Patentability of Military Weapons: A Concern for Security

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Abstract

This Paper mainly focuses on intellectual property rights (IPR) issues which are closely related to defence and national security in the Indian context, for example, management of IPR during defence R&D and technology development, protection of IPR of strategic military and other IPR during acquisition of military equipment and technologies, and also counterfeiting and piracy of legally owned intellectual property. The main use of patents as a system of control, while common for more mundane technologies, would seem at first glance to conflict with the regimes of secrecy that have traditionally been associated with military weapons. The purpose of this article is to review some of the problems involving patent rights, technical information, and other kinds of proprietary data, which have arisen in connection with United States government contracting abroad, particularly under the Mutual Security Program. The paper also stresses upon the need for resolving IP related issues and suggest certain changes in an evolving IPR policy. India also worked upon changing certain laws related to IPR regime to resolve the issues of a piracy and crack down on intellectual property theft. Which will be going to strengthen the Indian intellectual property policies. This paper would also be providing some effective measures which will curb the One-sided interpretation of the invention. The invention be looked with positive aspect as well. In a series of example, the invention had potential of making several useful outcomes for the public. The authors propose an alternate method for making a public oriented process. In cases of such application, patent shall be granted on merits and then compulsory licensing be done in favour of defence agencies of the countries. This will remove all the impediments of the current system.

KEYWORDS: IPR laws, National security, dual use inventions, Defence R& D

I. Introduction

Intellectual Property Rights aim to provide protection to the intangible property. Whenever someone comes up with any Intellectual Property, the Intellectual Property Laws protects such intangible property. It provides protection for a limited period with exclusive rights to the Intellectual Property Holder. It protects the economic rights of the Intellectual Property Holder and after the exhaustion; such knowledge comes into the public domain. It becomes part of public knowledge and the entire society is allowed to use experiment and improve such knowledge. Thus, the prime objective of the Intellectual Property apart from protecting the economic interest of the IP Holder is to benefit the public from such knowledge. But imagine a situation when such protection is at all waived and neither the IP Holder nor the public is benefitted. This will involve a situation where the entire concept of Intellectual Property Rights is inapplicable. One such situation is the invention of the Military Weapons or its related technologies. In cases, if someone invents some military weapons or any technology aiding to military weapons, these inventions are not granted with patent protection. They are either granted partial protection or withheld by the authority or refused to be granted the protection and rights citing secrecy orders. In this circumstance neither the inventor is able to commercialize his invention, nor does the public get the benefit of such an invention. It even impedes any technological development on the bases of that knowledge. It even curbs the Right to Knowledge of the Inventor. Where the purpose of the Intellectual Property Rights is to increase awareness and development of knowledge, it tends to

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curb all such positive impact of the knowledge. It even has a drastic impact on the development of the new technologies because the inventor will not be provided with any protection.

One important defence taken is that such inventions are not allowed to flourish because they have the tendency to be detrimental to the security of the state. But to our surprise, there are no such statutes of the world providing the guidelines so as to what constitutes the security of the state. It is left absolutely to the Intellectual Property Authority and the Government to decide what can be detrimental to the security of the country. Even the inventor is not informed about why such actions have been taken against his invention. This is sheer arbitrariness which cannot find its place in words two biggest democracies of the world- India and the United States of America. While dealing with such patent applications, the authority only looks at the negative aspects of the invention ignoring completely the positive impact the invention can have. This system is marred with several shortcomings which have come out with time. Several inventions having the potential for new technological development have been withheld just because it was detrimental to the security of the state in the opinion of the authority, whereas the experience shows the otherwise. The right to knowledge has been completely taken away. Another significant lacuna in this system is the indefinite period to decide. There is no time limit for the authority to decide on such application, they can withhold it for 10 years, 20 years, 50 years or even a century. In cases where the application has been withheld, no compensation is provided to the inventor or even if the statute provides for it, it's a task not to be accomplished without the intervention of the court. This paper discusses these issues in detail and brings about a possible solution.

II. Research Question:

- Whether Patentability Of Military Weapon Is A Threat To National Security?
- Whether There Is Proper Check Upon the Authority Citing Secrecy Orders To Such Patents?
- Whether the Inventor Is Deprived of His Rights Guaranteed Under Intellectual Property Rights?

III. Research Objective

Intellectual Property Laws, among others, have two important notions: the public policy and economic interest of the IP holder. The IP Statutes provide a comprehensive scheme to protect the economic interest of the IP holder, but it is sometimes subject to acquisition or denial straightaway. In this situation, the IP Laws take a completely different path. In these circumstances, the general principles of the IP Laws do not apply and the applicant or IP Holder is met with several setbacks. This is justified as essential for the security of the nation but at the same time, there are several loopholes. The Patent provides for the exclusive right to the inventor. But when the invention relates to military weapons or inventions of these categories, the state intervenes and doesn't grant such patents citing secrecy orders and security of the nation. This project aims to critically analyse the provisions relating to patentability of military weapons. It aims to bring out whether the patentability of the military weapons poses a threat to national security and the economy or it can strengthen the security of the nation. It aims to bring out a clear picture of the rights of the inventor in such situations. It primarily focuses on the US Law and makes deliberation on Indian law with few examples of different countries.

IV. Methodology

This research follows the Doctrinal Research Methodology. Under this research, statutes of various countries have been compared. Efforts have been made to substantiate them with case laws. They have been tested on the various theories of the subject matter. It brings out the shortcoming of the statute and proposes a suggestion to overcome such shortcoming.

V. Position in America

Intellectual Property Law revolves around two important notions of Public Policy and Technological Progress. Information about new invention allows inventors to build on prior art, delineates property rights, and enables others to produce and sell the invention when intellectual property expires. This has been the policy objective of the US Patent Act, 1970 which required inventors filing for a patent to include a replicable specification of their invention so that "the public may have its full benefits."[2] The United States of America has been a pioneer in these practices of withholding the invention citing secrecy orders. The origin of the secrecy orders traces back to II World War.[3] During that period, America used this secrecy order to prevent the development of any such invention which they didn't feel like allowing.[4]Secrecy order allows US defence agencies to control patent including those that are privately developed. US Invention Secrecy policy finds its first place in October 1917, when USPTO was authorized to keep invention secret, withhold grant of a patent if they are of the opinion that its "publication and disclosure" might "endanger the successful prosecution of the war". During the II world war, USPTO issued nearly 10000 patent secrecy orders. It started in 1930, and took off in 1940 and official policy was adopted in 1952 under Invention Secrecy Act, 1952. Under this USPTO is authorized to keep patent considered to be detrimental to national security under deadlock. The inventor is not allowed to further proceed with that invention, nor communicate with public on that or apply to any foreign country for patenting. They have to submit everything to US defence agencies only.

The Federation of American Scientists is an agency that has played pioneer role in bringing about the true picture and data for secrecy order. It was formed as "Federation of Atomic Scientists" in 1945 for nuclear disarmament. It subsequently changed to Federation of American Scientists with a widened scope and including probe into chemical weapons as well. In 1980 it started to successfully getting reports in secrecy order of the USPTO. In 2017, statistics data of the USPTO published by Federation of American Scientists, there are around 5784 invention cached under secrecy orders. Among the figures of the FAS, 2013- 2017, average of 25 old secrecy orders were rescinded every year, while 117 new secrecy orders were being imposed. The FAS tried to probe into and gather more information about who takes the final call in secrecy orders, but the information is so well protected that even the officials of USPTO don't know the procedure of

[2] Daniel P. Gross, The Consequences of Invention Secrecy: Evidence from the USPTO Patent Secrecy Program in World War II, Harvard Business School, Working Paper 19-090.

[3] They denied patent to laser tracking system, a warhead method, an anti-radar and many such technologies: which played an integral part of modern military warfare. In these cases, the economic losses of the inventors have been beyond measures. Moreover, the public has been refrained having such knowledge. This is the prime concerns of the research paper.

[4] The U.S. Governments Secret Inventions: https://slate.com/technology/2018/05/the-thousands-of-secret-patents-that-the-u-s-government-refuses-to-make-public.html.

secrecy orders.5The US Patent Act6, provides for the provision of "Secrecy of certain Application"7. It provides that if an application for patent is deemed to be detrimental to national security in view of the USPTO, it can be withheld with the authority.8It doesn't provide for any time frame. It does provide for "Compensation"9but that is a mammoth task. Further if you violated any of the conditions imposed by the secrecy order, you are subject to punishments of various kinds.10Further in USA laws,11 secrecy orders are generally identified as Type 1, 2 and

5. Id.

6. United States Code Title 35- Patent

7. Id, At Article 181-188.

835 U.S.C. 181 - Secrecy of certain inventions and withholding of patent.

"Whenever publication or disclosure by the publication of an application or by the grant of a patent on an invention in which the Government has a property interest might, in the opinion of the head of the interested Government agency, be detrimental to the national security, the Commissioner of Patents upon being so notified shall order that the invention be kept secret and shall withhold the publication of an application or the grant of a patent therefore under the conditions set forth hereinafter."

9. 35 U.S.C. 183 - Right to compensation.

"An applicant, his successors, assigns, or legal representatives, whose patent is withheld as herein provided, shall have the right, beginning at the date the applicant is notified that, except for such order, his application is otherwise in condition for allowance, or February 1, 1952, whichever is later, and ending six years after a patent is issued thereon, to apply to the head of any department or agency who caused the order to be issued for compensation for the damage caused by the order of secrecy and/or for the use of the invention by the Government, resulting from his disclosure. The right to compensation for use shall begin on the date of the first use of the invention by the Government. The head of the department or agency is authorized, upon the presentation of a claim, to enter into an agreement with the applicant, his successors, assigns, or legal representatives, in full settlement for the damage and/or use. This settlement agreement shall be conclusive for all purposes notwithstanding any other provision of law to the contrary. If full settlement of the claim cannot be affected, the head of the department or agency may award and pay to such applicant, his successors, assigns, or legal representatives, a sum not exceeding 75 per centum of the sum which the head of the department or agency considers just compensation for the damage and/or use. A claimant may bring suit against the United States in the United States Court of Federal Claims or in the District Court of the United States for the district in which such claimant is a resident for an amount which when added to the award shall constitute just compensation for the damage and/or use of the invention by the Government. The owner of any patent issued upon an application that was subject to a secrecy order issued pursuant to section 181, who did not apply for compensation as above provided, shall have the right, after the date of issuance of such patent, to bring suit in the United States Court of Federal Claims for just compensation for the damage caused by reason of the order of secrecy and/or use by the Government of the invention resulting from his disclosure. The right to compensation for use shall begin on the date of the first use of the invention by the Government. In a suit under the provisions of this section the United States may avail itself of all defences it may plead in an action under section 1498 of title 28."

10. 35 U.S.C. 186 – Penalty

"Whoever, during the period or periods of time an invention has been ordered to be kept secret and the grant of a patent thereon withheld pursuant to section 181, shall, with knowledge of such order and without due authorization, wilfully publish or disclose or authorize or cause to be published or disclosed the invention, or material information with respect thereto, or whoever wilfully, in violation of the provisions of section 184, shall file or cause or authorize to be filed in any foreign country an application for patent or for the registration of a utility model, industrial design, or model in respect of any invention made in the United States, shall, upon conviction, be fined not more than $10,000 or imprisoned for not more than two years, or both."

11. The Invention Secrecy Act of 1951, 35 U.S.C 181-188. 35 USC 181 reads in pertinent part:

"Whenever publication or disclosure by the grant of a patent on an invention in which the Government has a property interest might in the opinion of the head of the interested Government agency, be detrimental to the national security, the Commissioner upon being so notified shall order that the invention be kept secret and shall withhold the grant of a patent therefore under the conditions set forth hereinafter." Whenever publication or disclosure of an invention by the granting of a patent, in which the Government does not have a property interest, might, in the opinion of the Commissioner (of Patents), be detrimental to the national security, he shall make the application for patent in which such invention is disclosed available for inspection to the Atomic Energy Commission (now DOE), the Secretary of Defence, and the chief officer of any other department or agency of the government designated by the

3 secret orders.12There are several examples which clearly reflect the short coming of the system of secrecy orders. The case of Solar Panel, patent for solar panel was sought to be protected in 1971, the Army, Air Force, and NASA set aside such application citing secrecy order. They thought it can military application, but the vase usage it had been in daily life had been ignored. The next example shows how absurd the system can be; in 2000 the USPTO finally issued a patent filed way back in 1936 related to cryptograph, used to manually code/decode messages. It has become way outdated technology. In these cases, no boys talk of the right of the inventor, his financial loss and the wait society had to make for getting such helpful technologies. After having provisions of compensations, Desankarand Budimir had to file a civil suit13to get compensation after creating anti-heat seeking missiles, which was thought detrimental to national security. Ironically every country is using this technology these days including USA. Similar had happened with JIN Green, who had multiple patents inventing technique for tracking stealth aircraft. He was of the view that he will make some money out of it, but it was termed as trade secret. The compensation procedure is so time consuming that he couldn't get the economic benefit of his invention ever.

Similarly, Robert Gold developed a breakthrough wireless communication that would help people speak to one another with less interference and greater security. It was not acceptable to USPTO and they slapped Gold with secrecy order in 2002. They went on to make it public 5 years after, but it was too late at that time. He could not commercialize his idea. James Constant, applied for patent in 1969 for Radar Technology, which would track shipping container, it was under secrecy order for nearly 3 years. It was published in 1971; he sought damages from the government. The court opined that his lack of business experience has resulted in financial loss and was not granted any damages. The claim for compensation is granted only in cases if it can be proved that he was restricted from proceeding further with his invention. But it is so arduous that even evidence confirming the governmental restriction is itself a secret. Under American Law, the patentability of military weapon is not allowed. It is considered the exclusive domain of the government agencies. Such inventions being used solely for the purpose of the military use are not patentable.14It is considered futile to accord patentable right only to government.15Although inventions including non-military usage are patentable but these ordinarily fall under general secrecy case of the patent act.16USPTO has also idea of withholding such inventions which can have some detrimental impact over the economy of the county. Several lawmakers have argued that if some inventions have the potential to harm their economy, it shall be brought into the ambit of the USPTO to declare it secret and prevent it from further proceeding.

VI. Position in India

President as a defence agency of the United States." "...If, in the opinion of the Atomic Energy Commission, the Secretary of a Defence Department, or the chief officer of another department or agency so designated, the publication or disclosure of the invention by the granting of a patent thereof would be detrimental to the national security, the Atomic Energy Commission, the Secretary of a Défense Department, or such other chief officer shall notify the Commissioner and the Commissioner shall order the invention be kept secret and shall withhold the grant of a patent for such period as the national interest requires, and notify the applicant thereof."

12. The Secrecy Order Program in the U.S. Patent & Trademark Office, https://fas.org/sgp/othergov/invention/program.html.

13. 135 F.Supp.3d601 (2015).

14. 68 STAT. 973 (1954), 42 U.S.C. 2181 (A) (Supp. IV 1957).

15. V K GUPTA, India: IPR And National Security, 13 J. INTELLECT. PROP. RIGHTS 318, (2008).

1666 STAT. 805, 35 U.S.C. 181 (1952).

Indian Statute does not provide for anything like military weapons. Under chapter VII of the Patents Act, 1970, it discusses provisions related to "Secrecy of certain inventions." Moreover, it does provide for atomic energy. The inventions related to the Atomic Energy are not patentable.17The Act further provides, under chapter VII that the Central Government will be providing the controller with some class or list enumerating some information on which the controller needs to act while dealing with atomic inventions.18It further provides that Indian Residents cannot apply to any foreign country regarding any invention related to atomic energy.19The Indian Government is even empowered to withhold any information related to such inventions.20These provisions are so empowering the government that the adjudication of the

17. Section 4 of the Patents Act, 1970: Inventions relating to atomic energy not patentable
"No patent shall be granted in respect of an invention relating to atomic energy falling within sub- section (1) of Section 20 of the Atomic Energy Act, 1962."
Section 20 of the Atomic Energy Act, 1962: "As from the commencement of this Act, no patents shall be granted for inventions which in the opinion of the Central Government are useful for or relate to the production, control, use or disposal of atomic energy or the prospecting, mining, extraction, production, physical and chemical treatment, fabrication, enrichment, canning or use of any prescribed substance or radioactive substance or the ensuring of safety in atomic energy operations. Radioactive substance or radioactive material as defined under the Atomic Energy Act, 1962 means any substance or material which spontaneously emits radiation in excess of the levels prescribed by notification by the Central Government."
18. Section 35 of the Patents Act, 1970: Secrecy directions relating to inventions relevant for defence purposes.
"(1) Where, in respect of an application made before or after the commencement of this Act for a patent, it appears to the Controller that the invention is one of a class notified to him by the Central Government as relevant for defence purposes, or, where otherwise the invention appears to him to be so relevant, he may give directions for prohibiting or restricting the publication of information with respect to the invention or the communication of such information 98 [***].
(2) Where the Controller gives any such directions as are referred to in sub-section (1), he shall give notice of the application and of the directions to the Central Government, and the Central Government shall, upon receipt of such notice, consider whether the publication of the invention would be prejudicial to the defence of India, and if upon such consideration, it appears to it that the publication of the invention would not so prejudice, give notice to the Controller to that effect, who shall thereupon revoke the directions and notify the applicant accordingly.
(3) Without prejudice to the provisions contained in sub-section (1), where the Central Government is of opinion that an invention in respect of which the Controller has not given any directions under sub-section (1), is relevant for defence purposes, it may at any time before 99 [grant of patent] notify the Controller to that effect, and thereupon the provisions of that sub-section shall apply as if the invention where one of the class notified by the Central Government, and accordingly the Controller shall give notice to the Central Government of the directions issued by him."
19. Section 39 of the Patents Act, 1970: "Residents not to apply for patents outside India without prior permission.
"(1) No person resident in India shall, except under the authority of a written permit granted by or on behalf of the Controller, make or cause to be made any application outside India for the grant of a patent for an invention unless (a) an application for a patent for the same invention has been made in India, not less than six weeks before the application outside India; and (b) either no directions have been given under sub-section (1) of section 35 in relation to the application in India, or all such directions have been revoked.
(2) The Controller shall not grant written permission to any person to make any application outside India without the prior consent of the Central Government.
(3) This section shall not apply in relation to an invention for which an application for protection has first been filed in a country outside India by a person resident outside India."
20. Section 157A of the Patents Act, 1970: Protection of Security of India
"Notwithstanding anything contain in this act, The Central Government shall -
(a) not disclose any information relating to any Patentable invention or any application relating to the grant of a patent under this act, which it considers prejudicial to the interest of security of India;
(b) take action including the revocation of any patent which it considers necessary in the interest of security of India;
Provided that the Central Government shall, before taking any action under this clause, issues a notification in the

Controller and Government is final and cannot be questioned in any court.21 The science and technology have continued to aid in growth of the state security, but under these philosophies, it had hampered the growth of the science of technology.22Science and Technology have huge role to play in national security. Armaments, aeronautics, and energetic chemical technology all these aid in strengthening the national security. Under the secrecy order concept, the security of India has discussed on 3 aspects related to fusible material, arms & ammunition, and at time of emergency and war.23 Interestingly the Indian statute comes short when it is expected to apprehend something. The Indian Statute doesn't apprehend or something coming in near future. Similar like other statute it completely ignores the prospects and rights of the Patent applicant and his invention's possible use in constructive way. In absence of such developed Research and technology, India has not faced any such private invention, but it should be well prepared for any such situations.

> "…...One interesting point of difference between Indian and US Laws is that Indian Law doesn't provide for compensation in such cases. This defeats the provisions of IP Laws. Apart from securing the economic interest of the inventor, it even not providing them with compensation in cases the invention is declared secret orders".

Copying of advance military technology of the other country has become very rampant. There haven several cases of complaints being made by US against china about violating IP rights of its weapons and its inventors. The Russia and China have the image of not granting effective protection to the Intellectual Property Rights. Classic example is of Russian produced AK-47, the words most pirated and imitated weapon. It is estimated that the actual owner of it are suffering nearly $400-$500 million each year. Russia has decided to make sure its IP Rights are protected in entire globe. This huge the market is and it must be properly dealt with. There is need of better IP Protection for the advanced military technologies.

VII. Conclusion and Suggestion

The authors do not oppose this aspect of refusing to grant IP protection for National Security. National security is the prime concern of any country. But the lacunas of the system are to be removed. The impact of the secrecy orders is twofold. At first, it hampers the commercialization of the invention of the author, and at second, it prevents the follow-on invention. The inventor is not allowed to work on his invention. There are several objections to this system which are as follows:

- The authorities are allowed to sit over the invention: there is no time frame provided for the authority to adjudicate over the application. They can sit over it for nearly a century as seen in American examples.
- There is no objective test for the determination of parameters of what may be detrimental to national security: the government and authority decide as to what is detrimental to national security. There is no objective test for it, which makes the entire process so

Official Gazette declaring its intention to take such action."

21. Section 41 of the Patents Act, 1970: Finality of orders of Controller and Central Government "
All orders of the Controller giving directions as to secrecy as well as all orders of the Central Government under this Chapter shall be final and shall not be called in question in any court on any ground whatsoever. Government. — All orders of the Controller giving directions as to secrecy as well as all orders of the Central Government under this Chapter shall be final and shall not be called in question in any court on any ground whatsoever."

22. Supra note 14.

23. Id.

arbitrarily.

- The lack of compensation provisions: in cases where the invention is withheld, the inventor be provided with some compensation. This will encourage the inventions.
- One sided interpretation of the inventions: the invention be looked with positive aspect as well. In a series of example, the invention had potential of making several useful outcomes for the public. This idea needs to be kept in mind while adjudicating any patent application.

The authors propose an alternate method for making a public oriented process. In cases of such application, patent shall be granted on merits and then compulsory licensing be done in favour of defence agencies of the countries. This will remove all the impediments of the current system. The economic rights of the inventor will be secured and utility aspect of the invention can be explored. This will also help in preventing illegal export import of the military weapons. Since, the patent will be registered; the rights of the inventor and effective steps in cases of infringement will be feasible.