

## **SOFTWARE PATENTS**

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### **Abstract**

Software patents is a very wide research field which is having patent protection in India and it is given copyright protection in other countries in United States & United Kingdom. In this paper we can see in detail about the essentials of patent protection in India, United States and United Kingdom and its applicability in India. This paper is a clear comparative study work regarding patents given to software and its safety requirements and the minimum level of protection as in TRIPS needed for its development.

**Keywords:** Software, patents, IPR, Law

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**A. Introduction:**

A patent is a form of *industrial property* which may be broadly described as a monopoly right conferred by the state to an inventor to industrially and commercially exploit his invention at the cost of making a complete disclosure of the details of his invention. A patent is thus a *statutory privilege* granted by the Government to an inventor, and to other persons deriving their rights from the inventor, for a fixed period of years, to exclude other persons from manufacturing, using or selling a patented product, or from utilising a patented method or process. At the expiration of the period of the patent, the patented invention is available to the general public or as it is sometimes put, falls into the public domain.

**B. Object of Patent Law:**

In the case of *Bishwanath Prasad Radheyshyam v. Hindustan Metal Industries*<sup>1</sup>, the apex court outlined the objectives of patent law as under:

*‘The object of patent law is to encourage scientific research, new technology and industrial progress. Grant of exclusive privilege to own, use or sell the method or the product patented for a limited period stimulates new inventions of commercial utility. The price of the grant of monopoly is the disclosure of the invention at the Patent Office, which after expiry of the fixed period of monopoly, passes into the public domain.’*

**C. Requirements of Patentability:**

A patent confers a statutory privilege on an inventor i.e. that there is no common law of patents.<sup>2</sup> As seen above, India became a signatory to the TRIPS Agreement in 1995 and as such was bound to embody the principles contained therein into its domestic intellectual property legislation. Keeping in mind its obligations under TRIPS, the Patents Act, 1970 came to substantially amended in 2002 and again in 2005. In light of the TRIPS Agreement, the Patent Act, 1970 prescribes that an invention must satisfy the trinity requirements of novelty, innovativeness and usefulness in order to receive a patent under the Act.

**i. Test 1: Trinity requirements:**

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<sup>1</sup>*Bishwanath Prasad v H.M industries* AIR 1982 SC 1444

As stated above, India as a signatory to TRIPS, has adopted the trinity requirements as specified therein in order to ascertain the patentability of an invention. Before considering these requirements in detail and whether the invention satisfies these requirements, let us consider some pertinent definitions under the Act.

*patent: patent means a patent for any invention granted under this Act<sup>2</sup>*

*invention: invention means a new product or process involving an inventive step and capable of industrial application<sup>3</sup>*

*inventivestep: a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art<sup>4</sup>*

*capable of industrial application: capable of being made or used in an industry<sup>5</sup>*

*new invention: any invention or technology which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of filing of patent application with complete specification, i.e. the subject matter has not fallen in public domain or that it does not form part of the state of the art<sup>6</sup>*

Therefore, the criteria for an invention to be patentable are,

- (1) novelty
- (2) inventive step
- (3) utility

1. Novelty:

The first ingredient for an invention is that it must be new product or a new process. Novelty means *what is new and original, never seen or done before*. An invention is taken to be new if it

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<sup>2</sup> Section 2(1) (m) of the Act.

<sup>3</sup> Section 2(1) (j) of the Act.

<sup>4</sup>Section 2(1) (ja)of the Act.

<sup>5</sup>Section 2(1)(ac)of the Act.

<sup>6</sup>Section 2(1)(l)of the Act.

does not form a part of the state-of-the-art. In order to be patentable, the new subject must involve invention over what is old. It is not essential that the invention should be anything complex or complicated. It must merely be of such nature that it involves a *technical advance as compared to the existing knowledge*. As observed by Cotton LJ in *Blakey & Co. v. Lathem & Co.*<sup>7</sup> ‘*To be new in the patent sense, the novelty must be shown in the invention. It is not enough that the purpose is new or that there is novelty in the application, so that the article produced is in that sense new. There must be novelty in the mode of application.*’

In view of this principle, the Court of Appeal in England in *Fomento v Mentomora*<sup>8</sup> denied patent rights to a designer of an improved design of a ball-point pen, on the grounds that the inventor himself had published a description of making ball point pens and had made two pens embodying the invention available to the members of the public before filing the patent application.

## 2. Inventive step:

As seen above, an ‘*inventive step*’ is one which makes the invention ‘*non-obvious to a person skilled in the art*’. In other words, if the invention is *obvious* to the person skilled in the art, it *cannot* be said to involve an *inventive step*. After the Amendment in 2005, the definition of *inventive step* has been enlarged to include *economic significance* of the invention as well. The test to ascertain whether an invention involves an *inventive step* is expressed in *Halsbury Laws of England* as: ‘*was it for practical purposes obvious to the skilled worker, in the field concerned, in the state of knowledge existing at the date of the patent to be found in the literature then available to him, that he should or would make the invention the subject of the claim concerned.*’ In other words, the question to be answered in determining *inventive step* is ‘*Would a non-inventive mind have thought of the alleged invention?*’ If the answer is ‘*no*’, then the invention is non-obvious. If the patent claimed merely includes the development of some existing trade, in the sense that it is a development as would suggest itself to an ordinary person skilled in the art, it would fail the test of non-obviousness. In order to ascertain whether an invention subscribes to the requirements of an ‘*inventive step*’, a two pronged approach may be adopted. Firstly,

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<sup>7</sup>*Blakey & Co. v. Lathem & Co.* [1889] 6 RPC 184 (CA)

<sup>8</sup>*Fomento v Mentomora* 1956 RPC 87

ascertaining what was the state of the art before the relevant date of the complete specification filed pursuant to an application for a patent, and secondly having regard to the state of the art, ascertaining whether the alleged inventive step would have been obvious to a person skilled in the art.<sup>9</sup>

*i. State of Prior Art*

For an invention to be judged as novel, the disclosed information should not be available in the ‘*priorart*’. This means that there should not be any prior disclosure of any information contained in the application for patent (anywhere in the public domain, either written or in any other form, or in any language) before the date on which the application is first filed i.e. the ‘priority date’. Although the term ‘*priorart*’ has not been defined under the Indian Patents Act, it shall be determined by the provisions of section 13 read with the provisions of sections 29 to 34 of the Act.

The following has been indicated as ‘prior art’ vide the Act<sup>10</sup>:

- (a) anticipation by publication before the date of the filing of the application in any of the specification filed in pursuance of application for patent in India on or after the 1st day of January 1912;
- (b) anticipation by publication made before the date of filing of the application in any of the documents in any country;
- (c) claim in any claim of any other complete specification filed in India which is filed before the application but published after said application;
- (d) anticipation having regard to the knowledge, oral or otherwise, available within any local or indigenous community in India or elsewhere.

From the above it is clear that in order for an invention to be anticipated by virtue of a patent, the patent must have been granted in India alone.<sup>11</sup> Thus, a patent granted in any other country would not constitute ‘prior art’ for the purposes of the Act.<sup>12</sup> However, if the patent is anticipated by *publication*, it is irrelevant whether the publication occurred in India or elsewhere.

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<sup>9</sup>Molnlycke A.B. v Procter and Gamble 1994 RPC 49; Hoechst Celanese Corp. v B.P Chemicals 1997 FSR 547, 562.

<sup>10</sup> These provisions may be found in Chapter IV of the Act containing provisions for publication and examination of applications for patent and Chapter V of the Act dealing with opposition to grant of a patent.

<sup>11</sup> S. 13(1); s. 25(1)(b)(i);s.25(1)(c);s.27(a);s.64(1)(a) of the Act

<sup>12</sup> A patent granted in US would not be a bar to a patent in India for the same invention.

An invention is not considered ‘new’ if the claimed invention is publicly known or publicly used in India before the priority date.<sup>13</sup> As observed by the Supreme Court in *Monsanto*:

*‘Publicly known does not mean that it must be published in a document, although not found in a book, it may form a part of the common knowledge among the public concerned. It also does not mean that it should be widely used to the knowledge of the consumer. It is sufficient if it is known to persons who are engaged in the pursuit of knowledge of the patented product or process, either as men of science or men of commerce or as consumers.’*<sup>14</sup>

The Supreme Court in *Bishwanath Prasad’s* case observed that prior public knowledge of the alleged invention would disqualify the grant of a patent. Publications concerning the invention whether through word of mouth or through books or media would, therefore nullify any subsequent attempt to secure a patent.

ii. *Obviousness to a person skilled in the art:*

A skilled person would be a person who ‘has experience of the field in question and he may be one who have available assistants who would carry out tests’.<sup>15</sup> In order to pass the test of obviousness, the prior art referred above must be of such nature as to inform the skilled person as to how the invention derived from the prior art is to be performed. In other words, the person skilled in the art must have the necessary information (through the prior art) to take the inventive step in question.<sup>16</sup>

In determining whether an invention involves an ‘inventive step’ and is ‘non-obvious’, the supervening policy of patent law viz. to reward and encourage invention without inhibiting improvements of existing technologies by others must be kept in mind. Although no absolutely uniform test for determination of inventive step can be formulated, certain broad criteria can be indicated, whether the invention was publicly known, used or practiced before or at the date of the patent? If the answer is positive, it shall negate inventive step.

A structured approach to determine obviousness consisting of four steps was expounded in *Windsurfing International v Tabur Marine*<sup>17</sup>:

a. Identify the inventive concept in the suit

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<sup>13</sup> S. 64(1)(e)

<sup>14</sup> *Monsanto v Coromandal* AIR 1986 SC 712, 717

<sup>15</sup> *PLG Research v Ardon* 1993 FSR 197, 207

<sup>16</sup> *Hallen v Barbantia* 1991 RPC 195, 212

<sup>17</sup> *Windsurfing International v Tabur Marine* 1985 RPC 59

- b. Keep in mind a normally skilled, but unimaginative person having common general knowledge of the concerned art as at the priority date will be the date from which the objector to the patent would allege inventive step was obvious
- c. Through the spectacles of the aforesaid skilled person identify differences, if any, between the matter cited as being known or used and the alleged invention;
- d. Finally, without considering the alleged invention, consider whether the differences would see to the aforesaid skilled person such as leading obviously to the alleged invention or that a degree of invention would be necessary to obtain the invention.

In *Bishwanath Prasad's* case, the apex court reiterated the above test and suggested three alternative conceptions of the same:

- a. *Whether the alleged invention lies so much out of the track of what was known before as not natural to suggest itself to a person thinking on the subject, it must not be the obvious or natural suggestion of what was previously known;*
- b. *Had the document been placed in the hands of a competent draftsman, or engineer, (as distinguished from a mere artisan), endowed with the common general knowledge at the 'priority date', who was faced with the problem solved by the patentee, but without knowledge of the patented invention, would he have said, this gives me what I want?*
- c. *Was it for practical purposes obvious to a skilled worker in the field concerned, in the state of knowledge existing at the date of the patent, to find in literature then available to him; that he would or should make the invention the subject of the claim concerned.*

### 3.Industrial application:

It is pertinent to note that *utility* was not a requirement for patentability under the Patents and Designs Act, 1911. In *Bishwanath Prasad's* case, the Supreme Court recognised utility as one of the grounds on which a patent can be revoked. The usefulness of an alleged invention depends not on whether by following the directions in the complete specification all the results not necessary for commercial success can be obtained, but on whether by such directions the effects that the application/patentee professed to produce could be obtained. The usefulness of the invention is to be judged, by the reference to the state of things at the date of filing of the patent application, if the invention was then useful, the fact that subsequent improvement have replaced the patented invention render it obsolete and commercially of no value, does not invalidate the

patent. Now the word utility has been changed to industrial application by an amendment because of the technological developments and industrial growth. Thus, novelty, non-obviousness, industrial applicability form the essential requirements of patentability. These conditions have been universally accepted as the essential prerequisites of patentability.

**D. Patentability of Computer Software:**

It is a well-established proposition that computer programs<sup>18</sup> are *copyrightable* subject-matter, just like any other literary work.<sup>19</sup> Loading a program into computer memory, saving the program or running it without authority may infringe copyright. Making an arrangement or altered version of the program or converting it into or out of one computer language or code into a different computer language or code is also an infringement. Article 10 of the Trade Related Intellectual Property Rights Agreement (TRIPs) expressly provides that computer programs, whether in source code or object code shall be protected as literary works under the Berne Convention, 1971.

Despite protection afforded to computer software through copyright law, it is submitted that copyright protection is not always ideal. Problems arise when, in a particular invention, software and hardware co-exist. Would, in such circumstances, copyright protection extend to the invention itself? That seems unlikely, as copyrights being restricted to literary and artistic works cannot be held to extend to *machines*. Hence, some amount of protection is conferred

Section 3 of the Act contains a list of '*what are not inventions*'.<sup>4</sup> If the 'invention' for which the patent is sought falls within the provisions of Section 3, no patent would be granted, even if it otherwise satisfies the requirements of patentability outlined above.

Section 3(k) of the Act prescribes:

*'mathematical or business method or a computer program per se algorithms;'*

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<sup>18</sup> As is well understood, the term "software" is used to describe all of the different types of computer programs. Computer programs are basically divided into "application programs" and "operating system programs". Application programs are designed to do specific tasks to be executed through the computer and the operating system programs are used to manage the internal functions of the computer to facilitate use of application program.

<sup>19</sup> *Apple Computer v. Franklin Computer*, 714 F 2d 124

Section 3 (k) of the Act thus clearly lays down that computer programmes are not patentable.<sup>20</sup> However, this was not always the case. The provisions concerning patentability of software have been amended a number of times. The original unamended Act did not exclude explicitly patents for computer related inventions, as computer technology at that point of time was relatively unknown, but the definition of the term ‘invention’<sup>6</sup> itself excluded patents for computer programmes.

A major amendment was introduced in Section 3 with respect to the patentability of computer programs through the Patents (Amendment) Ordinance on December 27, 2004. The Ordinance split the sub-section 3k into two- sub-section 3(k) and 3(ka). The excluded subject matters as originally contained in Sub-section 3(k) were provided in the new Sub-section 3(ka). They included ‘*a mathematical method or a business method or algorithms*’. The amended Section 3(k) read as follows:

*‘(k) a computer programme per se other than its technical application to industry or a combination with hardware.’*

The key expressions contained in the above amendment are ‘technical application to industry’ and ‘combination with hardware’. The legislative intent behind these words was clear. If an invention is directed at computer software having technical application to industry or coupled to hardware – then it is patentable.<sup>7</sup> The law as it stands now however reverts to the original position of excluding computer program *per se* from patentability.

From the above discussion it follows that if a patent is sought only for the software tools<sup>21</sup> i.e. a patent is sought only for *a computer program per se*, then a patent would *not* be available for the invention, as it would be hit by the provisions of Section 3 (k) elucidated above. However, if the

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<sup>20</sup>In addition it is also pertinent to note that Section 3(a) excludes ‘*an invention which is frivolous or which claims anything obvious contrary to well established natural laws*’ from patentability. As we have seen above, that while ‘hacking’ per se is illegal (and therefore contrary to well established natural laws) ‘ethical hacking’ is not. Hence it can be said that the invention sought for which protection is sought in the instant case is not hit by the provisions of section 3(a) elucidated above.

<sup>21</sup>Considering the software tools referred to here are computer software programs.

patent is sought for a *combination of software and hardware*, then it would *not* be a *computer application per se*, and hence might be patentable.<sup>22</sup> As observed in *Gales' case*:

*'Although those instructions are not patentable as such, that is not the end of the matter. Computer instructions may represent, for instance, a technical process. What is recorded in the instructions may be the means for carrying out a technical process with the aid of a computer. In such a case the process is not barred from patentability by reason of the use of a computer as a medium by which it is carried out.'*<sup>8</sup>

Analogy may also be drawn to the *Diamondv.Diehr*<sup>9</sup>, where the US Supreme Court granted a patent for a rubber curing process controlled by software as the patent was for the '*rubber curing process and not the computer software per se*

### **Conclusion:**

From the above, it may be concluded that in ascertaining the patentability of an invention, the invention must be looked at a whole. A claim directed to a technical process which process is carried out under the control of a program (whether by means of hardware or software), cannot be regarded as relating to a *computer program per se*. An invention consisting of a combination of hardware and software may be considered patentable, if it satisfies the other requirements prescribed by the Act.

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<sup>22</sup>Depending upon the satisfaction of the other requirements prescribed by the Act.