reduction in the expected benefits of crime, and subsequently in a greater reduction in the number of crimes. The empirical data suggests that the probability of conviction (p_j) is a greater deterrent to the perpetrator than the penalty (f_j) (Becker, 1968). In addition, Laibson found that actors are not fully rational when discounting, but show a strong "myopia" cognitive bias, which Laibson describes as the "Golden Egg Model" (Laibson, 1997). This leads to a tendency for actors to favor focusing on short-term consequences over long-term consequences, making their comparisons between short-term and long-term imprisonment asymmetric. Experiments have shown that if the negative utility of 1 year of imprisonment is 100, then the negative utility of 5 years of imprisonment is 200, only twice as much as 1 year of imprisonment. Moreover, the negative utility of 10 years of imprisonment is 300, indicating that the sentence becomes 10 times as long as 1 year, but only 3 times as effective in terms of intimidation (Spelman, 1995). It can be seen that the risk appetite and cognitive biases of the actors reduce the effect of heavy sentences. When the probability of conviction comes into play, it is reasonable to "relegate" heavy penalties to the background and apply lighter penalties in order to conserve social resources.

Conclusion

Based on the modesty of penalties, it is more reasonable to set less severe penalties for patent crimes. At the same time, fines are lighter than liberty penalties, and their status in the penal system is gradually improving. Especially for patent crimes, which are typical economic crimes, it has become a common practice in most countries to mainly apply fines (Lu, 1996). For China, although according to the law, the crime of counterfeiting patents can be separately applied with a fine penalty, the proportion of a single fine penalty in practice is extremely small. Statistics shows that there were five cases of sentencing for the crime of patent counterfeiting in China between 2010 and 2020, of which only one case carried a single fine penalty. Since most of the fines provided for in China's current criminal law are unlimited fines, judicial officers lack a legal basis for judging the amount of fines. In particular, when considering the separate application of fines, the amount of the fine has a direct impact on the effectiveness of punishment and education for the crime, and is relevant to the realization of the purpose of the penalty. If the amount is appropriate, a great deal of detailed additional work must be done, including investigating the property of the offender and measuring the offender's ability to pay. In the current context of tight judicial resources, judicial officers, in

order to avoid these troubles, are prone to prefer not to apply fines, and to turn to liberty penalties to take on the main function of punishing crime (Gao & Sun, 2009). Therefore, it is recommended in the paper that the unlimited fine penalty for the crime of counterfeiting patents in China should be amended to a limited fine penalty, thus providing clearer standards for the application of penalties.

Radbruch predicted that an extremely distant goal in the development of criminal law would be a penal code without penalties (Radbruch, 1997). It should be noted, however, that mitigation of penalties is a process, a trend, a development towards a lighter penal basis (Chen, 1998). This means that the process of mitigation of penalties does not happen overnight, but rather manifests itself progressively in a specific historical period and social context. Although the mitigation of penalties is not very significant in the current patent crimes, it is undoubtedly in the general trend of mitigating penalties in human civilized societies, and will become one of the directions of criminal law reform.

Recommendations

1. Strengthen the supervisory capacity and enforcement efficiency of intellectual property law enforcement agencies, increase the probability of criminal acts being detected and convicted, and at the same time, adopt lighter penalties in order to conserve judicial resources, so as to reduce patent crimes more effectively.

2. when formulating the penal system for patent crimes, comprehensive consideration should be given to a variety of factors, such as the level of local economic development, social and cultural background, and the degree of social harm caused by the crimes, so as to ensure that the penalties are commensurate with the offenses, and that they reflect the spirit of judicial fairness and humanitarianism.

3. Changing the unlimited fine penalty to a limited fine penalty provides judicial officers with clearer standards for fines, thus increasing the application rate of the fine penalty in patent crime cases. Further, multiple levels of fines can be set according to the seriousness of the offense.

4. Strengthening cooperation among countries in the protection of intellectual property rights, sharing relevant practices and experiences in legislation and justice, and actively participating in the deliberation and formulation of international treaties, so as to jointly improve the ability to combat patent crimes.

5. In addition to criminal penalties, legal education and publicity for the public should be strengthened to enhance the awareness of intellectual property protection among enterprises and individuals, which will help to fundamentally reduce the occurrence of patent crimes.

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