BRAZIL

PATENT APPLICATION GUIDELINES

Block Ⅱ Patentability

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CHAPTER I INVENTIONS

Introduction

1.1 An invention must have a technical and achievable character in some technological field. In accordance with Normative Instruction no. 030/2013 it is necessary that the invention fit into a technical sector, resolves a technical problem, and possess technical effect. Thus, it is necessary that the request provide evidence of the technical issue being solved, of the proposed solution, and the results achieved by the patent.

Basic Requirements

1.2 There are three basic requirements for the patentability of an invention:

(i) industrial application;

(ii) novelty; and

(iii) inventive activity.

These requirements should be ascertained in the order presented above. In the case that the request does not meet one of the requirements, there is no requirement to examine the others. There may be cases in which the examiner judges it necessary to evaluate the remaining requirements in order to exhaust the examination of the invention as a whole.

Before appraising the three patentability requirements outlined above, the examiner should identify whether the expressed material, in its entirety, is covered by articles 10 and 18 of the LPI(Industrial Property Law), following the guidelines presented in the materials which are not considered to be inventions and of the non-patentable inventions.

Materials which are not considered to be inventions, scientific theories and mathematical methods – Section I of Article 10 of the LPI

Discoveries

1.3 If a new property of a product is found, that property is considered a mere discovery and not considered an invention. A product that presents that property, giving it a practical application, may be considered an invention.

Example:

The discovery that a known material is suitable for withstanding mechanical shock is not considered an invention. However, a rail

sleeper made from this material could be considered an invention.

1.4 Non-biological products or processes found in nature, such as natural minerals and chemical elements, are not considered an invention, since they are a discovery, even if isolated.

1.5 For questions involving biological products and processes found in nature, see the provisions of this Guideline regarding section IX of article 10 of the LPI, as well as Resolution 144/2015.

Scientific Theories

1.6 These are a more generalized form of discovery, and the same principle presented in the Discoveries item of these Guidelines applies.

Example: The physical theory of semiconductivity is not considered an invention. However, new semiconductor devices and processes for the manufacturing thereof can be considered inventions.

Mathematical Methods

1.7 A method that solves a problem unique to the field of mathematics (e.g., deductions, operations, solution to equations, etc.) is not considered an invention since it is not a solution to a technical problem. However, methods that use mathematical concepts to solve a technical problem in a technical field are considered an invention as long as they do not relate to other sections of Art. 10.

Example 1: A rapid division method would not be considered an invention, but a constructed calculus machine could be considered an invention.

Example 2: A method for developing electric filters, while referring to a mathematical equation, is considered an invention because it is the solution to a technical problem.

Example 3: A method for encrypting electronic communications can be considered a method that solves a technical problem, even though it is essentially based on a mathematical method.

Pure Abstract Concepts - Section II of Article 10 of the LPI

1.8 Anything that exists only in the realm of ideas, without any viable practical implementation, is an idea, a purely abstract conception and, therefore, is not considered an invention in accordance with the provisions of section II of article 10 of the

LPI. As pure abstract concepts, they also lack descriptive sufficiency. Methods that refer to a sequence of actions to solve a technical problem are not understood as pure abstractions.

Example: Consider the idea of an invisible car. As an idea not realizable by an expert in the subject, it is a purely abstract concept and, therefore, is not considered an invention. If the inventor describes a mode capable of implementing such a vehicle, this may be the subject of a patent.

Commercial, accounting, financial, educational, advertising, lottery and inspection Schemes, Plans, Principles or Methods - Section III of Article 10 of the LPI

1.9 The items contained in section III of article 10 of the LPI, even when they use technical means or have practical utility, are not considered inventions. The examiner must identify whether the matter claimed in its entirety solves commercial, accounting, financial, educational, advertising , lottery and/or inspection problems and not a technical problem.

Example: Creations falling under section III of article 10 of the LPI include:

(i) market analysis, auctions, consortiums, incentive programs, methods of section III of Art. 10 which involve point of sale ('POS'), transfer of funds through a banking network or ATM, between its functional stages, including exchange rate and service fee calculations, banking methods, tax processing, insurance, equity analysis, financial analysis, audit methods, investment planning, retirement plans, medical covenants, online method of purchasing, methods of selling airline tickets online, and others.

1.10 The fact that a method is applied in the financial field does not necessarily mean that it can be framed as a financial method. It is necessary to evaluate the matter claimed in its entirety and establish whether it solves a problem of a technical nature.

Example: A method that identifies a bank note by its pattern of images, colors and texts is considered an invention, for solving a technical problem, even though the method is specifically adapted to a bank note. In this case, the technical problem concerns the identification and counting of objects, which is not configured as a financial method.

1.11 Likewise, a method that provides a technical (non-financial) solution to a technical problem is considered an invention.
Example 1: A method of operating a banking machine, characterized by the steps of reading the user's card, identifying and comparing a password with the card information is considered an invention. The technical problem solved is user authentication.
Example 2: A solution for communication protocols or encryption applied to bank accounts or conversion of data formats, can also be considered an invention.

Literary, Architectural, Artistic and Scientific, or any Aesthetic Creation - Section IV of Article 10 of the LPI
1.12 An aesthetic creation by definition is related to an article that presents other non-technical aspects, whose appreciation is essentially subjective, and thus is not considered an invention.
Example: A painting or sculpture.

1.13 If, however, the article presents technical characteristics, it can be considered an invention.
Example: A tire-tread.

1.14 The aesthetic effect is not taken into account in the evaluation of an invention, whether in the product or in how it is processed.
Example:
A book claimed only in terms of the artistic or aesthetic effect of its information content, its layout or its font, would not be considered an invention, nor would a painting, defined by the aesthetic effect of its theme or arrangement of colors, or by its artistic style, such as Impressionism.

1.15 Nevertheless, if an aesthetic effect is obtained by a technical methodology or other technical means, although aesthetic creation alone is not considered an invention, the means for its attainment can be.
Example 1: A fabric having an attractive appearance, obtained by means of a layered methodology not previously used for this purpose, may be considered an invention.
Example 2: A binding or bonding process of a book could be patentable even though it also exhibits an aesthetic effect, and similarly a painting defined by the type of fabric, or by the dyes

or additives used.

1.16 A process for producing an aesthetic creation may also be considered an invention.
Example 1: A diamond may have a particular aesthetic shape (not considered an invention), produced by a new technical process. In this case, the process may be considered an invention.
Example 2: A process for the lapidation of a diamond may be considered an invention, regardless of whether the resulting diamond shape exhibits only aesthetic characteristics, which are not considered as an invention.
Example 3: A new printing technique for a book resulting in a particular layout with aesthetic effect may be considered invention together with the book obtained as a product of that process.

Computer program in itself -Section V of article 10 of the LPI
1.17 The computer program in itself, referred to in section V of article 10 of the LPI, refers to literal elements of creation, such as object code or source code, understood as an organized set of instructions written in natural or coded language.
As a set of instructions, code or structure, the computer program itself is the subject of copyright and therefore is not considered an invention and is not subject to patent protection because it is merely the author's expression of a programmer for a technical solution.

1.18 It should be emphasized that a method considered as an invention (not included in Art. 10 of the LPI) can be implemented by a computer program. In this case, such a method can be the object of patent protection, while the computer program itself (source code), by which its implementation is given, is the object of copyright protection.

1.19 Even if the source code is modified, and such modifications may have technical effects, that code is not considered an invention, but rather an object of copyright. If programmer "A" uses programming concepts different to programmer "B" to implement the same method and independently arrives at a distinct program, such a program would still be protected only by copyright.

1.20 The fact that a method is implemented by a computer program is irrelevant to the framing of the method in article 10 of the LPI.

Presentation of information - Section VI of Article 10 of the LPI

1.21 Any creation characterized only by its informational content, such as music, text, image and data, is considered a presentation of information.

Example 1: The presentation of information in a set of medical instructions is not considered an invention.
Example 2: The assignment of different colors to different weights used in dumbbells is considered presentation of information.
Example 3: The mere disclosure of information on panels affixed to the rear window of a vehicle, without any functionality, configures information presentation. However, panels using a specific film which preserves the visibility of the driver, are considered as an invention.

1.22 In the case of graphical user interfaces used in computers, those aspects that only concern their informational content are not considered as an invention because they affect section VI of article 10 of the LPI.
Example:
The subject matter claimed in a claim defining a graphic interface that deals with the arrangement of the icons on the screen, without any technical effect or functionality, is considered information presentation.

1.23 On the other hand, the method associated with the functional aspects of those interfaces may be considered an invention.
Example:
A claim for a graphical interface that associates personal annotations with excerpts of the document through XML tags that can configure a technical solution is considered an invention.

Game rules -Section VII of article 10 of the LPI

1.24 Game rules are not considered inventions because they are the solution to a problem which is considered as a technical problem for example a crossword solution method. The automation of a game rule, inventive or not, does not change the fact that it is a game

rule.

1.25 In game patent applications any references to the rules of the game, which often appear mixed with technical descriptions of the patent application, should be removed from the claiming table. Board games could be patented if they presented any new layout or format, such as a recess that facilitated the fixation of the pieces, or feet to prevent the tray from slipping or adapted to use in outdoor environments such as the beach, as well as, provisions that allow the tray to fold to accommodate it in a smaller space, are subject to protection.

Techniques and surgical or surgical methods, as well as therapeutic or diagnostic methods, for application in the human or animal body - Section VIII of Article 10 of the LPI

General Overview

1.26 According to section VIII of Article 10 of the LPI, therapeutic, operative/surgical or diagnostic methods for application to the human or animal body are not considered to be inventions.

Therapeutic Method

1.27 Therapeutic methods are those that focus on the cure and/or prevention of a disease or dysfunction of the human or animal body, or relief of symptoms of pain, suffering and discomfort, aiming at restoring or maintaining their normal health conditions. Methods characterized by the dosage and/or the posology of a medicament for treating or preventing a disease are also treated as therapeutic methods.

1.28 Thus, therapy methods performed inside or outside of the body are not considered as inventions.

Example 1: Treatment method against ectoparasites, such as lice, fleas, scabs and ticks.

Example 2: Treatment methods for the retina using laser.

Example 3: A method of treating a patient through extracorporeal dialysis or a filtration method in which the filtered blood is returned to the body at the end of the process.

1.29

The following claim formats are considered as therapeutic methods:

treatment of medical condition Y characterized by administration of substance X; the use of the substance X for treating a medical condition Y. "Substance X for Use in Therapeutic Method" or "Substance X for Use in the Treatment of Medical Condition Y" are also considered as therapeutic methods.
However, claims in the form conventionally called the Swiss formula "Use of a compound of formula X, characterized in that it is for preparing a medicament for treating disease Y" is not considered a therapeutic method.

1.30 Although both the prevention and cure of diseases are considered as therapeutic methods, there must be a direct link between the treatment and the condition to be treated or prevented. In this sense, hygiene methods are not considered therapeutic, although they may result in a reduction in the incidence of infection. Similarly, purely cosmetic methods are not considered as therapeutic. However, if the cosmetic method is directly related to the prevention or cure of an illness, the method will be framed as having an associated therapeutical character and therefore not considered an invention.

1.31 Non-therapeutic treatment methods:
Example 1: A method for increasing wool production characterized by administering compound X to sheep;
Example 2: A method for moisturizing human skin characterized by applying composition Y to human skin for aesthetic purposes - in this case, there is no indication in the application or prior art that the composition and the hydration method can also be used for the prevention/treatment of some skin disease.

1.32 However, there are some cases in which the methods may have both therapeutic and non-therapeutic character. If the non-therapeutic effect is inseparable from the therapeutic effect, or even if it is only a secondary consequence of therapy, it is not considered an invention. Thus, methods for removing dental plaque, or preventing plaque formation, are considered therapeutic, since the inherent therapeutic effect of removing plaque cannot be separated from the purely cosmetic effect of improving the appearance of teeth. Likewise, in the case of treatments of animals in which there is an increase in meat production or other industrial benefit as an inevitable consequence of the cure or prophylaxis of

an animal pathology, it is not possible to dissociate the therapeutic effect.

1.33 On the other hand, methods of reducing body hair may be used for purely aesthetic reasons or in the treatment of hirsutism (i.e., the therapeutic character may be dissociated, using a negative limitation to exclude hirsutism), and may be amenable to protection.

Operative or Surgical Method

1.34 Any method that requires an operative step, or an invasive step in the human or animal body, is considered as an operative method, focusing on what Article 10 (VIII) states is not an invention.

1.35 By definition, operative processes intended to cure diseases are said to be surgical methods or surgery. Surgery may be directed at curing diseases or prophylaxis, such as whether the appendix or tonsils are removed prior to the onset of any associated disease, as well as operative methods that are non-therapeutic, such as cosmetic surgery. Similarly, methods that define the insertion or implantation of devices by surgical means are also not considered inventions.

1.36 In addition, invasive methods such as endoscopy, puncture, injection, excision and catheterization will also be considered as operative methods. Likewise, a method for the implantation of the embryo, as well as artificial insemination in vivo, will be considered an operative method, regardless of their purpose.

Diagnostic Method

1.37 Diagnosis is the determination of the nature of a medical condition, usually by investigating its history, etiology and symptoms, and applying tests.

1.38 The diagnostic method involves a series of steps that lead to the identification of a clinical condition, which includes steps of analysis and interpretation of the data obtained. When they are for application in the human or animal body, they are not considered as an invention in accordance with the provisions of section VIII of article 10 of the LPI.

1.39 A diagnostic method for application in the human or animal body is covered by section VIII of Article 10 of the LPI when it meets the following criteria: (i) it has a direct application in the human or animal body, for example in the case of the determination of allergic conditions by diagnostic examination applied to the body, or requires the presence or participation of the patient for its interpretation; and (ii) allows the conclusion of the patient's clinical condition, or indicates several probable clinical conditions, based only on the processing, analysis or interpretation of data, information and/or results of clinical exams associated with the patient.

1.40 Some examples of claims for diagnostic methods which are not considered inventions are cited.

Example 1: An automated diagnostic method of a patient, characterized by the following steps:

(i) examining the patient to provide at least a first symptom element having a relative first degree of importance to the symptom;

(ii) examining the patient to provide at least a second symptom element having a relative second degree of importance to the symptom;

(i) apply the relative degrees of importance to the symptoms, in order to obtain a diagnostic score for the conclusion of a medical condition.

Example 2: A method of diagnosing occlusive diseases in patients, characterized in that it comprises of:

(i) establish separate basic data of size and angle measurements of facial harmony scores and compiled values from a group of faces;

(ii) access the facial features of the patient, arrange markings on facial structures, and measure the size and angle of the patient's face;

(iii) compare the measured markings' values and patients' angle measurements to the corresponding basic data. This method consists of compiling and establishing standard data on facial measurements, arranging and marking the patients, and comparing the data for the establishment of a diagnosis, and is therefore applied in the human body and requiring the patient for interpretation.

1.41 Methods consisting of in vitro tests performed on samples of blood or other tissues removed from the body are therefore considered inventions either because they are not applied in the

human or animal body or because they do not related to the patient's clinical condition. On the other hand, diagnostic methods may include in vivo and in vitro steps. In such cases, if the claimed method includes technical steps performed in vivo which are inseparable from the in vitro step, the method in its entirety will be applied to the body and therefore not considered as an invention. In addition, treatment of tissues, cells or body fluids after they have been removed from the human or animal body, or methods applied thereto, such as, in vitro methods, are considered protectable.
This situation includes the methods of measurement of enzymes and blood glucose, blood count, serology tests and others.

1.42 In addition, methods of obtaining information from the human or animal body are not considered diagnostic methods, when the data collected represent merely an intermediate result that, in and of itself, are not sufficient for a diagostic decision. Therefore, they are subject to protection.

Example:

Methods for obtaining and/or processing X-ray images, magnetic resonance imaging, in addition to processing physiological signals, such as electrocardiograms and electroencephalograms, to obtain data from a patient.

The whole or part of the natural living beings and biological materials found in nature, or even isolated from it, including the genome or germplasm of any natural living being and natural biological processes - Section IX of Article 10 of the LPI

1.43 The whole or part of the natural living beings and biological materials found in nature - whether isolated or produced in a synthetic form having naturally occurring correspondents and cannot distinguish them from natural ones - are considered natural biological products and shall not be considered as invention, since they related to Art. 10 (IX) of the LPI.

1.44 For claims such as processes, methods, uses, applications, among others, the provisions of section IX of article 10 of the LPI refers only to natural biological processes, provided that these are not considered as inventions. When the claimed process involves all or part of natural living organisms and biological materials found in nature, including the genome or germplasm, but does not consist of a natural biological process, there is no impediment to

its patentability in accordance with the provisions of section IX of article 10 of the LPI. In this way, the process that uses a natural product represents the result of a human intervention and is considered an invention.

Example:

The classical process of obtaining plants or animals is not an invention. Likewise, processes that possess only steps that mimic events occurring in nature, are not considered inventions. In contrast, methods based on genetic engineering, where technical intervention is significant, are considered inventions.

Non-patentable inventions -Article 18 of the LPI

What is contrary to morality, good customs and public safety, order and health - Section I of Article 18 of the LPI

1.45 Inventions may be considered as non-patentable where it is necessary to avoid exploitation in their territory in order to protect public order or morality, including to protect human, animal or plant life or health or to prevent serious damage to the environment, provided that this decision is not made only because the application is prohibited by legislation.

1.46 Any invention whose commercial exploitation is contrary to public or moral order is specifically excluded from patentability. This is to deny protection to inventions typical of inducing public disorder or disorder, or leading to criminal or other generally offensive behavior, although this provision is invoked only in rare cases. A letter bomb is an example. The mere possibility of abuse of an invention is not enough to deny patent protection if the invention can be exploited in a way that does not infringe on public order and morals.

1.47 Particular attention should be paid to applications in which the invention has both offensive and non-offensive applications.

Example 1: In a process for opening security safes, the use by a thief is considered offensive, but not a locksmith in an emergency. In this case, there should be no objection.

Example 2: A claim for a copy machine with improved reproduction accuracy does not fall under article 18 of the LPI as contrary to public order even though it may be used for counterfeiting.

1.48 Biotechnology is a technological field that generates inventions that can raise moral and public order issues. The patenting of such inventions is refused in accordance with the provisions of section I of article 18 of the LPI. As non-exhaustive examples we have:
(i) Processes for the cloning of human beings;
(ii) Processes for the modification of the human genome that cause the modification of the genetic identity of human germ cells; and
(iii) Processes involving animals which cause suffering thereto without any substantial medical benefit to humans or animals resulting from such processes.

Substances, materials, mixtures, elements or products of any kind, as well as the modification of their physicochemical properties and the respective processes of obtaining or modifying them as a result of the transformation of their atomic nucleus - Section I of Article 18 of the LPI

1.49 The methods of nuclear fission or fusion themselves, as well as their products, are not patentable according to section II of Article 18 of the LPI. However, processes or methods involving radioactive materials but not comprising the transformation of the atomic nucleus may be patented.

Example 1: A method for separating deuterium and tritium from a mass of hydrogen (which already contains these isotopes) would be patentable. The fact that a method is applied to nuclear engineering, for example in a reactor or particle accelerator, does not necessarily mean that it is in disagreement with that section.

Example 2:

A magnetic confinement method can be used both for the production of Bose-Einstein condensates (not enclosed by the section) and for the production of substances by nuclear fusion (prohibited by the section). In this case, the examiner must identify the technical problem to be solved and verify whether the application in question directly or indirectly claims the merger or fission process itself (prohibited by the section), or is aimed at technologies associated with confinement, to the generation of energy from the use of particles or heat emitted in the nuclear reaction, to containment materials (not enclosed by the section).

1.50 In addition, it should be emphasized that the section in question does not prohibit the patenting of devices, machines,

equipment or arrangements associated with nuclear technology. The aforementioned magnetic confinement can be carried out from an experimental arrangement that can be patented. In the same way, other examples of these technologies include equipment for particle detection and electromagnetic radiation, gas pumping, vacuum chambers and pumps, sensors, control systems, etc.

1.51 Other examples of matters that are prohibited in accordance with the provisions of section II of article 18 of the LPI are mentioned below.
Example 1: A method of enriching radioactive isotopes in which the excitation of the nuclei is made by electrons and high energy photons (in the form of X-rays) or by a laser;
Example 2: A method of producing radioactive isotopes using particle accelerators;
Example 3: A method of nuclear fusion to produce light elements to be used as fuel in a second nuclear reactor.

1.52 The following are examples of matters that are not prohibited in accordance with the provisions of section II of article 18 of the LPI.
Example 1: Methods of internal control of a reactor through an electrical device.
Example 2: Automated depressurising systems in a nuclear reactor.
Example 3: Systems for shutting down a nuclear reactor.
Example 4: A compact water pressure nuclear reactor.
Example 5: A reactor to produce controlled nuclear fusion.

All or part of living organisms, other than transgenic micro-organisms that meet the three requirements for patentability - novelty, inventive step and industrial application - provided for in Article 8 and which are not mere discovery - Section III of Article 18 of the LPI
1.53 With regard to transgenic micro-organisms, the sole paragraph of article 18 (III) of the LPI states that "For the purposes of this law, transgenic micro-organisms are organisms, other than all or part of plants or animals, which intervention in its genetic composition, a characteristic not normally attainable by the species under natural conditions."

1.54 According to this definition, the term transgenic microorganism encompasses microorganisms which are obtained from any technique which results in the alteration of the genetic makeup by direct human interference not achievable by the species under natural conditions. This definition is not limited to microorganisms that have inserted exogenous genes and/or other organisms.

1.55 For the examination of claims of transgenic micro-organisms, it should first be checked whether in the description of the application the term "micro-organism" covers animal and plant cells, which is not subject to protection, since all or part of plants and animals, even if transgenic, are not patentable.

1.56 The generic term "microorganism" is used for bacteria, archaea, fungi and unicellular algae which are not classified in the Plant Kingdom and protozoa. Thus, among all or part of living organisms, natural or transgenic, the LPI allows only the patenting of transgenic microorganisms.

Chapter II Industrial Application

2.1 Article 15 of the LPI states that the invention is considered to be subject to industrial application when it can be used or produced in any type of industry. The concept of industrial application must be analysed with due flexibility as to its meaning, and it applies also to the agricultural and extractive industries and to all manufactured products, provided they are endowed with repeatability.

2.2 The term industry must be understood as any activity of a technical nature that is not individualized; that is to say, it is personalized and/or specific to a single individual, without repeatability.
Example: A method of throwing a basketball by an individual has no industrial application.

2.3 Considering the fact that an industry does not exist in the sense of making or using something that has no known purpose, it is necessary that the invention under scrutiny has a utility and that the descriptive report identifies any practical way of exploiting it. In this way, purely abstract conceptions or speculative indications do not satisfy the requirement of industrial application.

2.4 The concept of industrial application does not necessarily imply the use of a machine or the manufacturing of an item.
Example: The conversion of one form of energy to another represents industrial application.

2.5 An invention which has no industrial application and is also that which is operable in a manner which is clearly contrary to the established laws of physics.
Example: A perpetual motion machine.

2.6 Test methods should generally be considered as inventions subject to industrial application and therefore patentable if the test is applicable for improvement or control of a product, apparatus or process which in itself is considered subject to industrial application, such as a test of industrial products or other phenomena (e.g. for the determination of air or water

pollution), is considered to be of industrial application.

Chapter III State of the Art

Definition and General Concepts

3.1 According to the first paragraph of article 11 of the LPI, the state of the art consists of everything made available to the public before the filing date of the patent application, by written or oral description, by use or by any other means, in Brazil or abroad, except for the provisions of articles 12 (grace period), 16 (unionist priority), and 17 (internal priority) of the LPI.

3.2 There are no geographical, language or media restrictions by which relevant information has been made available to the public, and no time limit is stipulated for documents or other sources of information.

Relevant data for searching for prior art

3.3 The date to be used in searches for prior art should be considered the relevant date, that is, the date of deposit or the date of priority, when there is one. It should also be remembered that different claims or different alternatives sought in a claim may have different relevant dates. Patentability requirements should be analysed for each claim or part of a claim when it has several alternatives. The prior art relating to a claim or part of a claim may include material which may not be citable against another claim or part of a claim because the latter has a relevant prior date. Of course, if all prior art documents were available to the public prior to the date of the oldest priority document, the examiner should not be concerned about the association of priority dates for each claimed subject matter.

3.4 A written description, such as a document, should be considered available to the public if, at the relevant date, it was possible for the public to have knowledge of the contents of the document, and if there were no confidentiality issues restricting the use or dissemination of such content.

Example:

German utility models are readily available to the public on their filing date, which precedes the date of official publication.

3.5 The search report should not cite documents in which there are doubts as to the availability and the precise date of publication

of the same.

Sufficient description

3.6 Material can only be considered accessible to the public and thus understood in the state of the art, according to the provisions of paragraph 1 of article 11 of the LPI, if the information provided is suitable for a person skilled in the art to practice said matter, considering general knowledge in the specific field of the material available at that time.

3.7 Priority cannot be a mere abstraction, but must be feasible.

Example:

A patent application claims a method of recovery of wrecked ships, which consists of inserting floating bodies inside the ship through a tube launched by a rescue boat. By the method, the insertion of these elements proceeds until the thrust force is sufficient to lift the ship from the bottom of the sea and bring it to the surface. A 1949 Donald Duck comic book "The Sunken Yacht, by Gari Barks" describing a method for recovering wrecks using table tennis balls cannot be used as a prior art for this application, as the magazine does not provide sufficient information for the implementation of the method described therein.

Documents in a non-official language

3.8 It is the INPI's administrative practice to use foreign documents in searches carried out during the examination of the patent. Therefore, there is no obstacle to the use of documents submitted in a language other than Portuguese.

3.9 If the applicant or third parties present documents in a foreign language that the examiner does not possess, they should be requested to translate these documents into Portuguese or to present the same document in some other language of the examiner's domain, and a statement by the applicant that the said translation is true to the original document.

3.10 On the other hand, where the examiner submits a document in a foreign language other than English, the examiner shall attach to the original document a simple translation into English or Portuguese of the complete document or part of the document used, being able to make use of automated translators.

Patent documents not yet published on the relevant date of the application under examination (Article 11 § 2 of the LPI)

3.11 The state of the art also comprises the complete content of the application filed in Brazil, the date of filing or the claimed priority being prior to the relevant date of the request in question but having been published, even if subsequently to that relevant date. Such documents serve only for the purposes of gauging novelty. "Full Content" means the entire disclosure, that is, the descriptive report, drawings, claims and summary, including:

(i) any material explicitly disclosed;

(ii) any matter for which a valid reference to other documents is made, such as, if a document is quoted in an application as originally filed, the contents of this document are deemed to be part of the prior art, provided that such reference has been made available to the date of publication of the application filed in Brazil, and used as state-of-the-art; and

(iii) state of the art as well as explicitly described.

For applications deposited via PCT, the publication referred to in the paragraph above is an international publication. For such requests, the deposit made in Brazil is considered from the notification of entry into the national phase of the international application.

Means of disclosure

3.12 The state-of-the-art disclosure means includes published documents, disclosure by use and disclosure by other means.

Example: Oral disclosure.

3.13 It is important that such disclosures include the following elements: certainty as to the existence and date; sufficiency so that a person skilled in the art can duly understand the content of the matter exposed; and that is, that it is available or available to be known by third parties (general public).

3.14 The term "publicly accessible" in accordance with paragraph 1 of Article 11 of the LPI represents situations where information can be accessed by any person. It is not necessary that this information be effectively accessed, the possibility of doing so being deemed sufficient.

3.15 It should be noted that technical information in secret conditions is not part of the state-of-the-art. The condition of secrecy includes situations in which the obligation to keep secrecy comes from regulations or agreements of confidentiality.

3.16 However, if a person that has an obligation to maintain secrecy breaks the regulation, agreement or implicit understanding, describing the information and making the technologies available to the public, these technologies become part of the state of the art, as of the date of availability.

Published Documents

3.17 Published documents are a means of dissemination that must indicate or present any other evidence that proves the date of publication.

3.18 The documents with the above definition may be printed or typed such as patent documents, scientific journals and technical books, annals of events, including congresses, symposia, seminars and workshops, doctoral theses, master's dissertations, monographs , technical standards, specialized documents, text books, technical manuals, procedures or officially published technical reports, newspapers, product catalogues, and advertising materials. They may also be audio or video materials obtained by electrical, optical, magnetic or photographic means, such as microfiche, films, negative films, video tapes, tapes, OVOs and CDROMs. They can also be documents on the internet or in the form of other online databases.

3.19 In case of doctoral theses, master's dissertations and monographs, the relevant date to be considered for publication purposes shall be the date of the defense, except in cases where the defense is carried out under conditions of secrecy, in which case the relevant date shall be the date of publication of the document.

3.20 The framing of a document as a description should not be affected by the location or language of the publication, the manner of acquisition, or its age. The release of the publication, or if the depositor is aware of this, are also of no relevance.

3.21 Regarding documents published with the words "Internal Materials" or "Restricted Publication" or other such words, if they were distributed in a restricted scope and needed to be kept confidential, they are not considered as published documents in the context of the LPI.

3.22 The date of a publication is considered the date of disclosure. Only when the specific month or year is indicated as the date of publication, is the last day of the month or year to be considered as the date of disclosure. Typically, in the original documents, the dates are located on the cover page, that is, at the beginning of the document. In some cases, the date is only quoted at the end of the publication. However, when there is no description to identify the date of the document, the INPI Library may be required to contact the publishers.

3.23 The certainty as to the date and descriptive sufficiency of the document of precedence can be proven, for example, through an invoice duly dated and that specifies the product in an incontestable way. Catalogues and factory drawings may be used with invoices in order to allow the characterization of the document as to its descriptive sufficiency; so that the whole of the proof - fiscal note and catalogue/drawing - leaves no doubt that the object corresponds sufficiently to the one that is intended to be challenged.

Oral Disclosure

3.24 Any oral disclosure must be accompanied by evidence of its origin, by means of a registration and date of disclosure, such as a transcript of a speech.

3.25 Oral disclosure includes conversations, reports, lectures at symposia, broadcasting, television broadcasting and cinematography, which may make the technical information known to the public. For information on conversations, reports or lectures in symposia, the date of the action should be considered as the date of disclosure. For broadcasting information, television broadcasting or cinematography, which may be received by the public, the date of transmission or show must be considered as the date of disclosure.

Disclosure by Use

3.26 Disclosure by use means that the technical solution is placed in condition to be evaluated by the public through its use.

3.27 Means of dissemination through use include producing, using, selling, importing, exchanging, presenting, showing or displaying, that may make the technical information available to the public. To the extent that by the above means technical information is placed in such a condition that the public may know it, disclosure by use may be established, and is not relevant if the public did in fact know it. However, if in the display or demonstration of a product, no explanation of the technical content thereof is provided in such a way that the structure and function or composition of the product is not disclosed to a person skilled in the field, the display or demonstration does not constitute disclosure by use.

3.28 When disclosure by use refers to a product, it may be established even if the product or device used requires reverse engineering to know its structure and function, provided that this does not involve undue effort. In addition, disclosure by use also includes disclosure in a display booth or in a display case of information materials or directly visible materials that are understandable by the public, such as posters, drawings, photographs, examples and samples.

3.29 The date on which the product or process is made available to the public should be considered as the date of the disclosure per use.

3.30 In the case of a document (e.g. a journalistic article), which reproduces an oral disclosure, for example of a public conference or of a given information of a prior use in a show at a public exhibition, the oral disclosure or prior use having been made available to the public before the date of filing of the application, even if the document itself has been published after the said filing date, the examiner must assume that the document faithfully represents the public conference, exhibition or exhibition and, therefore, to consider such a document as part of the state-of-the-art.

Material found on the internet

3.31 The term "internet" refers to the system of interconnected computer networks and which provides information made available to the public by means of telecommunications.

3.32 Content from the Internet can only be accepted as prior information in the case of proof of publication date.

3.33 Restricting access to a limited circle of people, such as by password, or the requirement to pay for access - similar to buying a book or subscribing to a newspaper - does not prevent a website from being part of the state of the art. It is sufficient that the website is in principle available without any degree of confidentiality. Web pages on which information is coded so that it cannot be read in general - excluding cases where a decoding tool is widely accessible, with or without payment of a fee - is a case where information is considered not to be accessible to the public. If, prior to the filing date or priority of the patent application, a document stored on the internet and accessible through a virtual address (1) can be found with the help of a public internet search tool through one or more keywords, and (2) remains accessible at the address for a sufficient period of time to any person, i.e. someone with no obligation to keep the document secret and has direct and unambiguous access to the document, then the document is deemed to have been available to the public in accordance with the provisions of paragraph 1 of article 11 of the LPI.

3.34 In relation to material divulged in e-mails, it cannot be considered accessible to the public, since they are understood as documents covered with confidentiality.

3.35 Disclosures on the Internet are part of the state of the art in accordance with paragraph 1 of article 11 of the LPI. Information disclosed on the internet or on online databases is considered publicly available from the date that the information was publicly disclosed. Some information may only be available on the internet.

Example:

Online manuals and tutorials for software or other products with a short lifespan.

Establishing a publication date

3.36 An electronic technical information without an indication of the date of publication cannot be cited as state of the art.

3.37 Establishing a publication date has two aspects: It must be assessed separately if a given date is indicated correctly, and if the content in question was in fact made available to the public as of that date.

3.38 The nature of the internet may make it more difficult to establish the actual date on which the information was made available to the public. Not all web pages mention when they were published. In addition, web pages are easily updated, but most do not provide previously submitted records of material, nor does it display those that allow the public to establish precisely what was published and when.

3.39 When an Internet document is cited against an application or patent, the same considerations should be made as for any other reference, including standard paper publications. In many cases, internet documents present an explicit date of publication, which is generally accepted. The burden of proving otherwise shall lay with the depositor and circumstantial evidence will be required to establish or confirm the date of publication.

3.40 While the content disclosure dates on the internet can be taken at first as valid, there are, of course, different degrees of reliability. The more reliable the disclosure source date, the harder it will be for the depositor to challenge the disclosure.

3.41 When an internet disclosure is relevant to the examination, but gives no explicit indication of the date of publication in the disclosure text, or if the depositor questions whether a particular date is unreliable, the examiner may attempt to obtain further evidence to establish or confirm the date of publication. Specifically, it may consider using the following information:

(i) Information relating to a web page available from an internet archiving service, such as the Internet Archive, accessible through the so-called "Wayback Machine" -www.archive.org. The fact that Internet Archive is incomplete does not diminish the credibility of archived data. Legal remarks regarding the accuracy of the

information provided, routinely used in web pages, should not be considered to negatively reflect the accuracy of the information;
(ii) the recorded date related to the history of modifications applied to a file or web page such as available for wiki pages, such as Wikipedia and other such systems, such as those used for the development of distributed software;
(iii) the record of a computer-generated date as available from file directories or other repositories, or as automatically added to content, such as discussion groups, indexing dates attributed to the web page by search engines, such as from the Google cache. These dates will be later than the date of publication of the document, since the search tools take some time to index a new web page;
(iv) Information about the replication of disclosures on various mirroring websites pages - or in various versions.

3.42 It is also possible to consult with the owner or author of the website when trying to establish the publication date to a sufficient degree of certainty.

3.43 The following sections deal with the reliability of the various types of internet disclosure.

3.44 The online technical journals of scientific editors are of particular importance for the determination of the state of the art. The reliability of these publications is the same as that of the traditional journals printed on paper, that is, very high.

3.45 It should be noted that the publication of a specific subject in a journal on the internet may be prior to the date of publication of the corresponding paper version. In this case, the date of publication of the document to be considered is the oldest.

3.46 If the publication date of an online journal is vague, such as the month and year, and the most pessimistic possibility - the last day of the month - is too late, the examiner may request the exact date of publication. This request can be made directly through a contact form that the publisher can offer on the Internet, or through the INPI library.

3.47 The information published on the following websites is considered reliable:
(i) web pages of publishers that have issued well-established publications, such as web pages with electronic data from newspapers and magazines, and which offer electronic publications of academic journals;
(ii) web pages of academic institutions, as well as pages of academic societies and universities;
(iii) websites of international organizations, such as bodies that publish information on standard measures; and
(iv) web pages of public organizations, such as ministries and agencies that publish details of research activities and news of scientific discoveries, especially from research institutes.

Other Publications
3.48 The internet is also used to exchange and publish information in other formats, for example, internet discussion groups, blogs, discussion group email archives, or Wikipedia pages. Documents obtained from such sources are also state of the art, provided that the date of publication can be accurately established and the content is available to the public.

3.49 Date tags generated by the provider of a commonly viewed service -such as blogs, newsgroups, or the version history available from Wikipedia pages- can be considered as trusted publishing dates.

Technical details and general observations
3.50 Web pages are sometimes divided into tables (or frames), whose content is created from different sources. Each of these tables may have its own publication date, which can be checked. In these documents, it must be ensured that it is using the correct date of publication, i.e. that the quoted date refers to the intended content.

3.51 Some Internet addresses (URLs) are temporary, for example when they are designed to work only during a single session while the user is logged into the web page. Long URLs with seemingly random numbers and letters are indicative of these. The presence of such a URL does not preclude disclosure of being used as state of the art. For temporary URLs, the examiner should indicate how it arrived at that particular URL on the respective webpage, i.e. what links

were followed, or what search terms were used.

3.52 When printing a web page, care should be taken that the complete URL is clearly legible. The same applies to the relevant publication date on a web page.

3.53 It should be borne in mind that publication dates may be presented in different formats, especially in the Brazilian / European format dd/mm/yyyy, in the American format mm/dd/yyyy or in the ISO format yyyy/mm/dd. Unless the format is explicitly indicated, it will be impossible to distinguish between the Brazilian format and the American format for day 1-12 of each month.

3.54 The examiner should always indicate the date on which the website was accessed. When citing internet disclosure, it must submit the data included in the state of the art document, such as the form that the date of publication was obtained, as well as any other relevant information.

Example:

Where two or more related documents are cited, as they are related, and/or indicating that a particular link in the first document leads to a second document.

Example according to the ABNT electronic format:

KRUG, C A.; ANTUNES FILHO, H. Melhoramento do cafeeiro: III - Comparação entre progênies e híbridos da var. bourbon. Bragantia, Campinas, v. 10, n. 11, 1950.
Available at <http://www.scielo.br/scielo.php?script=sci_arttext &pid=S0006870519500011 00004&1ng=pt&nrm=iso>. Accessed on July 25 2012 .http://dx.doi.org/1 0. 1 590/S0006-87051 950001 1 00004.

Cross-references between state of the art documents

3.55 If a "primary" document refers explicitly to another "secondary" document as providing more detailed information on certain characteristics, the latter's teaching should be considered as incorporated into the primary document if the document was publicly available at the time of publication of the primary document. The relevant date for novelty examination purposes, however, is always the date of the primary document.

Errors in the state of the art documents

3.56 Errors may exist in prior art documents, for example, a

document describing a chemical compound with pentavalent carbon. Using general knowledge, the person skilled in the field can:
(i) see that the disclosure of a state of the art document contains errors, and
(ii) identify what would be the only correction possible.

3.57 Thus, errors in disclosure do not affect its relevance as state of the art, and the document can be considered as relevant in the patentability assessment.

Grace Period -Article 12 of the LPI

3.58 The grace period provides an exception to the state of the art. Disclosures by the inventor themselves, by the INPI without the consent of the inventor, or by third parties on the basis of information obtained directly or indirectly from the inventor, shall not be considered as state of the art, provided that they occurred in the 12 (twelve) months which precedes the date of filing of the application or of its claimed priority, in accordance with Article 12 of the LPI.

3.59 Disclosures accepted for the grace period are non-patent documents.

Example:

Publication of scientific articles and oral communications, as long as they are registered, such as a transcript.

3.60 The publication of a patent application by the inventor themselves prior to the application under examination, deposited in any country, cannot be considered as a disclosure that falls under the terms of grace period.

3.61 Therefore, once an inventor's own document has been found that falls under the provisions of article 12 of the LPI, the examiner should not use the document as state of the art, but must mention it in the search report and in the opinion, justifying in the latter its non-use for objections, because it falls within the grace period.

Chapter IV Novelty

Concept

4.1 According to Article 8 of the LPI, any invention for which a patent right may be granted must have novelty, inventive activity and industrial application. In this way, novelty is one of the requirements of patentability to be satisfied for an invention to receive a patent right.

4.2 According to the provisions of article 11 of the LPI, the invention is considered novel if not present in the state of the art.

Steps for evaluating novelty

4.3 For the evaluation of novelty, the examiner should apply the following steps:
(i) identify the elements contained in the claim;
(ii) determine whether a document under review is part of the state of the art - Chapter III of these Guidelines;
(iii) determine and point out if all the elements of the claim were explicitly or inherently combined in the document, to a person skilled in the field in order to anticipate the claim.

Technical details and general observations

4.4 Compliance with the novelty requirement must be observed for each patent application claim. If an independent claim presents novelty, it is not necessary to examine the novelty of its dependent claims, since all of these will present novelty.

4.5 On the contrary, if the independent claim is not new, its dependent claims must be examined, since they may contain specific elements that make that matter new.

4.6 The novelty required for a claim must be ascertained on the claim as a whole, and not only on the characterizing part thereof, nor on the individual analysis of the constituent elements which may be separately covered by the state of the art. Thus, if the preamble defines the characteristics A and B, and the characterizing part defines the characteristics C and D, it does not matter that C and/or D are themselves known, but rather are known in association with A and B not only with A neither with B, but with both.

4.7 The material under examination shall not be new where all the characteristics of a given claim (e.g., elements of a product or steps of a process), including the characteristics set forth in the preamble, are revealed in a single prior art. Such characteristics can be found in the former when they are clearly presented and/or when there is no doubt that the information is inherent to what has been literally revealed.

4.8 The delimitation of the understanding of what is technical information directly and unambiguously deductible from the state of the art is also important. Thus, when considering novelty, it is incorrect to interpret the teachings of a state of the art document as to involve well-known equivalents that are not explicitly described in said document; this is a question concerning the inventive activity.

4.9 The absence of novelty in relation to a document found in the state of the art cannot be based on possibilities, hypotheses or speculations from the matter revealed in the foregoing. The relationship between the documents compared must be strict identity, which means that a single document should describe each element of the claim analysed, either explicitly or inherently, otherwise the question shifts to analysis of its inventive activity.

4.10 For the analysis of the novelty requirement, it is not possible to combine two different documents of the state of the art. Where such a combination is necessary, only the inventive step should be discussed. However, more than one state of the art document may be cited for arguments contrary to the novelty of the relevant subject, provided that such priorities need not be combined to support such claims, in the following cases:
(i) different documents may be used to discuss the novelty of materials of different claims;
(ii) for different alternatives in one and the same independent claim, such as Markush formulas, different antecedents may be used focusing on the novelty of the subject matter of the same claim, where each priority refers to different alternatives within the possibilities offered by the claim. It should be noted that in the analysis of claims with alternatives, a priority that reveals one of the alternatives is sufficient to dismiss the novelty of the

claim as a whole. However, reformulations of the claim may be accepted in order to exclude the material found in the state of the art.
(iii) a second document such as a dictionary or similar reference document may be cited in the discussion of the novelty of the subject matter of a claim in order to interpret the meaning of a specific term such as to prove that cheese is a dairy, or to demonstrate synonymy, emphasizing that only the first mentioned precedence is impeditive to the novelty of the claimed matter;
(iv) where a state of the art document refers to a second published document, it shall be deemed to be incorporated by reference to the first.

Specific and general terms

4.11 Where the subject matter is broadly and generally claimed, and there is in the prior art a document in which the material is specifically disclosed within the parameters claimed in the application under examination, the lack of novelty should be noted. For example, a "made of copper" product described in a state of the art document affects the novelty of an invention for the same "made of metal" product. However, the disclosure of the product made of copper does not affect the novelty of an invention for the same product made from another specific metal.

4.12 Where there is an overlap between the state of the art and the claimed invention, and the remainder of the claim cannot be defined in a clear and concise manner with positive characteristics, this state of the art subject matter may be excluded, provided there is basis for the exclusion of this subject matter in the patent application as filed.

4.13 On the other hand, a generic disclosure does not affect the novelty of an invention defined in specific terms.

Example 1:

A "made of metal" product described in a state of the art document does not affect the novelty of an invention for the same "made of copper" product.

Numeric Value and Range

4.14 If the claimed invention contains a technical feature defined by numerical values or a continuous numerical range, such as

dimensions of a component, temperature, pressure, or the content of components in a composition, all other technical characteristics being identical to those of a document of precedence, then the determination of novelty shall be conducted according to the following rules:

(i) When the numeric values or ranges described in the prior art document fall entirely within the claimed range of the technical feature, the state of the art document affects the novelty of the claimed subject matter.

Example 1: The application claims a copper-based alloy comprising 10%-35% by weight zinc, 2%-8% by weight aluminium, and the remainder being copper. If the state of the art discloses a copper-based alloy comprising 20% by weight of zinc and 5% by weight of aluminium, this affects the novelty of the new claim.

Example 2: The application claims a heat treatment furnace, wherein its linear arc has a thickness of 100-400 mm. If the state of the art document describes a heat treatment furnace in which the linear arc has a thickness of 180-250 mm, this document affects the novelty of said claim.

(ii) When the number range described in the state of the art document and the numerical range of the technical feature partially overlap or have at least one common end point, the previous document affects the novelty of the invention.

Example 3: The application claims a process for producing silicon nitride ceramics, where the calcination time is 1-10 hours. If the state of the art document describes a process for the production of silicon nitride ceramics where the calcination time is 4-10 hours, once the two bands overlap in the calcination time of 4-10 hours, the document of the previous patent affects the novelty of said claim, but does not affect the novelty of said claim in the case of the calcination time of 1-4 hours.

Example 4: The application claims a process for spray coating, where the power of the spray gun is 20-50 kW during the coating. If the state of the art document describes a spray coating process in which the power of the spray gun is 50-80 kW during the coating, since the two strips have a common end point, 50 kW, the previous state of the art document affects the novelty of said claim.

(iii) The two extreme points of the number range described in the state of the art document affect the novelty of the invention when the technical feature in question has discrete numerical values including one of said endpoints but does not affect the novelty of

the invention when the technical feature in question is a numerical value at any point between the two said extreme points. For more details on selection patents, see paragraph 4.24 of this chapter.

Example 5: The application claims a process for the production of titanium dioxide photocatalyst, wherein the drying temperature is 40°C, 58°C, 75°C or 100°C. If the state of the art document describes a process for the production of titanium dioxide photocatalyst where the drying temperature is 40°C to 100°C, this disclosure affects the novelty of the claim in the case of the drying temperature of 40°C or 100°C, but does not affect the novelty of the claim in the case of the drying temperature of 58°C or 75°C.

(iv) When the numeric values or range of the technical feature in question fall within the range described in the state of the art document and do not have any endpoint in common with it, the state of the art document does not affect the novelty of the claimed invention. For more details on selected patents, see paragraph 4.24 of this chapter.

Example 6: The application claims a piston ring for an internal combustion engine, where the piston ring diameter is 95 mm. If the prior art document describes a 70-105 mm diameter piston ring used in an internal combustion engine, it does not remove the novelty of said claim, as long as the 95 mm ring has not been explicitly mentioned and embodied in the existing patent.

Example 7: The application claims an ethylene-propylene copolymer, wherein the degree of polymerization is 100-200. If the state of the art discloses an ethylene-propylene copolymer in which the degree of polymerization is 50-400, it does not remove the novelty of said claim, provided that the degree of polymerization of 100-200 has not been explicitly quoted in the foregoing.

Product claims defined by characteristics or parameters of performance, use or manufacturing process

4.15 Product claims defined by features or performance parameters may be permitted if the invention can only be defined in such terms, or cannot be defined more precisely without unduly restricting the scope of the claims. For this type of claim, the examiner must consider whether the features or performance parameters in the claim imply that the product has a certain structure and/or composition. If the characteristics or performance parameters imply that the claimed product has a distinct structure and/or composition to the product described in the state of the art, the claim is novel. On

the other hand, if a person skilled in the art, from the characteristics or performance parameters, cannot distinguish the claimed product from that described in the state of the art document, it can be presumed that the claimed product is identical to the product of the state of the art document, in this way, the claim is not novel.

Example:

An application claims a compound A in a crystalline state defined by a variety of parameters including X-ray diffraction data, and the state of the art document also describes a compound A in a crystalline state. If the crystalline states of both cannot be distinguished from each other based on the description of the state of the art document from these parameters, it can be presumed that the claimed product is identical to the product of the state of the art document, and thus the claim does not possess novelty.

Product claims characterized by use

4.16 Product claims characterized by use, wherein the product is already known from the state art, are not accepted due to lack of novelty. In the case where a product is not known from the state of the art, such a claim formulation is not accepted for lack of clarity in accordance with Article 25 of the LPI, since the product must be defined in terms of its technical characteristics.

Example:

A claim for compound X for use as antiviral would not be considered novel with respect to the same compound X being used as a dye described in a state of the art document. Although the use of compound X may be novel, the chemical formula that determines its properties has not changed. Thus, the invention of the antiviral compound X is not novel.

Product claims characterized by manufacturing process

4.17 Product claims defined in terms of a manufacturing process are permitted only if the products meet the requirements for patentability, i.e. that they are new and inventive, as long as the product cannot be described otherwise. For this type of claim, the examiner must consider whether the feature of the manufacturing process results in a particular structure and/or composition of the product. If the person skilled in the field can conclude that the process will necessarily result in a product having a structure and/or composition different from that of the product in the prior

art, the claim is new. On the other hand, if the claimed product, when compared to the product in the prior art document, has the same structure and composition despite the different manufacturing process, the product claim is novel.

Example:

The application claims a glass beaker obtained by process X, and a state of the art document describes a glass beaker obtained by the process Y. If the glass beakers obtained by both processes have the same structure, shape and constituent material, the product claim is nothing new. On the other hand, if process X comprises a step of cooking at a particular temperature not described in the state of the art document, which considerably increases the breaking strength of the glass cup, when compared to the glass cup of the prior art, then this indicates that the claimed glass cup has a different microstructure due to the different manufacturing process and has an internal structure different from that of the glass cup in the state of the art document. In this way, the claim presents novelty.

Claims of a second use

4.18 A claim for non-medical use of a known compound is novel as long as this new use has not previously been made available to the public.

Example:

Consider the state of the art that discloses the use of an X alloy to manufacture a particular piece A. An application that deals with "use of an X alloy to make a particular piece 8" presents novelty. In claims of the type "Swiss formula" ("Use of a compound of formula X, characterized in that it is for preparing a medicament for treating disease Y"), the novelty is evaluated as a function of the disease to be treated. On the other hand, claims of the type "Use of compound X characterized for treatment of disease Y" correspond to claims of therapeutic method and therefore are not considered invention in accordance with section VIII of article 10 of the LPI.

Selection patents

4.19 An invention by selection consists of selecting individual elements, subassemblies or ranges within a generic description of the state of the art, whether among alternatives for substituents in a compound, components present in compositions or ranges of process parameters, and having particular properties and relative

to the state of the art. Selection patents may be found in process applications involving particular conditions not specifically disclosed previously in the state of the art, and/or those selected from among broadly defined products, typically in Markush type product formulas, as well as ,for example, in derivative compounds and compositions.

4.20 The selection patent must ascribe to the following criteria:
(i) The selected component cannot be specifically developed to meet the novelty criteria;
(ii) The selected component must present some unexpectedly demonstrated technical effect to meet the criterion of inventive activity (see the topic "Invention by Selection" in the chapter on Inventive Activity.

4.21 It is understood that the substance contained in the body of the application, whether in the descriptive report, the drawings, the examples of preparation/use, sequence listing, or the claims, is clearly disclosed in a clear and concrete manner, without the need for deduction of the examiner.

4.22 Thus, the novelty for such a selection can be attributed if the description in a previous document is generic only, without the specific item being selected being explicitly mentioned, that is, textually and concretized in the form of examples, tests, results, lists, and tables. In this way, a generic prior description by itself does not take away the novelty of a specific subject claimed.

4.23 If a product has been disclosed in a state of the art document, for example, a compound, by its nomenclature, or by its structural formula, among the so-called preferred compounds and embodied in the preparation/use of examples, this cannot be the object of a selection patent, as the compound is considered to be specifically disclosed and does not meet the novelty requirement.

4.24 In the case of process selection requests in which a sub-band of a wider range is selected as comprised in the state of the art, to fill the novelty requirement it is necessary that the selected sub-band has not been specifically disclosed and realized in the state of the art.
Example 1: The patent application deals with a process of obtaining

a product, with temperature control, between 125°C and 130°C. The state of the art discloses the same process of obtaining the product, using temperatures of 120°C to 180°C, with tests presented using temperatures of 140°C and 150°C. In this case, the claimed process is novel in that it deals with a specific selection of temperature over a comparatively wide range and which is different from that explicitly disclosed and embodied in the state of the art.

Example 2: The patent application deals with a process of obtaining a product, with temperature control, between 125°C and 140°C. The state of the art discloses a process for obtaining the product, using temperatures of 120°C to 160°C, with tests presented using temperatures of 140°C and 150°C.

In this case, the claimed process includes the temperature which has been explicitly disclosed and embodied in the state of the art (140°C), and thus, the selection of the claimed temperature range is not considered novel.

4.25 The examiner must take into account that numerical values related to measurements are subject to errors, which have limits on their accuracy. For this reason, the general convention in the technical and scientific literature is applicable, in which the last decimal place of a numerical value indicates its degree of precision. In cases where there is no other margin of error, the maximum margin shall be determined by rounding the last decimal place.

Example:

One claim proposes an element with a length of 3.5 inches. The state of the art discloses a document describing the same element of 3.45 inches in length. Whereas it is generally known to the person skilled in the field that in a measurement of 3.5 inches, the margin of error from 3.45 to 3.54 inches is not novel.

Chapter V Inventive Activity

Concept

5.1 The invention is endowed with inventive activity in accordance with the provisions of Article 13 of the LPI if, in view of the state of the art, it is not obvious or obvious to a person skilled in the field. Novelty and inventive activity are different criteria and the question "is there inventive activity?" - only appears if the invention is new.

5.2 The term "obvious or evident" means that which does not go beyond the normal development of technology, but only makes it clear or logically from the state of the art, i.e. something that does not involve the exercise of any skill or ability beyond is expected from an expert in the subject.

5.3 If a person skilled in the field can come to the invention solely by logical analysis, inference or without undue experimentation based on the state of the art, the invention is obvious and thus does not present any unexpected technical solution. If this is the case, the application is not patentable due to lack of inventive activity.

Expert in the field

5.4 The definition of an expert in the field, for purposes of inventive activity, is the same for purposes of evaluation of descriptive sufficiency. The person skilled in the field may be one with a median knowledge of the field in question at the time of filing the application, with technical-scientific knowledge, and/or one with practical operational knowledge of the subject matter. It is considered that they have at their disposal the means and the capacity for routine work and experimentation typical to the technical field in question. There may be cases where it is more appropriate to think in terms of a group of people, such as in the case of a production or research team. This may apply, particularly, to certain advanced technologies such as computers and nanotechnology.

Evaluation of Inventive Activity

General Overview

5.5 In order to evaluate the inventive activity, the examiner should consider not only the technical solution itself but also the technical field to which the invention belongs, the technical problem solved, and the technical effects produced by the invention.

5.6 The claimed invention should be considered as a whole, taking into account the elements contained in the preamble and the characterizing part. In determining the differences between the claim and the state of the art, the question is not whether the differences would be obvious individually, but whether the claimed invention would be obvious in its entirety. Thus, as a general rule, in the case of claims combining various characteristics, it is not correct to consider the claimed matter as obvious, on the grounds that its various technical features, each taken separately, are known or obvious in relation to the state of the art. However, where the claim is merely an "aggregation" or "juxtaposition" of known characteristics, i.e., a combination that results in an effect which is the simple sum of the individual effects of the characteristics, this claim has shown no inventive activity.

5.7 In general, if an independent claim shows inventive activity, it is not necessary to examine the inventive activity of its dependent claims, since they incorporate all the limitations present in the claims upon which they depend.

5.8 On the contrary, if an independent claim has no inventive activity, its dependent claims must be examined because they may contain specific elements that make it novel.

Steps for ascertaining inventive activity

5.9 Three steps are employed to determine whether a claimed invention is obvious when compared to the state of the art:

(i) determine the closest comparable in the state of the art;

(ii) determining the distinguishing characteristics of the invention and/or the technical problem actually solved by the invention; and

(iii) determining whether, in view of the technical problem considered, and starting from the closest available state of the

art, whether the invention is obvious or not to a person skilled in the field

Determining the closest state of the art

5.10 The closest state of the art consists of one or a combination of two, or exceptionally three documents, relating to the claimed invention in each independent claim and should be the basis for assessing the presence of inventive activity. The closest state of the art may be:

(i) One or more documents existing in the same technical field as the claimed invention, wherein the technical problem to be solved, the technical effects or the intended use are the closest to the claimed invention; or which describe the greatest number of technical features shared with the claimed invention; or

(ii) One or more existing documents which, although being in a technical field different from the field of the claimed invention (see item 5.4 of this chapter), are capable of carrying out the function of the invention and share the greatest number of technical features of the invention. For more details, see the subtitle "Invention in analogous technical field".

5.11 The closest state of the art should be ascertained from the perspective of one skilled in the field at the relevant date of the request.

5.12 It should be noted that, when determining the closest prior art, the state of the art of the same field or field similar to that of the invention must first be considered before considering a different technical field.

Determining the distinguishing characteristics of the invention and/or technical problem solved by the invention

5.13 The examiner shall analyse the distinguishing features of the invention and objectively determine the technical problem solved by the invention. Thus, the examiner must first determine the distinguishing characteristics of the claimed invention compared to the closest state of the art and determine the technical problem which is in fact solved by the invention.

5.14 Since the closest state of the art identified by the examiner may be different from that presented by the applicant in the

descriptive report, the technical problem actually solved by the invention may not be the same as that described in the report. In such a circumstance, the technical problem actually solved by the invention must be reformulated based on the closest state of the art identified by the examiner.

5.15 As a principle, any technical effect of an invention may be used as a basis for the reformulation of the technical problem, as long as the technical effect can be recognized by one skilled in the field from what is presented in the descriptive report.

5.16 In the event of results/tests/trials or the like presented during the technical examination, even after the request for examination, in order to prove the technical effect of the invention, the presentation of such data in the applicant's argument must be inherent in what is revealed by the tests and trials. In such cases, the technical effect of the invention should be described in the material initially disclosed, although not in a quantitative form.

5.17 Where such result/test/test data or the like deals with an undisclosed technical effect, and is not inherent in the original application, such information should be disregarded in the evaluation of the technical effect of the invention.

5.18 Features which do not contribute to the technical character of the invention are not considered for evaluation of inventive activity. Such a situation may occur only if a feature contributes to the solution of a non-technical problem, such as a problem in a field excluded by Article 10 of the LPI.

Example:

Consider a claim to a cup that includes a stamp X. The stamp X has no technical value but merely possesses aesthetic effect. In this case, the evaluation of inventive activity should disregard the stamp.

5.19 It should be noted that the objective technical problem must be formulated so as not to include part of the technical solution offered by the invention in defining the problem, so as not to induce the examiner to conclude that the invention exhibits no inventive activity.

Example:

A vehicle has brake lights located outside the line of sight of the driver of another vehicle following behind the first one, which favors the occurrence of collisions. Consider that the technical problem was defined by the lack of alignment between the brake lights of the first vehicle and the line of sight of the driver of the second vehicle and that the solution to the problem is to raise the position of the brake lights so as to achieve such an alignment. The presence of part of the alignment solution in the definition of the problem could induce the examiner to conclude a lack of inventive activity. In this case, the technical problem would be better defined by "difficulty in alerting the second vehicle to braking the first vehicle".

Determine whether, in view of the technical problem considered, and starting from the closest state of the art, the invention is or is not obvious to a person skilled in the field.

5.20 At this stage, the examiner must judge, from the closest state of the art and the proposed solution to the technical problem, whether or not the invention is obvious to one skilled in the field at the time of the relevant date of the application. During the trial, what should be determined is whether there is a motivation to apply the said distinguishing features of the invention to the closest state of the art in order to solve an existing technical problem. Such motivation need not be explicitly stated in prior art documents.

5.21 The person skilled in the field should someone who has knowledge and experience in the field of invention and is reasonably capable of making connections and relationships between the technical aspects involved. If the state of the art information leads the person skilled in the art to perfect the state of the art in order to arrive at the claimed invention, it is considered obvious. It should be taken into account whether any teaching in the state of the art as a whole would necessarily lead a person skilled in the field to the technical problem to modify or adapt the closest state of the art in order to achieve the solution proposed by the claim.

Combining documents from the state of the art (Combination of prior art documents)

5.22 In determining whether the combination of two or, exceptionally

three, distinct disclosures is obvious or not, the examiner should evaluate the following criteria:
(i) if the content of the documents is such that one skilled in the field would be able to combine them in the face of the problem solved by the invention;
(ii) whether the documents come from similar, near technical fields, or whether the documents are relevant to a particular problem with which the invention is related; and
(iii) whether the combination of two or more parts of the same document could be obvious if there is a reasonable basis for an expert in the field to associate these parts with each other.

Specific Situations in the Evaluation of Inventive Activity
Invention Which Open a New Field
5.23 An invention that opens a new field involves inventive activity. The following are examples of these revolutionary inventions:
Examples:
Compass, paper, printing technique, gunpowder, steam engine, filament lamp, radio, radar, fiber optics and laser.

General Overview of Invention by Combination
5.24 An invention by combination of elements relates to a novel solution of a technical problem, obtained by combining certain solutions already in the state of the art.

5.25 In determining the inventive activity of an invention by combination, the following factors should be considered:
(i) if the combined technical characteristics are functionally integrated;
(ii) whether there is difficulty or ease in their combination;
(iii) whether there is any motivation to carry out the combination; and
(iv) the technical effect of the combination.

5.26 It is not necessary to find in the state of the art any explicit suggestion, motivation or teaching for a combination of known documents. The motivation may even be in another field and refer to another problem, or if an expert in the field may be motivated to perform this combination, once able to make connections and relationships reasonably between the technical aspects involved.

Obvious Combination

5.27 If a claimed invention is merely an aggregation or juxtaposition of certain known elements, each operating in its routine form, and the overall technical effect is only the sum of the technical effects of each part without any synergy or functional interaction between the combined technical characteristics, then the invention by combination does not involve inventive activity.

Example:

The invention relates to an electronic clock ballpoint pen, wherein the solution is merely to secure an electronic clock in a ballpoint pen. After the combination, the electronic clock and the ballpoint pen still function as usual without any functional interaction between them, and thus the invention is merely an aggregation and does not involve inventive activity.

5.28 Furthermore, if the combination falls within the scope of normal development of the technology, without any unexpected technical effect, then the invention does not involve inventive activity.

5.29 On the other hand, if the documents indicated as priorities directly mention that the solution proposed in the application under analysis should not be followed by an expert in the field, i.e., the previous one suggests to the expert in the field moves away from the solution proposed in the application under analysis, it becomes clear that there is no motivation on the part of the expert in the field to use such documentation to arrive at the proposed solution, which is evidence of inventive activity. In this case, the technical precept presented in the previous would distance the technician from the subject of the solution found.

Non-obvious combination

5.30 If the combined technical features interact functionally with each other and produce an unexpected technical effect, or in other words, if the technical effect after the combination is different than the sum of the technical effects of the individual characteristics, then such a combination presents inventive activity. The fact that any one of the technical features per se in the invention by combination is already known does not compromise the inventive activity of the invention.

Example:

The technical effect of an individual transistor is essentially that of an electronic switch. However, transistors interconnected to form a microprocessor interact synergistically to achieve technical effects, such as data processing. In this way, the technical effects are beyond the sum of their respective individual technical effects.

Invention by Selection

General Overview

5.31 In screening the inventive activity in selection patents, the selected element(s) or sub-band(s) should represent a contribution to the state of the art, not merely an arbitrary selection from the state of the art.

5.32 The mere choice of arbitrary subgroups/subgroups does not guarantee the assignment of inventive activity to the selection, since the effects/properties resulting from these choices will always be evaluated from the point of view of the expert in the field. In order to measure inventive activity in screening inventions, it is the depositor's responsibility to demonstrate that the unexpected technical effect is not present in the state of the art sub-groups. It should be noted that supplementary data can be accepted for the verification of inventive activity.

Obvious selection

5.33 The following cases correspond to an obvious selection:

(i) If the invention merely consists of choosing among a number of known possibilities, or in choosing a number of equally possible alternatives, and the solution selected does not produce any unexpected technical effect, the invention does not involve inventive activity.

Example:

In the state of the art many heating processes are described wherein the invention resides in the selection of a known process, such as in the electric heating of a substance for a chemical reaction, in the event that the selection does not produce any unexpected technical effect, the invention does not involve inventive activity.

(ii) If the invention resides in the choice of particular dimensions, temperature ranges or other parameters from a limited range of possibilities, and if such a choice can be made by the person

skilled in the field by normal design procedures and does not produce any unexpected technical effect, the invention does not involve inventive activity.

Example:

The invention relates to a process for carrying out a known reaction and is characterized by a specific flow rate of an inert gas. Since flow rate determination can be made by a person skilled in the field by conventional calculation, the invention does not involve inventive activity.

(iii) If the invention can be obtained by mere direct extrapolation from the state of the art, it does not involve inventive activity.

Example:

The invention consists of increasing the thermal stability of composition Y, characterized by the use of a specific minimum amount of a component X in the composition Y, whereas, in fact, the specific minimum amount of the component X can be derived from the amount of component X and the thermal stability of composition Y. Thus, the invention does not involve inventive activity.

Non-obvious selection

5.34 The following cases correspond to a non-obvious selection:

(i) Where the invention involves a particular selection of operating conditions, such as temperature and pressure in a process, within a known range, and such selection produces unexpected technical effects on the operation of the process or on the properties of the resulting product.

Example 1: A process in which substances A and B are transformed at high temperatures into a substance C. While a process between 50°C and 130°C is known, with illustrative examples using temperatures of between 110°C and 125°C. It is now determined that in the temperature range between 63°C and 65°C, which was not previously exploited, the yield of substance C was considerably higher than expected and with a higher degree of purity.

(ii) The invention consists of the selection of certain chemical compounds or compositions - including alloys, from a wide field, where combining these compounds or compositions have unexpected technical effect.

Example 2: The invention resides in the selection of an "R" radical from a set of possibilities defined in the state of the art (commonly in a Markush Formula). The selected compounds have non-obvious properties, without there being indications that would

induce an expert in the field to make this particular selection. In general, such effects are proven by comparative tests presented.
(iii) If the invention is obtained from a selection that produces unexpected technical effects, the invention displays inventive activity:
a) In cases where the parameters vary and the state of the art does not indicate the most critical parameters to be tested or the most promising possibilities; and
b) In cases of exploitation of a new technology that presents itself as a promising field of research, but whose state of the art presents only generic indications about the possibilities of the invention.
Example 3: In a state of the art document that describes the production of an acid, the ratio of catalyst to 1 mole of feedstock is above 0 and less than or equal to 100%. In the example given, the amount of catalyst is 2% to 13%, and it is indicated that the productivity begins to increase from 2% of the amount of catalyst. Further, the expert will consider increasing the amount of catalyst in order to increase productivity. In a screening invention relating to a process for the production of the said acid, a minor amount of catalyst is used (0.02% to 0.2%). However, productivity increases by 35%, far exceeding the expected productivity, and furthermore, the processing of the reagent is also simplified. All this shows that the technical solution selected by this invention produced unexpected technical effects, since from the previous teachings, the person skilled in the art would be led to increase the amount of catalyst to improve the productivity of the process, not decrease it, and, in this way, the invention involves inventive activity.

Invention by analogous technical field

5.35 An invention by analogous technical field relates to an invention applying a technology known in one technical field already known in a separate technical field.

5.36 A subject expert can be brought in to seek suggestions in other related or remote technical fields. The inquiry made by the examiner into whether the solution involves inventive activity should be based on the knowledge and skill of the subject expert at the time of the relevant date of the application.

5.37 In determining the inventive activity in an analogous technical field, the following factors usually need to be considered:
(i) the proximity between the two technical fields;
(ii) whether there is a corresponding technical motive;
(iii) the level of difficulty in adapting the technology to the other technical field is already known;
(iv) any technical difficulties to be overcome; and
(v) the technical affect achieved.

5.38 If the analogous technical field is a similar or close technical field, and no unexpected technical effect is obtained, the invention does not involve inventive activity.
Example:
The application of a cabinet support structure to support a desk does not involve inventive activity.

5.39 If the analogous technical field produces an unexpected technical effect overcoming difficulties encountered in the state of the art, the invention exhibits inventive activity.
Example:
The invention relates to the aileron of a submarine. In the state of the art, a submarine remains in an arbitrary position under water through the balance between its dead weight and water buoyancy and rises by horizontal operation of the cabin to increase its buoyancy. In a remote technical area such as aeronautics, an airplane flies by the force of air produced entirely by the main wings. The invention relies on the technical measures applied in airplanes and applies the idea of the main wings of the airplane to the submarine. As a result, under the buoyancy or submersion forces created by the movable flaps that function as submarine ailerons, the submarine's ascent and descent performance is significantly improved. Since many technical difficulties have been overcome in the application of air technology to the submarine, the invention produces unexpected technical effects and involves inventive activity.

A novel use of technology with a known product
5.40 A novel use of technology with a known product relates to an invention which utilizes a product that already exists for a new purpose.

5.41 In determining the inventive activity of an invention of novel use of a known product, the following factors usually need to be considered: the proximity of the technical field of the new use to that of the previous use and the unexpected technical effect of the novel use.

5.42 If the new use merely uses a known property of a known material, the new application of the product does not involve inventive activity.
Example 1: The use of a composition known as a cutting aid (novel use), in which the state of the art uses it as a lubricant, does not involve inventive activity.
Example 2: The use of a composition as an insecticide, compared to its use as a preservative for wood by the state of the art, produces an expected technical effect, and thus does not involve inventive activity.

5.43 If the new use utilizes an observed property of a known product and can produce an unexpected technical effect, then the invention presents inventive activity.
Example
The use of a composition as herbicide, as compared to its use as preservative for wood as described by the state of the art, produces unexpected technical effect, and, thus, involves inventive activity.

5.44 In claims of the "Swiss formula" type("Use of a compound of formula X, characterized in that it is for preparing a medicament for treating disease Y"), the inventive activity is evaluated as a function of the disease to be treated.

5.45 On the other hand, claims of the type "Use of the compound X characterized for treatment of the disease Y" correspond to claims of the therapeutic method and are therefore not considered to be an invention in accordance with section VIII of article 10 of the LPI.

Invention by altering elements

General Overview
5.46 Inventions by altering elements include inventions that alter the relationships between elements, inventions that replace

elements and inventions that omit elements.

5.47 In determining the inventive activity of an invention by changing elements, usually the following factors need to be considered: whether there is a technical motivation for the change in relationships between elements or for the substitution or omission of elements and whether the technical effect would be expected.

Invention by altering the relationship between elements

5.48 An invention by altering the relationship between elements means that, when compared to the state of the art, for example, the format, size, proportion, position, operational relationship, order change of steps in a method, or the like has changed.

5.49 If the change in the relationship between elements does not lead to a change in the effect, function or use of the invention, or the change in effect, function or use of the invention can be expected, the invention does not involve inventive activity.

Example:

In the state of the art, a measuring instrument containing a fixed dial and rotatable crank is described, and the invention is a similar measuring instrument but containing a fixed crank and a rotary dial. The difference between the invention and the state of the art lies only in the change in the relationship between the elements, i.e., the reversal between motion and immobility. This type of reversal does not produce any unexpected technical effect, and thus, the invention does not involve inventive activity.

5.50 If the change in relations between elements produces an unexpected technical effect, the invention exhibits inventive activity.

Example:

The invention relates to a lawn mower which is characterized in that the oblique angle of its blade is different from that of a traditional lawnmower, i.e., the oblique angle of the invention enables the blade to be sharpened automatically, whereas the blade angle of the blade has no such effect. The invention produces an unexpected technical effect by changing elements, and thus presents inventive activity.

Invention by substitution of elements

5.51 An invention by substation of elements relates to an invention which is obtained by replacing a certain element of a known product or process with another element.

5.52 The invention does not involve inventive activity when in the solution of the technical problem, the substitution of a known element by another with the corresponding function takes place to obtain predictable results, that is, without any unexpected technical effect being observed.

Example 1: The invention relates to a pump that differs from the state of the art in that the motor power in the invention is provided by an electric motor instead of a hydraulic motor. In this case, the electric motor acts in a way corresponding to the hydraulic and, therefore, reaches a predictable effect.

Example 2: The invention relates to an automobile chassis made of aluminium, where the state of the art uses steel for this same chassis. In this case, the technical effect related to the weight reduction is predictable, since it is an inherent property of aluminium.

5.53 If the substitution of elements confers an unexpected technical effect, then the invention has an inventive step.

Example

The state of the art relates to a process containing steps A, B, C, and D, and the invention substitutes step C for a functionally corresponding step, but unexpectedly improves the yield of the process.

Invention by omission of elements

5.54 Na invention by omission of elements relates to an invention in which one or more elements of a known product or process are omitted. If, after omission of one or more elements, the corresponding function disappears as a consequence, or if such omissions are obvious to an expert in the field, the invention does not involve inventive activity.

Example

The invention of a paint composition differs from the prior art in that it does not comprise an antifreeze agent. If, as a single difference, the antifreeze effect of the paint composition is lost as a consequence of the omission of the antifreeze agent, the

invention does not involve inventive activity.

5.55 If, compared to the state of the art, the omission of one or more elements (be elements of a product or steps of a process), which may be associated with a reformulation of the invention, and the technical effects are preserved or improved, then the invention may exhibit inventive activity.

Example

The state of the art relates to a process for manufacturing an alloy used in an engine head, where one of the steps of this process is the heat treatment of the alloy. An invention which relates to a process for making an alloy for use in the engine head changes the chemical composition of the alloy, making the heat treatment step unnecessary, presents inventive activity, if the final result has been preserved.

Secondary factors to be considered in examining inventive activity

General Overview

5.56 The elements inferred in the previous sections make up the main criterion for the evaluation of the inventive activity requirement. In many cases, however, they are not sufficient for a clear conclusion about the presence of the requirement, meaning other parts of the inventive activity may be considered. It should be noted, however, that such secondary evidence is important only in cases of doubt, where objective examination of the teachings of the state of the art does not result in a sufficiently clear conclusion.

Solution to a long-standing technical problem that has not been solved

5.57 When an invention solves a longstanding and unresolved technical problem, the invention may exhibit inventive activity.

Example

The problem of permanent marking of farm animals such as livestock without causing animal pain or damage to the animal's hide has existed since the beginning of animal husbandry. One inventor has successfully solved this technical problem by a cold marking solution based on the discovery that the leather can be permanently freeze pigmented without causing pain to the animal. This solution may involve inventive activity.

Overcoming a prejudice or technical barrier

5.58 The overcoming of a pre-existing prejudice or technical barrier or proof that the invention has adopted a path contrary to the knowledge consolidated by the state of the art can strengthen a claim for the presence of inventive activity.

Example

In general, it was believed that in an electric motor the smoother the interface of the switch with the brush, the better the contact and the lower the fuel consumption. The invention produces rough microarrays on the surface of the commutator, and the fuel consumption is even smaller than with a smooth surface. Given that the solution overcomes the pre-existing prejudice, there may be inventive activity.

Obtaining commercial success

5.59 When an invention achieves commercial success, such as technology licensing, if this success is directly related to the technical features of the invention, this may mean that the invention has exhibited inventive activity. However, if success is due to other factors, such as sales or advertising campaigns, this criterion should not be used as a basis for the evaluation of the inventive activity.

Obtaining awards

5.60 When an invention receives some sort of recognition as to its technical merit, it may mean that the invention has an inventive step.

Manner in which the invention is created

5.61 The manner in which an invention is created, regardless of how arduous or easy it is, should not affect the evaluation of the inventive activity of the invention. Most inventions are the result of the inventor's creative work and the result of scientific research and long-term work experience, although there are some inventions that are created accidentally.

Example

The motor vehicle tire has high mechanical strength and good abrasion resistance. This was obtained by a technician who was mistaken in adding 30% instead of 3% carbon in the preparation of materials for the production of black rubber. The facts show that

rubber with 30% carbon has high resistance to abrasion which would not be expected in advance. Although the invention was created by accident, this should not be taken into account in the evaluation of the inventive activity.

Chapter VI Markush Type Claims

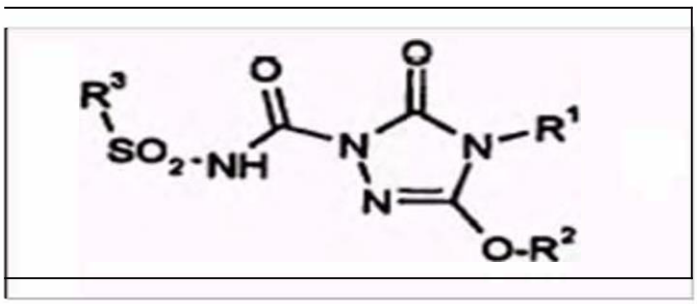
Introduction

6.1 Markush formulas are a way of describing and claiming various alternatives in patent applications. Although more common in the areas of chemistry and biotechnology, the presentation of alternative inventions in any technical area can be considered as a Markush formula. The use of such a resource dates back to an American patent of 1924, authored by Eugene A. Markush, presenting alternatives within a dye manufacturing process.

6.2 The Markush formula is a generic term for a class of chemicals conventionally employed in patents and consists of a basic chemical structure which is replaced by one or more variable substructures which are accompanied by a list of definitions of such variable portions.

Example:

In the figure below, R^1 represents H, OH, amino; R^2 represents, H or CH_3; and R^3 represents a radical substituent of the group consisting of alkyl (between 1 and 6 carbons), phenyl and pyridine.



6.3 Thus, the term "Markush formula" has been used to denote any chemical structure which contains a basic structure and one or more variable or optional chemical groups. For biological sequences, it is possible to delimit the base sequence of nucleotides or amino acids and the alternatives provided in various positions.

6.4 A Markush formula allows the selection of a large number of substituents, which may bind to the molecule in various positions, as well as through different arrangements thereof. As a consequence, a multiplicity of compounds may be protected from a single representative structure.

Novelty

6.5 Any modification not foreseen in a Markush formula known from the state of the technique that leads to a new compound, fulfils the novelty requirement.

Example:

When one has an invention which describes a compound having a basic structure of a heterocyclic ring with a propyl substituent group, and the state of the art describes another compound having the same heterocyclic basic structure with a methyl substituent group in the same position; the propyl and methyl groups although belonging to the same chemical class-α/β 1 with 1 to 6 carbon atoms, do not depart from the novelty of the invention.

6.6 For different alternatives in the same independent claim, different antecedents may be used focusing on the novelty of the subject matter of the same claim, where each priority refers to different alternatives within the possibilities offered by the claim. Due to the numerous possibilities of compounds provided in a Markush formula, analysis of the claimed matter may indicate that some of the compounds are novel, while another is new. It should be noted that in the analysis of claims with alternatives, a priority that reveals one of the alternatives is sufficient to dismiss the novelty of the claim as a whole. However, reformulations of the claim may be accepted in order to exclude the material found in the state of the art.

Inventive Activity

6.7 In evaluating the inventive activity of a Markush formula, it must be ascertained whether it is evident or obvious from the state of the art. The compounds defined in the new Markush formula will present inventive activity if, based on the state of the art knowledge, a person skilled in the field would not be motivated to carry out the proposed structural modifications. In cases where the state of the art presents very similar matter to that pleaded, the pleaded compounds will present inventive activity if there is an unexpected technical effect coming from the structural modification of the same.

Example:

A radical modification of a molecule existing in the state of the art which results in the reduction or elimination of a side effect to be avoided in a medicament may indicate the existence of an

unexpected technical effect.

6.8 For the purpose of proving the technical effect revealed or inherent in the application as filed, it may become necessary to present comparative tests between the effects caused by the claimed compounds and those of the state of the art in order to prove the presence of an unexpected technical effect.

Descriptive sufficiency

6.9 The descriptive sufficiency of a group of inventions represented by a Markush formula is only satisfied if it allows each invention of the group to be performed by an expert in the field, based on the descriptive report, and not only some of the alternatives present in the claim. In the case of compounds defined in a Markush formula, it cannot be predicted or extrapolated that compounds with substituents belonging to different chemical classes can be obtained by the same preparation, since the nature of the reactions is different. Thus, for all compounds of a Markush formula to be sufficiently described, the descriptive report should enable a person skilled in the art to carry out the invention without undue experimentation, based on the detailed description of the reactions and conditions involved in the preparation processes, including concrete examples of preparing at least one representative compound for each chemical class of the different substituents. Thus, the descriptive report should provide clear examples of how different substituents foreseen in Markush can be incorporated into the final product.

6.10 If the preparation of the compounds and, consequently, the substituent compounds belonging to different chemical classes is not sufficiently described in the descriptive report, it will not be possible for an expert in the field to reproduce them, thus being in disagreement with Article 24 of the LPI.

Example:

The descriptive report refers to the α/β- (C1 to C6) substituent and the heterocyclic substituent at a certain position of the Markush formula. It may be doubtful whether the heterocyclic radical-containing compound in the same position can be obtained by the same preparatory process. Therefore, this group of heterocyclic substituents - for which no examples of preparation have been given - is not sufficiently descriptive, since it cannot

be assumed that the same manner of preparation of the chemical compounds described can be applied to those whose preparation was not described. Therefore, where the examples of preparation of the descriptive report do not cover all the chemical claims of the claimed compounds, the examiner must object in accordance with Article 24 of the LPI.

Rationale, clarity and precision of claims

6.11 It is necessary that all possible substituents claimed in the compounds are based on the descriptive report and are clearly and precisely defined.

6.12 An application containing a compound X in the descriptive report and a compound Y in the claiming table, not mentioned in the descriptive report, is lacking in rationale in accordance with Article 25 of the LPI. In these cases, in general, the inclusion of compound Y in the descriptive report hardly brings sufficient descriptive sufficiency to the request, being in disagreement with the article 24 of the LPI, although it meets the criterion of rationale in accordance with the provisions of article 25 of the LPI.

6.13 Terms which entail a lack of definition of the matter to be protected should be defined in as much as is possible during the examination procedure.

Example:

"Carbocyclic aryl", "heterocyclic aryl", "biaryl", "lower alkyl", "cycloalkyl", and "substituted" are some expressions which imply indefinition and imprecision in claims of Markush compounds.

6.14 When the substituents are presented in this way, important features are not defined, such as chain size, number and nature of the heteroatoms, presence or absence of branching, and only indicate to which chemical group the compounds belong.

Chapter VII Compositions

Introduction

7.1 A composition is a mixture of chemical and/or biological elements or components, which must be sufficiently clear so as not to allow ambiguities.

Example:

A detergent composition comprising elements A, B and C.

7.2 It should be ascertained from the descriptive report what features should be present in the composition claim (s) in question in order to define the claim accurately.

7.3 On the other hand, a claim for a composition defined by a single component and without quantitative delimitations amounts to a claim for the component itself, in that it includes the possibility of the "composition" containing 100% of said component. This means that a composition can be perfectly characterized by the presence of a single ingredient, provided that it is found to be instrumental in the development performed, and that there are text elements in the claim that determine that it is in fact a composition. In other cases, the composition will need more precise details for its definition.

Novelty

7.4 Compositions not included in the state of the art are considered novel. The composition comprising known state of the art component(s) will be considered novel if a new component is present in the composition or a new ratio between components which differentiates it from the state of the art.

7.5 The effect, the use, the form of administration/application or the physical form per se do not give novelty to a composition already known in the state of the art. However, these elements can be accepted in the wording of the claims to give clarity and precision.

Example:

A "pharmaceutical composition characterized by containing X and Y" is novel in relation to a state of the art document which comprises a detergent composition characterized by containing X and Y.

7.6 In the case of applications directed to new chemical and/or biological products containing a new composition, novelty and inventive activity of the product(s) will be deemed to be extended to the composition containing the same.

Clarity and Precision: The necessity for quantitative/qualitative definitions

7.7 Qualitative or qualitative / quantitative definitions should be present in the claim to better define the composition. A greater or lesser degree of precision may be required, where appropriate, to give greater clarity and precision to the claim. For example, for a cosmetic composition in which the invention consists of the addition of a dye, regardless of the state of the art, the following situations are presented:

Situation 1: the descriptive report shows that the invention is in fact in the use of dye in cosmetic compositions, and the state of the art discloses that this was previously unknown. In such a case, an acceptable claim would be: "A cosmetic composition comprising dye associated with one or more cosmetically active ingredients".

Situation 2: The descriptive report shows that the invention is in fact in the use of the dye and can be applied to any cosmetic composition. However, it is found that either the invention does not apply to any dye (or class thereof) or the state of the art reveals that such addition is already known for certain dyes (or class thereof). In such a case, the acceptable claim should be: "A cosmetic composition comprising dyes (or class of dyes) associated with one or more cosmetically active ingredients (or other text implying the existence of one more component)"

Situation 3: The descriptive report shows that the invention is in fact in the use of the dye and can be applied to any cosmetic composition. However, it is found that the invention only applies to a certain range of concentration of the dye. In such a case, an acceptable claim should be: "A cosmetic composition comprised of x% to y% of a dye associated with one or more cosmetically active ingredients (or other text implying the existence of a further component)"

Situation 4: The descriptive report shows that the invention actually resides in the use of the dye but that the development was directed to a particular cosmetic composition with well-defined active and non-active elements (at the class level) even in its concentration ranges. In that case, the claim shall contain all

such defined elements (qualitatively and quantitatively) in accordance with what the examiner deems sufficient for the clarity and precision of the claim.

Types of Composition

Compositions defined exclusively by their use, form of administration, or action

7.8 Claims of compositions defined solely by their use, form of administration or action are not precise, causing a lack of definition regarding the protected subject matter, and should be rejected in accordance with the provisions of Article 25 of the LPI.

7.9 Non-passive protection claims:

Example 1: A veterinary composition defined exclusively by the intramuscular form of administration (the composition defined solely by its form of application).

Example 2: A composition defined solely for the treatment of asthma (the composition defined solely by its therapeutic application).

Example 3: A composition defined exclusively by being a serotonin reuptake inhibitor (the composition defined solely by its action).

Example 4: A pesticide composition exclusively defined as being for application in soybean and cotton planting (the composition defined solely by its application).

7.10 However, if an independent claim duly defines its components/constituents, dependent claims that establish the use, form of administration, or action of a composition are amenable to protection.

Kit including Compositions

7.11 In these kits, the components, or groups of components are physically separated, being packed together or separately.

Example 1: Kit comprising a vaginal cream and an applicator.

Example 2: Kit comprising an asthma treatment composition and a nebulizer.

Example 3: Kit for treatment of influenza comprising a tablet with decongestant function and another with an anti-thermal function.

Example 4: Kit comprising amoxycillin powder and an ampoule of liquid for injection.

Example 5: Adhesive kit, comprising a composition having an adhesive

function and another having a hardening function.

7.12 It should be noted how the kit claim is defined: if the kit's group of components are defined, even if it is mentioned that they can be packed together or separated, it is protected.

Compositions characterized by their physical form and/or form of application

7.13 A composition can be claimed by: its physical form (e.g., plaster, tablet, gel, aerosol, granules, pill, tablet, solution, and suppository); and/or its use (e.g., intravenous, subcutaneous and sublingual). In such cases, in addition to the definition of the components of the composition itself, the presence of the constructive characteristics (e.g., shape, thickness, particle size and coating type of the product) is indispensable in the text.

7.14 A claim of a "Composition characterized as being in the form of a pill", defined exclusively by its physical form, must be rejected since it does not precisely define the protected object. It should be noted that in that case that the claim would be unclear since protection would fall on all pill-like compositions. However, if the composition is defined in a specific and detailed manner as to its constituents, this claim formulation could be accepted.

Example:

Composition consisting of X, Y and Z characterized by being in the form of a pill.

7.15 Here all the considerations made above in relation to the other compositions fit.

Combination of active ingredients

General Overview

7.16 A combination is the merging of two or more active ingredients to form a product. The combination may be contained in a single form or in separate forms for simultaneous administration.

7.17 In relation to the novelty requirement for a combination, the same observations are made as for those for compositions in general.

7.18 A combination is endowed with inventive activity where, for an expert in the field, it is not obvious or obvious from the state of the art. In this case, it should be noted that the interaction between the active substances associated with the combination produces an unexpected technical effect, different from that anticipated, by a synergistic or supra-additive effect, in which it does not correspond to the mere sum of the individual effects of each active substance that compose the association (additive effect) or reduction of unwanted effects.

7.19 However, the existence of a synergistic effect does not necessarily confer inventive activity on the invention, since it could already be predicted for a particular class of compounds.

Synergistic effect (or supra-additive effect)

7.20 The synergistic effect is obtained from the combination of two or more active ingredients, the resultant of which is greater than that presented by the simple sum of the effects when considered individually.

Claim Example - A chimeric promoter consisting of the fusion of promoter A and promoter B:

The application describes a chimeric promoter consisting of the fusion of two already known promoters. The results presented demonstrate that the expression of a chimeric promoter-controlled X gene was superior to the expression of the X gene controlled by the promoters alone.

7.21 Compositions involving components with synergistic effect can be characterized only qualitatively (without specifying the amounts of each component), provided that:

(i) the combination of known products for the same application in any proportion not provided for in the state of the art;

(ii) the synergistic effect is clearly demonstrated; and

(iii) the synergistic effect can be observed in any proportions of the products involved.

Claim Example - A synergistic composition comprising the compound A + compound B:

The application describes a herbicidal composition comprising compounds A and 8 for use in combating weeds in cereal crops. Both compounds alone are already known, but not combined. The results of the composition were presented for various contents of the two

compounds and clearly demonstrate the synergistic effect, since it was superior to the herbicidal action of the two compounds singly or in combination.

7.22 Furthermore, if any of the conditions defined above is not met, the claims should be defined quantitatively, clearly specifying what are the desired proportions of the components present, limited to those which are supported in the descriptive report. Comparative data relating to the effect of the components alone and their combination shall be presented, and all comparative data tests shall be performed under the same conditions.

7.23 In cases where the state of the art already comprises compositions containing the relevant components, although no synergistic effect has been observed/described, or if there is evidence of incompatibility between these components in the wide range of claimed concentration, the claims should be defined qualitatively and quantitatively, clearly specifying the desired proportions of the components present, limited to those supported by the descriptive report, provided there is an unexpected technical effect.