*　　IN THE HIGH COURT OF DELHI AT NEW DELHI

Reserved on: 28th April, 2023
Date of Decision: 15th May, 2023

+　　**C.A.(COMM.IPD-PAT) 29/2022**

MICROSOFT TECHNOLOGY LICENSING, LLC ....Appellant

> Through: Ms. Vindhya S. Mani, Mr. Gursimran Singh Narula and Ms. Vaishali Joshi, Advocates.

versus

THE ASSISTANT CONTROLLER OF
PATENTS AND DESIGNS...Respondent

> Through: Mr. Harish Vaidyanathan Shankar, Central Government Standing Counsel with Mr. Srish Kumar Mishra, Mr. Sagar Mehlawat and Mr. Alexander Mathai Paikaday, Advocates with Mr. Santosh Kumar Gupta and Ms. Shraddha Turkar, Controllers at the Indian Patent Office.
> Mr. Rajiv Choudhary, Advocate *Amicus Curiae*.

CORAM:
HON'BLE MR. JUSTICE SANJEEV NARULA

J U D G M E N T

SANJEEV NARULA, J.:

THE CONTROVERSY

1.　　This appeal is focused on the controversy surrounding the

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interpretation of the phrase "computer program *per se*" in the exclusionary Section 3(*k*) of the Patent Act, 1970 ["*the Act*"].

THE FACTS

2.   Microsoft Technology Licensing, LLC ["*Microsoft*"] filed an Indian Patent Application No. 1373/DEL/2003 on 07th November, 2003 for registration of an invention relating to "*METHODS AND SYSTEMS FOR AUTHENTICATION OF A USER FOR SUB-LOCATIONS OF A NETWORK LOCATION*" [interchangeably "*claimed invention*" or "*subject patent*"].[1] The Patent Office issued First Examination Report ["*FER*"] on 27th April, 2016, raising objections relating to : (*a*) lack of novelty in view of certain cited prior arts, (*b*) lack of inventive steps in view of cited prior arts, and (*c*) non-patentable under Section 3(k) of the Act (computer program *per se*). It was followed by Hearing Notice dated 20th February, 2019, which raised substantive objections on: (*a*) lack of novelty and inventive step in view of other cited prior arts, (*b*) non-patentability under Section 3(*k*) of the Act (algorithm and computer program *per se*), and (*c*) lack of clarity and conciseness *qua* scope of claimed invention under Section 10(4)(*c*) of the Act.

3.   After the hearing, Microsoft submitted written arguments, but the Controller remained convinced and issued the order dated 11th April, 2019 ["*impugned order*"] rejecting Microsoft's application under Section 15 of Act, finding the claimed invention to be non-patentable under Section 3(*k*) of the Act as well as having other unmet requirements under the Act.

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[1] Title of the invention.

CONTENTIONS OF THE PARTIES

4.   Ms. Vindhya S. Mani, counsel for Microsoft argues that the impugned order is liable to be set-aside as it has incorrectly interpreted Section 3(*k*) of the Act and besides, it does not provide sufficient reasoning for arriving at the erroneous conclusion. Her submissions are summarized hereinbelow:

4.1.   The impugned order is non-speaking and unreasoned and thus, violative of the principles of natural justice.

4.2.   Section 3(*k*) of the Act has been wrongly interpreted in the impugned order *insofar* as it concludes that Claims 1-28 relate to an algorithm implemented by computer program *per se*. The intent of the legislature to add the words "*per se*" does not mean that patents to a computer program shall not be granted altogether, rather the intent was to reject grant of patent protection to computer programs *as such.*

4.3.   Technical contribution/ effect in the subject patent lies in the improved security of the existing computer and computer networks and hence, the same ought to be granted a patent. Patent Office has disregarded the decisions of this Court in *Ferid Allani v. Union of India and Ors.*,[2] and *Telefonaktiebolaget LM Ericsson (PUBL) v. Intex Technologies (India) Ltd.*[3]

4.4.   The claims submitted before the Patent Office, as a whole, relate to a technical process, solves a technical problem, and provides a technical solution/ advancement relating to security of the data accessed on a network. The contribution of the claimed invention does not lie solely in the excluded subject matter but rather in the combination of the software with the hardware components.

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[2] 2019 SCC OnLine Del 11867.
[3] 2015 SCC OnLine Del 8229.

4.5. Reliance is placed on the decision of the UK Chancery Division (Patents Court) in *AT &T Knowledge Ventures, LP's Patent Application*,[4] UK Court of Appeals in *HTC Europe Co. Ltd. v. Apple Inc.*,[5] and *Aerotel Ltd. v. Telco Holdings Ltd.*[6]

5. Mr. Harish Vaidyanathan Shankar, CGSC for Respondent, on the other hand, opposes the petition and states that the Respondent has passed a reasoned order and rightly rejected the subject patent. His submissions were supported by Mr. Santosh Kumar Gupta, Controller, who had appeared pursuant to order dated 24th April, 2023. Submission of Mr. Vaidyanathan Shankar are as follows: -

5.1. Patent rights are territorial in nature, grant or refusal thereof will have to be tested on the anvil of applicable Indian laws. Patentability of computer programs in India *vis-à-vis* other developed countries is different. Microsoft fails to appreciate the legislative intent behind introduction of Section 3(*k*) to the Act. Reliance placed on statutory provisions and judicial pronouncements from the European Union and the United Kingdom is misplaced.

5.2. The impugned order is reasoned, and Respondent has rightly rejected the subject patent as it falls under Section 3(*k*) of the Act. The claimed invention is merely an "algorithm" which, by definition, is a set of rules that have to be followed to solve a problem. The set of instructions are being implemented on a computer program *per se*, and hence, the subject invention is non-patentable.

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[4] [2009] EWHC 343 (Pat), ¶¶ 40.
[5] [2013] EWCA Civ 451.
[6] [2006] EWCA Civ 1371.

5.3. The subject patent operates at the user-interface level and enhances user experience/ efficiency and does not have any technical effect or contribution to the hardware/ computer system itself.

THE SUBJECT PATENT

6. In order to evaluate patent eligibility and for clear understanding of the term "computer program *per se*", it would be appropriate to first discuss the subject patent, its technical features and technical application.

7. Microsoft claims that the subject patent provides a technical solution to achieve secure authentication by a user while accessing one or more sub-locations in a network address. It involves a two-tier authentication by way of two different cookies. They contend that conventionally, computer server allow users to access information stored at a network location, within various sub-locations thereof, such as individual directories of one or more servers or individual servers of a server farm. To prevent unauthorized access to the network locations and their various sub-locations, user(s) authentication for accessing network location(s) is carried out in the following manner:

(i.) A user may be required to enter a username and password before accessing the network location and corresponding sub-location(s). However, as the number of network locations/ sub-locations that a user may wish to access increases, it requires him/ her to enter a username and password for gaining access each time and this becomes cumbersome.

(ii.) The subject patent operates by generating a cookie and after authentication for the network location based on the first cookie, the sub-location cookies are generated for authenticated user for one or more sub-

locations.

(iii.) Authentication is done *via* cookies at the network location and any/ all sub-locations, where access is desired, within the network location. In such a case, when a user attempts to visit a network location, he/ she is directed to the trusted network location which issues an encrypted cookie which is used by the user when directed back to the server of the network location. After requesting the cookie from the user's computer, the server validates it by decryption, as long as it hasn't expired. If the validation is successful, the user is authenticated and granted access.

The Technical Problem

8.   A security risk existed where cookies are used to authenticate the user for the visited network location and the sub-location. A malicious user may attempt to steal such cookies that are uploaded from other user computer(s) when they are visiting the network location and can then impersonate such users to gain access to sub-locations within the network location. In few such cases, the malicious user may even be able to obtain personal, financial, or other sensitive information about the users being impersonated.

Technical solution, effect, and contribution

9.   To address the above-outlined technical problem, the subject patent seeks to solve/ mitigate the security risk attached with accessing network locations and its various sub-locations and provide simplified interaction for users, with the content.

10.   When a user logs in to a network location and/ or its sub-location, only

the cookie for the network location and the cookie for the particular sub-location(s) are exposed within the sub-location(s) being visited. Even if both of these cookies are stolen by a malicious user, he/ she cannot gain unhindered access. The two-tier authentication envisaged in the subject patent accounts for a scenario where if a malicious user steals both the cookies, as described above, which authenticates the user for the network location, he/ she may gain access to the specific sub-location within the network location to which the second cookie pertains. Therefore, the malicious user may only be authenticated for that specific sub-location to which the second cookie pertains but is not further authenticated for any other sub-location(s), within the network location. This is so because the first cookie would not, as explained above, indicate that the user has just been authenticated. Hence, the present patent application provides for a technique for secure authentication of a user while accessing one or more sub-location(s) in a network address and effectively foils the attempts of a malicious user to gain access to network sub-location(s) by illegally obtaining cookies from another user.

Grounds for refusal

11.   The Controller concludes that the invention is merely a set of computer executable instructions or algorithms, constituting a "computer program *per se*". He holds that the subject matter addressed in Claims 1-28 are related to a "computer program *per se*" and fall under the purview of Section 3(*k*) of the Act. As per the Controller, the method of utilizing cookies and memory, to identify network address locations, as outlined in the description and claims, indicates that the "inventive step" is rooted in a non-patentable subject matter (as per Section 3(*k*) of the Act). Reasons given by the Controller are culled

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out below:

"4. The argument given by applicant for the objection of the office letter dated 28/03/2019 is not convincing due to the following reasons:

The invention is a method/system for performing two level authentications based on cookies. Cookies are the files created by the website and are locally stored in the memory which is nothing but a set of instructions. The alleged invention provide a technique for authentication involve use of two different cookies for authenticated access to a client computer accessing a sub-location in a network location which is a set of instruction in the form of an algorithm performed by the general computing device. The subject matter of claims 1-28 represent a set of algorithm to execute the said instructions in a pre defined sequential manner. It has been implemented on a conventional computing devices and software environment. In claims of the instant alleged invention, computer programs are claimed in the form of system/method claims to process the steps and execute the algorithm.

It is evident that the claims 1-28 are an implementation of computer executable instructions/algorithms on a general purpose computing device to achieve the intended functional features. The said computer executable instructions/algorithms have been implemented in the form of "computer program per se". Hence, subject matter of claims 1-28 relates to computer program per se" and falls within scope of section 3(k) of The Patents Act, 1970 (as amended). To find the location of network address, use of cookies and memory, given in the description and claims clearly evinces that the inventive step lies in non-patentable subject matter u/s 3(k) of The Patents Act, 1970 (as amended).

5. The oral argument and the written submission of the agent of the applicant have been carefully considered. However without prejudice, although the hearing submissions have attempted to address the other requirements, yet the substantive requirement of the Patents Act, 1970 i.e. section 3(k) is not found complied with. Hence, in view of the above and unmet requirements, this instant application is not found in order for grant.

6. Therefore, keeping in view the above facts, the submissions of the agents during hearing and subsequently through the written submission, as well as the outstanding official requirements, instant application no. 1373/DEL/2003 dated 07/11/2003 does not comply with the requirements of The Patents Act, 1970 (as amended). I, therefore, hereby order that the grant of a patent for application no. 1373/DEL/2003 is refused under the provisions of Section 15 of The Patents Act, 1970 (as amended).

7. This is to be noted that the aforesaid observations, and decision thereof, are based solely on the electronically uploaded documents to date."

[Underscoring supplied]

The Provision – Section 3(k) of the Act

12.   The basis for the rejection is exclusively Section 3(*k*) of the Act, making it essential to scrutinize this provision before continuing further. The said provision is quoted below:

> "**3.   What are not inventions.** —The following are not inventions within the meaning of this Act,-
>
>   *xx   ..   xx   ..   xx*
> (*k*)   a mathematical or business method or a computer program *per se* or algorithms;"

ANALYSIS

13.   The term "computer program *per se*", featuring in Section 3(*k*), has been concisely discussed by the Court in *Ferid Allani* (supra)*.* Nevertheless, it would be beneficial to explore its historical background to gain valuable insights into the legislative intent behind the said provision. This exploration can aid in applying the law accurately and offer guidance for future cases involving similar issues. At this point, this Court also acknowledges the contribution by both counsels explaining the origins of Section 3(*k*) of the Act as well as Mr. Rajiv Choudhary, Advocate, who shared valuable information regarding examination procedure followed in other jurisdictions.

Evolution of Section 3(k) of the Patent Act: Tracing the insertion of the "computer program per se" and its impact on Patent Law in India

14.   Section 3 of the Act pertains to inventions that are ineligible for patent protection. Notably, the previous statute, the Indian Patents and Designs Act, 1911 did not include a similar provision. In 1948, the Government of India constituted a Committee under Justice Bakshi Tek Chand, a retired Judge of the High Court of Lahore and a Member of the Constituent Assembly, along

with six (06) other members for review of the Patent Laws in India. The said Committee submitted its recommendations in April 1950, based on which, the Patents Bill, 1953,[7] was presented in the Parliament. This Bill, for the first time in Indian patent legislative history, introduced a provision that provided a prohibition for patenting certain categories of inventions (*viz.* Section 3), reproduced hereinbelow:

"3. What is *not patentable*. — The following shall not be patentable under this Act,–
(a) an invention the use of which would be contrary to law or morality;
(b) the mere discovery of new properties of a known substance;
(c) a mere duplication of known devices or juxtaposition of known devices which function independently of one another;
(d) a substance prepared or produced by a chemical process or intended for food or medicine other than a substance prepared or produced by any method or process of manufacture particularly described in the complete specification of the invention or by its obvious chemical equivalent.
Explanation. –In relation to substance intended for food or medicine, a mere admixture resulting only in the aggregation of the known properties of the ingredients of that substance shall not be deemed to be a method or process of manufacture."

15.   In April 1957, the Government of India assigned Justice N. Rajagopala Ayyangar, a retired Judge of the Supreme Court of India, to review the patent laws in India. In September 1959, Justice Ayyangar submitted his report titled – "*Report on the Revision of the Patent Law*" ["*Ayyangar Report*"]. This report provided a comprehensive analysis of various aspects of the Indian patent law, with a particular emphasis on determining "*what inventions should be non-patentable*".[8] The Ayyangar Report categorically sought revision in Section 3 of the Patents Bill, 1953 and classified non-patentable inventions under the broader categories (*a*) the inventions which are non-patentable and deemed to never have been patentable; and (*b*) inventions relating to

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[7] Bill No. 59 of 1953.
[8] "*Report on the Revision of the Patent Law*" by Justice N. Rajagopala Ayyangar (September 1959), ¶¶ 48-55.

chemicals, food and medicines. The Ayyangar Report proposed a re-draft of Section 3, extracted as under:

"3. *What is not patentable.* —The following shall not be patentable under this Act and shall be deemed always not to have been patentable: —

(I) (a) An invention which is frivolous or claims anything obviously contrary to well established natural laws.

(b) An invention the use of which would be contrary to law or morality or injurious to public health.

(c) The mere discovery of a scientific principle or the formulation of an abstract theory.

(d) Methods of agriculture or horticulture.

(e) Process for medicinal, surgical, curative, prophylactic and other treatment of man and processes for similar treatment of animals or plants to render them free of disease or to an increase their economic value or that of their products.

(f) A claim to a substance obtained by a mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance.

(g) A mere discovery of any new property or new use for a known substance, or of the mere new use of a known process, machine or apparatus.

(h) A mere arrangement or rearrangement or duplication of known devices each working in an old or well-known way.

(2) No patent shall after the commencement of this Act be granted in respect of inventions claiming —(a) substances intended for or are capable of being used as food or beverage or as medicine (for men or animals) including sera, vaccines, antibiotics and biological preparations, insecticide, germicide or fungicide, and (b) substances produced by chemical processes including alloys but excluding glass.

(3) Notwithstanding anything in sub-section (2) inventions of chemical processes for the manufacture or production of the substances mentioned in the subsection shall be patentable."

16.   The Patents Bill, 1965,[9] was introduced in the Lok Sabha, based on the Ayyangar Report, whereby Section 3 was added under Chapter II titled – "*Inventions Not Patentable*", given below:

"3.   The following are not inventions within the meaning of this Act —

(a)   an invention which is frivolous or which claims anything obviously contrary to well established natural laws;

(b)   an invention the primary or intended use of which would be

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[9] Bill No. 62 of 1965.

contrary to law or morality or injurious to public health;

(c)   the mere discovery of a scientific principle or the formulation of an abstract theory;

(d)   the mere discovery of any new property or new use for a known substance or of the mere new use of a known process, machine or apparatus;

(e)   a claim to a substance obtained by a mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance;

(f)   the mere arrangement or re-arrangement or duplication of known devices each functioning independently of one another in a known way;

(g)   a method or process of testing applicable during the process of manufacture for rendering the machine, apparatus or other equipment more efficient or for the improvement or restoration of the existing machine, apparatus or other equipment or for the improvement or control of manufacture;

(h)   a method of agriculture or horticulture;

(i)   any process for the medicinal, surgical, curative, prophylactic or other treatment of man or any process for a similar treatment of animals or plants to render them free of disease or to increase their economic value or that of their products."

17.   The Patents Bill, 1965 could not be passed in the Parliament and eventually lapsed. However, the Government introduced the Patents Bill, 1967,[10] whereby provisions of Section 3 were reproduced from the Patents Bill, 1965, in its entirety. This Bill was enacted as the Patents Act, 1970,[11] which classified nine (09) categories of inventions as non-patentable. Certain provisions of the Patents Act, 1970, including Section 3, came into force on 20th April, 1972, and remaining provisions (*viz.* Sections 12(2), 13(2), 28, 68, 125 to 132) came into force on 01st April, 1978. Section 3, as part of the Patents Act, 1970 (as on 20th April, 1972), is reproduced hereinbelow:

"**3.**   The following are not inventions within the meaning of this Act, —
(a)   an invention which is frivolous or which claims anything obviously contrary to well established natural laws;
(b)   an invention the primary or intended use of which would be contrary to law or morality or injurious to public health;
(c)   the mere discovery of a scientific principle or the formulation of an abstract

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[10] Bill No. 120 of 1967.
[11] Act No. 39 of 1970.

theory;

(d)   the mere discovery of any new property or new use for a known substance or of the mere use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant;

(e)   a substance obtained by a mere admixture resulting only in the aggregation of the properties of the components thereof or a process for producing such substance;

(f)   the mere arrangement or rearrangement or duplication of known devices each functioning independently of one another in a known way;

(g)   a method or process of testing applicable during the process of manufacture for rendering the machine, apparatus or other equipment more efficient or for the improvement or restoration of the existing machine, apparatus or other equipment or for the improvement or control of manufacture;

(h)   a method of agriculture or horticulture;

(i)   any process for medicinal, surgical, curative, prophylactic and other treatment of human beings or any processes for similar treatment of animals or plants to render them free of disease or to an increase their economic value or that of their products"

18.   No mention of computer program or algorithm is found under the afore-mentioned Section 3 of the Act.

19.   The Agreement on Trade-Related Aspects of Intellectual Property Rights ["*TRIPS Agreement*"] came into existence on 01st January, 1995 and Article 27 of the TRIPS Agreement ('Patentable Subject Matter') required that patents shall be available for any invention, whether product or processes, "in all fields of technology", without any bar on any specific field of technology. Article 27 further provides certain categories of inventions whose prevention of commercial exploitation is necessary to protect *ordre public* or morality, including to protect human, animal, plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law. It is pertinent to note that Article 27 also provides facility for members to also exclude from patentability: "*(a) diagnostic, therapeutic and surgical methods for the*

treatment of humans or animals; (b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes […]"

20.   The Government of India subsequently introduced the Patents (Second Amendment) Bill, 1999 in the Parliament, which introduced a new entry regarding "computer programs" which, for the first time, was inserted into Section 3 and the same read as follows:

> "(*k*)   a mathematical or business method or a <u>computer program</u> or algorithms;"
>
> [Emphasis supplied]

21.   There was no mention of the term "*per se*" in the original Patents (Second Amendment) Bill, 1999.[12] Rajya Sabha's Joint Parliamentary Committee was constituted to consider the Patents (Second Amendment) Bill, 1999, and the Committee tabled the report on 19th December, 2001 before the Parliament. In relation to Section 3(*k*), the said Joint Parliamentary Committee Report, under Clause 4 recommended the insertion of word "*per se*" in conjunction with "computer program" and explained the meaning of "*per se*" as follows:

> "In the new proposed clause (k) the words "*per se*" have been inserted. This change has been proposed because sometimes the computer programme may include certain other things, ancillary thereto or developed thereon. The intention here is not to reject them for grant of patent if they are inventions. However, the computer programmes as such are not intended to be granted patent. This amendment has been proposed to clarify the purpose."

The Rajya Sabha's Joint Parliamentary Committee also proposed amendment to Section 3(*k*) of the Act, which is extracted below:

> "(k) a mathematical or business method or a computer program <u>per se</u> or algorithms;"

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[12] Bill No. 49 of 1999. Section 3(k) therein read as — "(*k*) a mathematical or business method or a computer program or algorithms".

22.   The Patents (Second Amendment) Bill, 1999 was introduced in the Rajya Sabha on 20th December, 1999, discussed and passed by the Rajya Sabha on 09th May, 2002 and consequently, by the Lok Sabha on 14th May, 2002. The said enactment received presidential assent on 25th June, 2002 and came into force as The Patents (Amendment) Act, 2002. It contained Section 3(*k*), as suggested by the Joint Parliamentary Committee Report, which reads as under:

> "(*k*)   a mathematical or business method or <u>computer programme *per se*</u> or algorithms;"
>
> [Emphasis supplied]

23.   During discussions on the Patents (Second Amendment) Bill, 1999, other amendments to Section 3 and contribution of the Report of the Joint Committee on the Patents (Second Amendment) Bill, 1999 was discussed. However, there was no discussion on Section 3(*k*). This is evidenced by the Parliamentary Debates in Rajya Sabha and Lok Sabha.[13]

24.   The President of India promulgated the Patents (Amendment) Ordinance, 2004,[14] which came into effect on 01st January, 2005,[15] among other amendments to the Patents Act, 1970, Section 3(*k*) was further amended as:

> "**3.** In section 3 of the principal Act,—
>   xx   ..   xx   ..   xx
> (*b*) for clause (*k*), the following clauses shall be substituted, namely: —
>   "(*k*) <u>a computer programme *per se* other than its technical application</u>
>   <u>to industry or a combination with hardware;</u>

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[13] Rajya Sabha Debate titled – "*The Patents (Second Amendment) Bill, 1999*", 09th May, 2002; and Lok Sabha Debate titled – "*Patents (Amendment) Bill*", 14th May, 2002.
[14] Ord No. 7 of 2004.
[15] In exercise of powers conferred by clause (1) of Article 123 of the Constitution of India, 1950.

(*ka*) a mathematical method or a business method or <u>algorithms</u>;"

<div align="right">[Emphasis supplied]</div>

25.   A press release by the Press Information Bureau dated 27th December, 2004 titled – "*Kamal Nath's statement on the Ordinance relating to Patents (Third) Amendment*", in relation to patentability of computer programs states reasons for clarifying Section 3(*k*) by the Patents (Amendment) Ordinance, 2004, as under:

> "**8.** In IT, the trend is to have software in combination with or embedded in hardware – such as in computers or cell phones or a variety of other gadgets. Software as such has no patent protection (the protection available is by way of copyright), but the changing technological environment has made it necessary to provide for patents when software has technical applications in industry in combination with hardware. This has been a demand of NASSCOM.
>
> <div align="center">xx   ..   xx   ..   xx</div>
>
> **11.** The ordinance is the same as the Bill introduced last year with improvements in some significant respects. We have introduced for patenting of software that is embedded in hardware […]"

26.   The proposed division of Section 3(*k*) as Section 3(*k*) and (*ka*) under the Patents (Amendment) Ordinance, 2004 was opposed.[16] Reason for opposition towards introduction Section 3(*k*) and 3(*ka*) was noted to be that that computer programs should not be excluded from patentability. The said Ordinance was not ratified by the Parliament. Furthermore, a press release by the Press Information Bureau dated 23rd March, 2005 titled – "*Important changes incorporated in the Patents (Amendment) Bill, 2005 as compared to the Patents (Amendment) Bill, 2003*" stated the reasons for not ratifying the proposed change to Section 3(*k*) under the Patents (Amendment) Ordinance, 2004, which reads as follows:

> "6. It is proposed to omit the clarification relating to patenting of software related

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[16] *See*: Letter dated 02nd December, 2004 *bearing* subject – "*Patents (Third) Amendment Act, 2004*" by then Minister of Defence (Mr. Pranab Mukherjee) to then Minister of Commerce & Industry (Mr. Kamal Nath).

inventions introduced by the Ordinance as Section 3(k) and 3(ka). The clarification was objected to on the ground that this may give rise to monopoly of multinationals."

27. Although the changes introduced by the Patents (Amendment) Ordinance, 2004 were not ratified by the Parliament, however, the Parliament passed Statement of Objects and Reasons to the Patents (Amendment) Act, 2005 ["*2005 Statement of Objects and Reasons*"], which endorsed the "technical contribution" approach for patentability of computer-related inventions ["*CRIs*"]. The 2005 Statement of Objects and Reasons states one of the objects as:

> "(iii) to modify and clarify the provisions relating to patenting of software related inventions when they have technical application to industry or in combination with hardware;"

28. The Rajya Sabha's Department Related Parliamentary Standing Committee on Commerce highlighted the need for a clear definition to "*per se*" under Section 3(*k*).[17] Later, they also emphasized upon revisiting the Patents Act, 1970 and Copyright Act, 1957 to facilitate twelve (12) inventorship, authorship and ownership by Artificial Intelligence ["*AI*"].[18] Relevant portions of the "*One Hundred and Sixty First Report on Review of the Intellectual Property Rights Regime in India*", is reproduced hereinbelow:

> "**ARTIFICIAL INTELLIGENCE AND IPR**
> *xx   ..   xx   ..   xx*
> 8.6   The Committee was informed that a framework needs to be developed for patenting of algorithms by associating their use to a tangible result. For example, under the AI guidelines of European Patent Office, abstract mathematical methods cannot be patented. However, it is patented if the mathematical method involves the

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[17] *See*: "*Eighty Eighth Report on Patents and Trade Marks Systems in India*" presented before the Parliament on 24th October, 2008 by the Rajya Sabha's Department Related Parliamentary Standing Committee on Commerce, ¶¶ 5.36

[18] *See*: "*One Hundred and Sixty First Report on Review of the Intellectual Property Rights Regime in India*" presented before the Parliament on 23rd July, 2021 by the Rajya Sabha's Department Related Parliamentary Standing Committee on Commerce, ¶¶ 8.3, 8.6 and 8.7.

use of technical means or a device such as computers. <u>Also, linking the mathematical applications and algorithms to practical application makes them a process which could be patented as being practiced in US</u>.

8.7 **The Committee recommends the Department that the <u>approach in linking the mathematical methods or <u>algorithms to a tangible technical device or a practical application should be adopted in India for facilitating their patents as being done in E.U. and U.S.</u> Hence, the conversion of mathematical methods and algorithms to a process in this way would make it easier to protect them as patents**."

[Underscoring supplied; Bold in original]

29.   The aforenoted legislative history of the provision, Statement of Objects and Reasons to the Patents (Amendment) Act, 2005, the Report of Joint Parliamentary Committee on Patents (Second Amendment) Bill, 1999, the parliamentary debates, *et al.* point towards the shift in relation to grant of patent protection for CRIs. The legislative discussions also emphasize the need for adopting a clear definition to the term "*per se*" to ensure accurate and consistent application of the law. The said term was added to make it clear that "computer programs *as such*" are non-patentable. The intent of the amendment was to allow grant of patents to CRIs that involve a novel hardware component or provide a technical contribution to the prior art(s) beyond the program itself. In other words, if a computer program is used in conjunction with a hardware or results in a technical effect/ solves a technical problem, it may be eligible for patent protection. This amendment brings Indian patent jurisprudence in line with international practices.

30.   Although the legislative intent has always been clear, the term "*per se*" has led to inconsistent and imbalanced application of the law.

Guidelines issued by the Patent Office for examination of CRIs

31.   In 2013, the Office of Controller General of Patents, Designs and Trade Marks ["*CGPDTM*"] introduced its first guidelines for examining patent applications of CRIs. Two terms were defined: technical effect and technical advancement. These terms are used to assess patent eligibility of a claimed invention in relation to Section 3(*k*) of the Act.[19] The said guidelines provided seventeen (17) illustrations of CRIs and interprets all of them to be non-patentable. The necessity of a novel hardware and other features of the said guidelines led to its revision in 2015, wherein a constructive approach towards patentability of CRIs, were introduced. Eleven (11) illustrations were provided, of which, nine (09) were considered patentable and two (02) non-patentable. Shortly after being released, the same were suspended and subsequently, 2016 CRI guidelines were introduced. These guidelines reflected a return to the 2013 CRI guidelines with a more rigid interpretation of Section 3(*k*) and were criticized for their lack of clarity and consistency in the examination of CRIs, leading to ambiguity in the industry and also for broadening the exclusions under Section 3(*k*) of the Act. In response to these concerns, 2017 CRI guidelines were issued which aimed to provide greater clarity and consistency in the examination process of CRIs. Indeed, the said guidelines had a positive tenor and are more progressive regarding patentability and examination procedure of patent applications of CRIs under Section 3(*k*) of the Act. The revised 2017 CRI guidelines have done away with the three-step test laid down in the 2016 CRI guidelines and requirement of a novel hardware in conjunction with a computer program (software) when

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[19] ¶¶ 3.15 and 3.16.

a method claims *qua* a new computer program in combination with the hardware are being claimed. The focus in the 2017 CRI guidelines appears to be on substance over forms and claims.

32.   The afore-noted guidelines were noticed and discussed in *Ferid Allani* (supra), when the Court, while exercising judicial review over the decision of IPAB, referred to the legislative history of Section 3(*k*) of the Act and held that addition of the term "*per se*" in Section 3(*k*) of the Act, was meant to clarify that genuine inventions based on computer programs should not be refused patent. The Court highlighted the need to delve into the aspect of 'technical effect' and 'technical advancement', for determining patentability of CRIs. The following guidelines relating to CRI were taken note of in the said judgment:[20]

(i.)   Draft Guidelines for Examination of Computer Related Inventions, 2013

(ii.)   Guidelines for Examination of Computer Related Inventions, 2016.

(iii.)   Revised Guidelines for Examination of Computer Related Inventions, 2017.

33.   CGPDTM has also issued Manual of Patent Practice and Procedure on 26th November, 2019 ["*2019 Manual*"] which also refers to the 2017 CRI guidelines. The 2017 CRI guidelines and 2019 Manual thus clarify that "computer programs *as such*" are non-patentable, but inventions that involve a technical contribution or effect, beyond the program itself, may be

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[20] ¶ 9.

patentable. The 2019 Manual provides guidance for assessing technical contribution or effect, including evaluating whether the invention solves a technical problem, whether it provides a technical advantage over the prior art(s), and whether it results in a technical effect that goes beyond the normal physical interactions between hardware and software. The 2019 Manual emphasizes that each application will be evaluated on a case-by-case basis and that the Patent Office will consider specific technical details and contribution of each invention in making its determination.

34.   Ms. Mani as well as Mr. Choudhary argues that despite publication of guidelines and decision of this Court in *Ferid Allani* (supra), the Indian Patent Office's position on patent eligibility has not undergone a significant transformation. To bolster their argument, Microsoft relied upon data from Darts-ip platform, which offers information on intellectual property cases, and presented a note containing statistics on Controller's decisions under Section 3(*k*) of the Act. The authenticity of the data has not been verified by the Patent Office, and no view is expressed thereon. Nevertheless, this Court has observed that despite the legislative intent and interpretation of the courts (and earlier IPAB) on this issue, the Patent Office often places significant reliance on the necessity of novel hardware as the determining factor. In the present case as well, as discussed later in this judgment, non-patentability objection alludes to the same objection. The Court would thus reinforce the views expressed in *Ferid Allani* (supra) concerning the meaning of the term "computer program *per se*" in Section 3(*k*) of the Act. The patent applications should be considered in the context of established judicial precedents, Section 3(*k*) of the Act, extant guidelines related to CRIs, and other materials that

indicate the legislative framework. If a computer-based invention provides a technical effect or contribution, it may still be patentable. The technical effect or contribution can be demonstrated by showing that the invention solves a technical problem, enhances a technical process, or has some other technical benefit. The mere fact that an invention involves a mathematical or computer-based method does not automatically exclude it from being patentable. The invention can still satisfy the patentability requirements, including the requirement for a technical effect or contribution, to be eligible for patent protection. In other words, method claims in computer program patent may be patentable if it involves a technical advancement and provides a technical solution to a technical problem and has an improved technical effect on the underlying software.

Importance of signposts for evaluation of 'technical contribution' and 'technical effect'

35.   Section 3 outlines the categories of subject matter that are not considered inventions under Patent law. Under this provision, sub-section (*k*) to Section 3 includes the phrase "[…] computer programmes *per se*". As a result, it is necessary to differentiate this type of invention from those that incorporate or utilize computer programs. To determine whether an invention falls within the excluded categories, examiners must analyse the substance of the invention, rather than focusing solely on the form of the claims. This requires looking beyond the literal wording of the claims. The 2017 CRI guidelines, issued by CGPDTM, acknowledges the challenges and complexities surrounding the examination of CRIs. Clause 4.4.4 of the said guidelines underscores the need to focus on substance rather than the form.

The said guidelines instruct patent examiners to focus on the underlying technical contribution of the invention rather than its specific form or presentation. The substance of claims is to be taken as a whole. This approach for identifying the central idea ensures avoidance of grant of patents to the excluded inventions which may be camouflaged. It also ensures that inventions providing technical advancements and solutions to real-world problems are adequately considered for patent protection, irrespective of the way they are claimed or presented.

36.   The concept of technical effect and contribution is crucial in determining the patent eligibility of CRIs, but there is currently a lack of clarity in this area. It is essential to identify and evaluate technical contributions in CRIs to determine their eligibility for patent protection. The rapidly evolving nature of technology means that what constitutes a technical effect or contribution may become outdated in future. Therefore, there is a pressing need to clarify these concepts in order to strike a balance between protecting the rights of inventors and promoting the public interest and social welfare. Flexible and adaptive approach would ensure patent protection to genuine technological innovations while also preventing grant to overly broad patents that hinder innovation and competition. Thus, establishing clear and consistent criteria and guidelines for determining patentability of computer programs is essential to avoid ambiguity and arbitrariness in the patent system. This can be achieved by providing examples or illustrations of patentable and non-patentable computer programs. In 2017 CRI guidelines, all examples describing eligible and ineligible patents from the earlier guidelines have been removed. There are presently no signposts for the

examiners to navigate the field of examination of CRIs.

37.   While it is essential to assess each application individually, considering the unique facts and technical aspects of each claimed invention, providing examples of both patent-eligible and non-eligible inventions in the guidelines would be beneficial. This would offer valuable guidance and clarity to applicants and patent examiners regarding the patentability of specific types of inventions. This is also the standard international practice. Both the European Patent Office ["*EPO*"] as well as United States Patent and Trademark Office ["*USPTO*"] have provided examples of patent-eligible and non-eligible inventions in its guidelines for examination of inventions. The Indian Patent Office must also undertake the exercise of providing indicators to the examiners by citing exhaustive list of worked examples, relating to patent eligibility. These practice hints will help examiners to be consistent with the eligible cases and distinguish the ineligible cases. Counsels have implored this Court to venture into this arena, however, the Court has chosen to stay away and rather, considers it appropriate to direct the Patent Office to undertake this exercise. They have specialized technical knowledge and expertise in various fields, including CRIs, and are better equipped to consider the nuances and complexities of emerging technologies. The Court must emphasize that creating signposts would serve as a reliable guidance for the examiners and would eventually lead to consistency in examination. Such signposts would help ensure consistency in the examination process across different examiners, leading to a more predictable and transparent patent system. This could reduce discrepancies and likelihood of appeals, as well as improve the overall quality of examination process of CRIs. Applicants would

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be provided clarity in case specific guidelines are laid down for assessment of technical effect and contributions, which would give applicants a better understanding of the Patent Office's expectations, thereby allowing them to draft patent applications that clearly demonstrate/ delineate the technical merits of their inventions, if any. This, in turn, could improve the efficiency of the examination process and lead to a higher success rate for deserving applications and reduce subjectivity. As discussed above, field of CRIs is dynamic and new technologies may present unique challenges in determining their technical effect and contributions. Creating signposts and their periodical updation, on the basis of judicial guidance (decided court cases), would help examiners effectively adapt to these changes and ensure that the patent system remains relevant and capable of accommodating novel and inventive technologies. Besides, it would also ensure alignment with practices adopted in several jurisdictions such as EPO, USPTO, etc. In fact, signposts laid down by the EPO provide a well-established and structured framework for assessing patentability of CRIs. Therefore, keeping in mind the Indian legal framework, the Patent Office/ CGPDTM should also frame signposts. The CGPDTM is therefore, instructed to examine this issue and take appropriate action thereon, expeditiously.

Findings on the issue of Section 3(k) in respect of subject patent

38.   In light of the above discussion, we now proceed to analyse the grounds of refusal in the impugned order. Controller holds **firstly**, "*invention is a method/system for performing two level authentications based on cookies. Cookies are the files created by the websites and are locally stored in the memory which nothing but a set of instructions.*"; **secondly**, the Controller

finds that the patent claims are an "*implementation of computer executable instructions/ algorithms on a general purpose computing device to achieve the intended functional features.*" and, thus, he deems them to be computer programs *per se*; **thirdly**, the Controller finds the claimed invention objectionable as the computer program is in the form of system/ method claims to process steps and execute the algorithm.

39.   The Court opines that the Controller has entirely missed the point and his approach is misguided. Mere conclusion that Claims 1-28 are implemented on computer and are computer-executable instructions/ algorithms performed on a general-purpose computing device is not the correct approach for rejecting a patent application. The fact that the claimed invention involves a set of algorithms executed in a pre-defined sequential manner on a conventional computing device does not necessarily imply that it lacks a technical effect or contribution. It is possible that the invention provides a technical solution to a technical problem, and the computer program use is merely a means to achieve the technical solution. If the subject matter is implemented on a general-purpose computer, but results in a technical effect that improves the computer system's functionality and effectiveness, the claimed invention cannot be rejected on non-patentability as "computer program *per se*". Even a mathematical method or computer program can be used in a technical process carried out by technical means, such as a computer comprising hardware or a suitably configured general-purpose computer. The Controller has erred in summarily rejecting the application by stating that it entails a set of algorithms to execute instructions in a pre-defined sequential manner. The interpretation of "*per se*" under

Section 3(*k*) of the Act has been entirely overlooked by the Controller.

40. The subject patent provides a technique for authenticating a user for accessing one or more sub-locations of a network location, involving the use of two different cookies. One cookie is used for authentication at the network location, and another at the sub-location. The claimed invention's technical effect/ contribution is to prevent unauthorized access to sub-locations within the network location by using two different cookies and effectively foiling the attempts of a malicious user to gain access to network sub-locations by illegally obtaining cookies from another user. The technical effect is the improved security of the authentication process for accessing sub-locations of a network location. Prior to this invention, using only one cookie to authenticate a user for both the network location and sub-locations posed a security risk, as malicious users could steal cookies from others and gain unauthorized access. By using two different cookies/ two-tier authentication – one for the network location and another for the sub-location – the subject patent provides a more secure authentication process that is not vulnerable to cookie theft. The technical contribution of this invention is the technique of using two different cookies for providing authenticated access to a client computer accessing a sub-location(s) within a network location, which simplifies user interaction with content received from feeds. Overall, the subject patent enhances the security of accessing sub-locations of network locations and streamlines the user experience.

41. During the hearing, the Patent Office defended its decision by arguing that the invention is at the user-interface level and, hence non-patentable. This

understanding, absent in the impugned order, also cannot be sustained. This is because the subject patent's technical effect and contribution goes beyond the user-interface level. The invention provides a technical solution to the security risk associated with using cookies to authenticate users for sub-locations within a network location. The use of two different cookies for providing authenticated access to a client computer accessing sub-location(s) in a network location ensures that even if both cookies are stolen by a malicious user, the malicious user cannot gain unhindered access to other sub-locations within the network location. This technical solution goes beyond the user-interface level and provides a technical effect and contribution, that is patentable. The technical aspects of the invention, such as the use of cookies and two-factor authentication, are fundamental to the functioning of computer networks and are not limited to the user-interface. These aspects are vital for safeguarding access to network locations and their corresponding sub-locations, representing a critical concern for both businesses and individuals. Additionally, the use of multiple cookies for authentication is a technical solution that goes beyond mere user interface design and involves complex network-level communication protocols. The technical aspects of the invention are closer to the heart of computer and network technology, rather than user-interface. Furthermore, the fact that the invention improves the user experience does not necessarily mean that it is limited to the user-interface. User experience is undoubtedly an important aspect of any technology, and improvements in this area result from technical advancements at various levels in the computer architecture. The subject patent significantly enhances user experience; however, this improvement is a result of the technical solution it provides at a deeper level within the network. This solution enables

more secure and efficient and streamlined access to network locations and sub-locations, demonstrating the impact of the underlying technical advancements. Therefore, it would be incorrect to exclude the claimed invention on the basis that it is limited to user-interface. The technical aspects discussed above are fundamental to the functioning of computer networks and provide a significant technical contribution to the field.

Conclusion

42.   In conclusion, the Controller's rejection stems from misinterpretation of Section 3(*k*) of the Act, and an oversight of technical effect and contribution of the claimed invention, resulting in erroneous determination that the subject patent constitutes "computer program *per se*". By focusing solely on the implementation of the invention using computer-executable instructions and algorithms on a general purpose computing device, the Controller has failed to consider the true technical nature and advancements provided by the invention. The claimed invention offers a novel and inventive technical solution to a security problem related to the authentication of users for accessing sub-location(s) within a network location. It not only provides for a two-tier authentication process but also improves user experience, which is vital in the field of computer networks.

Directions

43.   The findings in the impugned order on Section 3(*k*) of the Act are not sustained and the impugned order is set-aside. The subject patent passes the first step and does not fall within the excluded categories. The next step is to assess novelty and inventive step (non-obviousness) of the claimed invention.

However, since there is no discussion on other requirements in the impugned order, which were raised in the Hearing Notice, and the impugned order has been passed solely on the basis of non-patentability under Section 3(*k*), the Court is constrained to remand the matter back to the Controller for further action. Microsoft's patent application shall be re-examined on objections regarding lack of novelty, and inventive step in view of other cited prior arts. While carrying out such determination, the Patent Office shall take into consideration the above observations, the judicial precedents, including the guidelines which have been issued for examination of CRIs. Considering the fact that the term of the patent would be ending in November 2023, it is directed that the decision on the subject patent shall be taken within one (01) month from today, after granting a hearing to Microsoft.

44. With the above directions, the present petition is allowed. All pending applications are also disposed of.

Postscript

45. It is essential for the Indian Patent Office to adopt a more comprehensive approach when assessing CRIs, taking into account technical effects and contributions provided by the invention rather than solely focusing on the implementation of algorithms and computer-executable instructions. An invention should not be deemed a computer program *per se* merely because it involves algorithms and computer-executable instructions; rather, it should be assessed based on the technical advancements it offers and its practical application in solving real-world problems. A more thorough and

accurate assessment of the invention's eligibility for patent protection should be conducted to ensure that deserving inventions are granted the protection they merit under the Act.

SANJEEV NARULA, J

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