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Determination of the Scope Invention over the Patent of Addition

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ABSTRACT: The patent of addition application is the development or improvement over the existing main application or parent application. Parent application is the application in which the improvements occurring within the scope of the main invention, no improvement and development can be applied outside the scope of the main invention in the patent of addition application. In this research paper a mathematical equation is formulated which is used to determine the scope of the invention and reduction in scope of the invention by applying the numeric value in place of theoretical reading of application. The mathematical model is used to identifying the scope of the main invention by increasing or decreasing of the number of the patent of the addition application or improvement within the same technology field as the main patent application. Thus by increasing the number of improvement in the form of the patent of addition application the scope of the invention starts reducing.

KEYWORDS: Patent of addition, Scope of the invention, Technology field, Patent.

I. INTRODUCTION

The present equation which is use to identifying the scope of the invention when the number of improvement occurring in the form of the patent of addition over the main patent. The scope of the invention which is closely related to the one field and in such case if the number of the patent is increasing within the one field of the invention so the void space over the improvement starts reducing within the one technology field so the scope of the invention start reducing .the patent is granted on the bases of satisfying the patentability criteria of novelty non-obviousness and inventive step furthermore for the granting of the improvement over the existing patent the patentability criteria are needed to be satisfied which are mentioned below.

Novelty: novelty is the type of patentability criteria in which anything should not be present in the prior art or in any previous document .novelty criteria is not so much need to satisfied in the case of the patent of addition in which the improvement over the existing patent because of novelty criteria is needed to satisfy for the main patent or the parent patent of the patent of addition. For the main patent novelty criteria is the mandatory to satisfying .in the novelty criteria invention should be new and novel and not any part of the invention should be disclosed anywhere in the world or not any part of the invention disclosed in the public[1].

Inventive step: An inventive step or the non-obviousness criteria is the patentability criteria in which the improvement provides the surprising result. By adopting the improvement in which the improvement includes technological advancement with respect to the existing development or state of the art. In the case of the patent of addition, non-obviousness is the main requirement which is needed to be fulfilling by the patent application which includes the adequate distance from the state of the art for providing the surprising result. In the case of the patent of addition application, novelty criteria are covered by the parent patent application and the non-obviousness criteria must be satisfied the improvement part of the invention or the patent of addition must satisfy the non-obviousness criteria[2], [3].

Industrial applicability: industrial applicability is the type of the patentability requirement in which the invention should be made and use in the industry or the invention should have the industrial application.in the case of industrial applicability the patent are granted by the patent authorities on the bases of the utility or usefulness of the invention .if



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the invention is not useful for the industrial application then the invention should not be granted by the patent authority. For the granting the patent invention should be satisfied with the criteria of industrial applicability[4], [5].

Patentability requirement: The patentability requirement satisfying the invention by satisfying the criteria of novelty, non-obviousness and industrial applicability by the all type of the patent application or the more of the type the patent application in the many cases the novelty criteria are not required to satisfying in the case of improvement of the invention such as patent of addition application but in the other type of application novelty criteria are the necessary criteria which is need to satisfying by all type of the patent application mentioned below.

Ordinary application: Ordinary application is the patent application that is filed to the national office to the home country. The ordinary application can be filed with or without the provisional application in which the provisional application is the important tool which is used to secure the priority date without claiming the invention or in another word in the provisional application claims are not present and it does also not disclose the invention entirely, after the filing of the provisional application there are the one-year duration or the grace period present to file the complete specification in which the ordinary application can also be a file with the complete specification without filing the provisional application in which complete specification contains the entire format of the application which is filed to the national office to the home country the complete specification is compulsory to file with all type of the patent application[6].

Patent of addition: patent of addition is the type of patent application that includes the improvement over the existing patent application in which further development occurs in the existing patent application or the main patent application. In the patent of addition, the patentability criteria required to satisfying only the non-obviousness criteria the novelty criteria not so much need to satisfy in case of the patent of addition because it needs to satisfy by the main patent or parent patent application. The patent of addition is the only grant after the granting of the main patent application and there is no requirement to pay the renewal fees. The patent of addition can file on the date of filing of the main patent application or the date later than the filing of the main patent application .the patent of addition can file after the filling of the main patent application. If the main patent application gets expire after the duration of 20 years so the patent of addition itself gets expire. Patent of addition can be converted to the main patent application on the request of the patentee in which patent of addition contains a new patent application number for which need to file the separate and different examination requests. The patent of addition also published after 18 months from the priority date.in the patent, if the number of patents of addition increasing the scope of the main patent starts reducing due to the reduction of void space in the same technical field[7].

Divisional application: divisional application pertains to the split type of patent application in which if the main application includes more than one invention in the single patent application so that application need to split into the two or more application. The divisional application needs to file when the application not fulfilling the criteria of the unity of the invention in which the two or more invention present in the single patent application which is needed to split on the direction of the controller. an applicant itself can file the divisional application without the direction of the controller, the basic concept of the divisional application in which the main patent application include the two or more invention in the one patent application due to which examiner need to examine the two invention in the cost of the one patent application which is not acceptable by the patent office so it needs to divide or split the patent application in the two or more patent application. A divisional application can be filed on the national office any time before the main patent application has been grant[8].

Convention application: convention application mostly related to file the patent application in the home country and after filing the patent application in the home country within the duration of one year it needs to file the patent application in the other different country which is part of the group of convention country. The basic concept of the convention application if the applicant files the patent application in the home country and if applicant intended to protect the invention in the other foreign country so applicant required filing the patent application to the other county which is signatory part of a group of convention country within the duration of the one year grace period without loss of the priority date. A provisional application cannot be filed in the case of convention application and the priority date of the convention application is the date of filing the main patent application in the home country[9].

PCT application: PCT application is the type of application that is needed to file when the filing of the international application.PCT application is similar to the convention application in which duration of filing the convention application is 12 months but in case of the duration of filing the PCT application in the other country is 31 months the procedure of filing PCT international application is same as the convention application in which after filing the patent



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application in the home country applicant requires to file the international application within the duration of 12 months. After filing the international application in the receiving office of the India RO/IN or the international bureau RO/IB. The international searching authority within the duration of 3 months generates the search report which is sent to the applicant for further proceeding. If the invention satisfying the criteria of novelty or non-obviousness and utility then the applicant proceeds the invention further to apply the national phase application .the national phase is the actual phase where the application search or grant by the national offices. The patent co-operation treaty provides the search report but not grant the patent wherein the grant of the patent only provided by the national offices of the respecting country[10].

II. RESEARCH QUESTION

1. How the technology determine the scope of the invention by putting value into the equation
2. Does the present equation determine scope of the invention by any person who is not skilled in the art?

III. REVIEW OF LITERATURE

Mario Franzosi disclosed that in the article of a novelty and non-obviousness-the relevant prior art the invention should be novel if it comprises the novel concept with the improvement and the development which must be different from the prior art in another word invention is novel when it different from the prior art not so much different from the prior existing technology required a small difference is sufficient simple an invention A' is the new invention when it is different from the prior art A'≠A. in the case of non-obviousness a sufficient difference from the prior art required or a certain degree of difference required in which simple difference not sufficient how much required that is different part an invention A' is non-obvious when the invention is significantly different from the prior art. For each of the development in the patent of addition application, there is a significant difference required from the previous existing patent or the main patent that maybe not equal to the previous patent or difference should be present from the main patent application[11].

There are the various research and development have been done to equate the patent of addition criteria in which the by increasing the improvement in the one technology field the scope of the invention start reducing and by continuous development in the one patent technology the scope in that technology start reducing by reducing the void space in the technology. The void space plays an important role between the technologies it correlates with the scope of the invention in which if in the one patented technology the continuous improvement occurring the scope of the technology initiate to reduce by reducing the technology gap.

IV. METHODOLOGY

The present equation pertains to identifying the scope of the invention wherein the scope of the invention increases or decreases by increasing or decreasing the number of the patent in the one particular field of the invention. The present equation is determining the scope of the invention in which it is analyses that by increasing the number of the patent of addition in the one technology field the scope for new improvement or patent of addition application starts decreasing.

Instrument:

The increasing number of patent of addition application or improvement in the one technology field the scope of the main invention or parent application is started reducing in which the number of patents is defined by the N .The parent patent is defined by the X.

Data analysis:

Let the parent application is consider as the X instrument. The increasing number of patent of addition application or improvement in the one technology field the scope of the main invention or parent application is start reducing in which the number of patent is defined by the N .The parent patent is defined by the X.

Number of patent is indicated by the N

Parent patent is one for all the patent of addition application so consider X=1 for all patent of addition application.

$$X + \left(\frac{N+1}{N}\right)=0 \dots\dots\dots \text{EQUATION 1}$$

If the number of patent increasing in the one common fields of the patent so the scope of the invention start reducing.



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Consider the value of $N=0$

So by putting the value of $N =0$ in equation 1

$$\text{So } x + \left(\frac{N+1}{N}\right) = 0$$

$$X + \left(\frac{N+1}{N}\right) = 0$$

$$X + \left(\frac{0+1}{0}\right) = \infty$$

$= X + \infty = \infty$ hence there are the infinite possibility for the development in the technology.

Consider the value of $N=1$ so by putting the value of $N=1$ in equation 1

$$X + \left(\frac{N+1}{N}\right) = 0$$

$$X + \left(\frac{1+1}{1}\right) = 0$$

$$X + 2$$

ASSUME $X=1$

$$X + 2 = 3$$

$$1 + 2 = 3$$

Consider the value of $N=2$ so by putting the value of $N=2$ in equation 1

$$X + \left(\frac{N+1}{N}\right) = 0$$

$$X + \left(\frac{2+1}{2}\right) = 0$$

$$X + \left(\frac{3}{2}\right) = 0$$

$$X + 1.5$$

$$X = 1$$

$$2.5$$

Consider the value of $N=3$ so by putting the value of $N=3$ in equation 1

$$X + \left(\frac{N+1}{N}\right) = 0$$

$$X + \left(\frac{3+1}{3}\right) = 0$$

$$X + \left(\frac{4}{3}\right) = 0$$

$$X + 1.33$$

$$\text{If } X = 1$$

$$2.33$$

Consider the value of $N=4$ so by putting the value of $N=4$ in equation 1

$$X + \left(\frac{N+1}{N}\right) = 0$$

$$X + \left(\frac{4+1}{4}\right) = 0$$

$$X + \left(\frac{5}{4}\right) = 0$$

$$X + 1.25$$

$$X = 1$$

$$2.25$$

Consider the value of $N=5$ so by putting the value of $N=5$ in equation 1

$$X + \left(\frac{N+1}{N}\right) = 0$$

$$X + \left(\frac{5+1}{5}\right) = 0$$

$$X + \left(\frac{6}{5}\right) = 0$$

$$X + 1.2$$

$$X = 1$$

$$2.2$$

Consider the value of $N=6$ so by putting the value of $N=6$ in equation 1

4

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$$X + \left(\frac{6+1}{6}\right) = 0$$

$$X + \left(\frac{7}{6}\right) = 0$$

$$X + 1.166$$

Assume $x=1$

$$X + 1.166$$

$$1 + 1.166 = 2.166$$

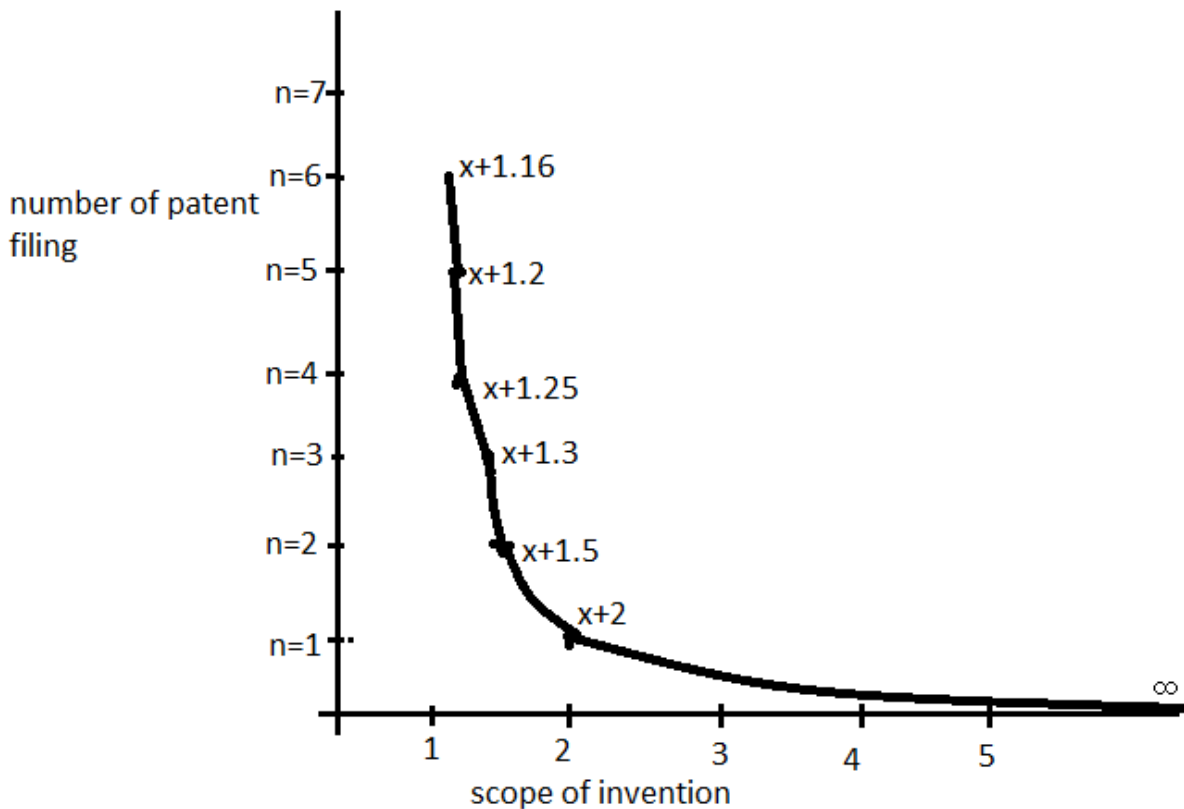


Figure 1: Graphical Representation of Patent of Addition with $x=0$

From the above analysis, it is identified that by increasing the number of the patent in the one technology field the scope of the invention start reducing by means of if the number of patents increasing in the form of improvement over the existing single parent patent so the scope of development of that invention is reducing. So in the above analysis it is identified that at the consideration where the number of the patent of addition is filing 0 so the possibility of infinite improvement over the existing technology but by increasing the number of the patent of addition so the scope of the invention starts reducing in the existing technology (Figure 1 & 2).

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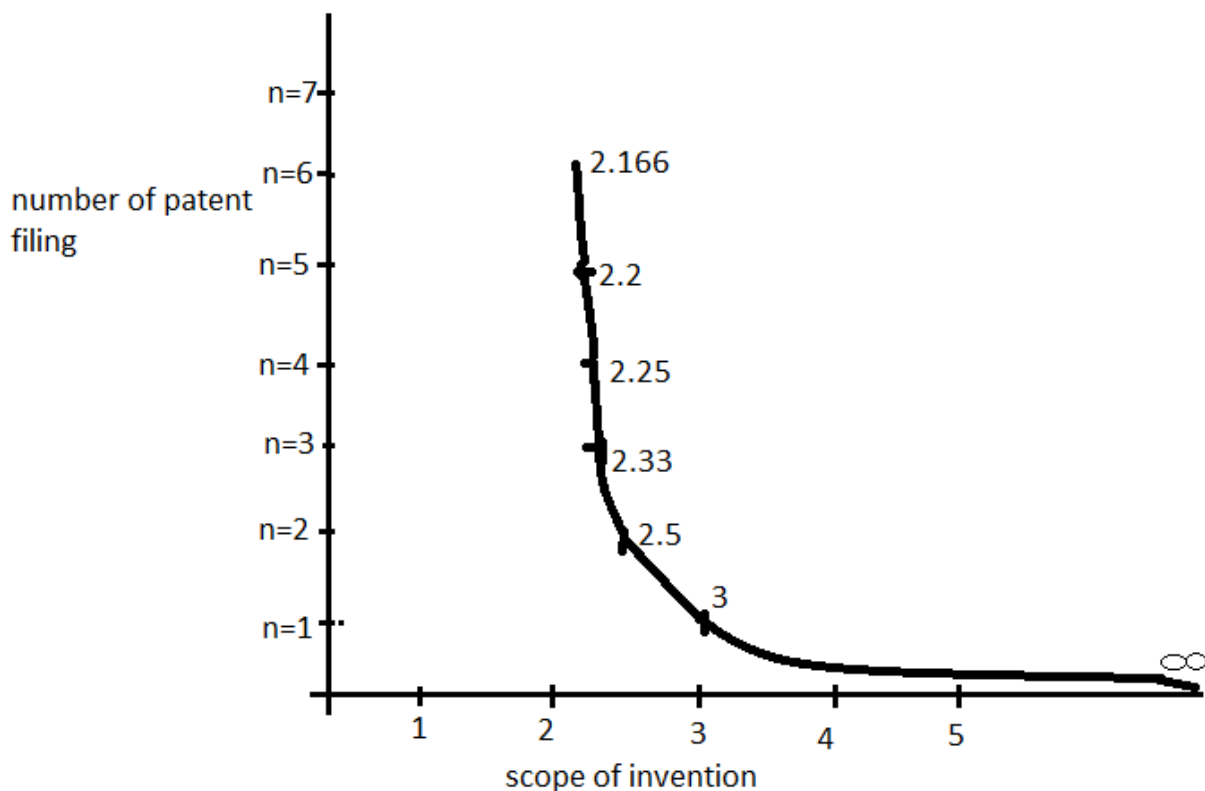


Figure 2: Graphical Representation of Patent of Addition with $x=1$

V. RESULT

The present equation is used to identifying the scope of the invention in which the scope of the invention is increasing or decreasing by increasing or decreasing the number of patents applying in the one technology field. From the above equation, it is identifying that by increasing the number of improvements or patents of addition in the one technology field the scope of the invention is decreasing for further development on the same technology field. In the above equation, it is mentioned that the number of patents indicated by N (number of the patent of addition application) which is increasing to determine the scope of the invention by putting the value in the given equation such as $X+(N+1/N)$. If the N number of patents increasing the scope of the invention in the particular technology field is decreasing at the initial stage assume the value of N is 0 there means no patent of addition application present or there is the infinite number of possibilities present for the improvement of the invention. If the number of patents increasing from 0 to 1 possibility of improvement start reducing due to which the scope of the invention start reducing so if N=1 number of the patent of addition present then the output result is X+2 which is shown in the first figure similarly if the N=2 the output result is $x+1.5$ and if N=3 the output result is $x+1.3$ and so on from the above analysis it is identifying that by increasing the number of the patent so the scope of the invention starts reducing.

From the above equation and the graphical analysis, it is identifying that when the number of patents increasing in the one technology field the void space between the technologies starts reducing. In the above graphical analysis, it is identified that scope of invention start reducing from the infinite value to the value of 2 in which X is assumed as the main patent application which value consider as to 1 for the parent patent application. In another word if the no patent of addition application is present there is the large possibility for the improvement of the patent application, but if the number of the patent of addition application is increasing as it indicated in the graph when the number of a patent of addition is 1 so the output result of the equation $X+(N+1/N)$ is 3, if the number of the patent of addition is considered



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as the 2 so, in this case, the result of the equation is 2.5 if the number of the patent of addition is applied for 3 so the result of the equation is 2.33 and similarly if the number of the patent of addition is applied for the $N=4$ so the results of the equation are 2.25 and so on. From the graphical representation, it is identifying that by increasing the number of patents of addition so the scope of the invention in the one technology field is reducing because of increasing the number of the improvement of the invention the void space between invention is reducing.

VI. CONCLUSION

The present equation related to identifying the scope of the invention by putting the value in the equation in which the number of the patent of addition application is increasing or decreasing due to which the scope of the invention is changing. From the above graphical analysis, it is identifying that by increasing the number of applications of the patent of addition within the one technology field the scope of the invention for the new application is decreasing due to which there is the very less void space present for the improvement of the invention. If the invention having the main patent application and the improvement of the existing patent application in which the large patent filling is occurring due to which the scope of the invention is starting decreasing for the further next patent application.

The patent of addition application is limited within the scope of the main patent application in which no new content in the application introduces which is outside from the scope of the main or parent patent application from the above mathematical model and graphical representation it is identified that when the main application is filled there is very much or infinite possibility present for the development or improvement of the invention but when the number of patent of addition application start applying within the scope of the main patent application the void place within the scope of the invention start reducing ,so from the above graphical analysis it is identified that when the number of patent of addition application filed on the behalf of the main patent application is zero so there are very much or infinite possibility present for the further improvement on the invention further more when the number of patent of addition application filed is one then the scope of invention decrease to $X+2$ or 3 in which $X=1$ is indicated as the main or parent patent application and $X+2$ defined as the point in which scope of the invention for the further development is limited. When the number of the patent of addition application applying over the main application is an increase to the value of 2 so the resultant scope of the invention for the further development is limited to the $X+1.5$ or 2.5 when the number of the patent of addition application further increase to the value of 3 so the resultant scope of the invention for the further development is limited to the $X+1.3$ or 2.33 when the number of a patent of addition application is increased to the value of 4 so the resultant scope of the invention for the next improvement of the patent of addition application is limited to the $X+1.25$ or 2.25 and similarly by the increasing of the number of patent for the improvement or by increasing the number of the patent of addition application so the scope of the invention for the further improvement is reducing.

The present equation subject to the various changes and improvement by the person skilled in the art from the above analysis it is identified that by the increasing the number of the patent of addition application over the main patent application having the single technology field or single technology scope so the scope of the invention starts reducing for the further improvement or development within the field of the main invention.

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