

Part II

Substantive Examination

Chapter 1 Inventions-Creations for Which No Patent

Right shall be Granted

Art. 1

1.Introduction

Granting patent right for an invention-creation shall be favorable to advance the application of the invention-creation, enhance innovation capability, and promote the progress of science and technology, and the development of economy and society. Thus, Article 2 provides for subject matters for which patent right may be granted. Considering the interests of the State and the society, certain restrictions are also made in the Patent Law to the extent of patent protection. On one hand, Article 5 provides that no patent right shall be granted for any invention-creation that is contrary to the laws or social morality or that is detrimental to public interest; no patent right shall be granted for any invention-creation where acquisition or use of the genetic resources, on which the development of the invention-creation relies, is not consistent with the provisions of the laws and administrative regulations. On the other hand, Article 25 provides for a list of subject matters for which no patent right shall be granted.

Art. 2. 2

2.Subject Matters Not Complying with Article 2.2

"Invention" in the Patent Law refers to any new technical solution concerning a product, a process or improvement thereof. This is a general definition to the subject matters for which patent protection may be sought, rather than a specific examination criterion for the determination of novelty or inventive step.

A technical solution is an aggregation of technical means applying the laws of nature to solve a technical problem. Usually, technical means are embodied as technical features.

A solution that does not adopt technical means to solve a technical problem and thereby does not achieve any technical effect in compliance with the laws of nature does not constitute a subject matter as defined in Article 2.2.

Smell, signal such as sound, light, electricity, magnetism, and

wave, or energy does not constitute a subject matter as provided in Article 2.2. However, patent applications in which its nature is utilized to solve a technical problem cannot be excluded as above.

Art. 5

3. Inventions-Creations Excluded from Patent Protection under Article 5

According to Article 5.1, no patent right shall be granted for any invention-creation if its disclosure, use or manufacture is contrary to the laws or social morality or detrimental to public interest.

According to Article 5.2, no patent right shall be granted for any invention-creation where acquisition or use of the genetic resources, on which the development of the invention-creation relies, is not consistent with the provisions of the laws and administrative regulations.

The connotation of the laws, administrative regulations, social morality and public interest is quite broad, which may vary with time and from region to region. Sometimes certain restrictions may be added or removed because of enactment and implementation of a new law or administrative regulation or amendment to or abolishment of a preceding law or administrative regulation. Therefore, the examiner shall pay special attention to this point in conducting examination according to Article 5.

Art. 5.1

3.1 Inventions-Creations Excluded from Patent Protection under Article

3.1.1 Inventions-Creations Contravening the Laws

The laws refer to the laws formulated and promulgated by the National People's Congress or its Standing Committee following the legislative procedure. They do not include administrative regulations made by the State Council or its departments or local governments.

Where an invention-creation is contrary to the laws, it cannot be granted for a patent right. For example, gambling facilities, devices or instruments, drug-taking appliances, apparatus for counterfeiting banknotes, bills, official documents, certificates, seals, and historic relics are all inventions-creations contravening the laws and no patent rights shall be granted for them.

Where an invention-creation is not contrary to the laws but its abuse may be contrary to the laws, it shall not be excluded from patent protection as above. Examples of such include the various toxicants, anesthetics, sedatives, and analeptics used for medical treatment, and playing cards and chesses used for entertainment.

Rule 10 provides that inventions-creations that are contrary to the laws referred to in Article 5 shall not include an invention-creation merely because the exploitation of which is prohibited by the laws. It means that, where the laws merely restrict or limit the manufacture, sale or use of the product of an invention-creation, the product per se and the processes of its manufacture do not belong to the inventions-creations that are contrary to the laws. For example, although the manufacture, sale or use of the various weapons used for national defense are restricted by the laws, these weapons per se and its processes of manufacture are still patentable subject matters.

3.1.2 Inventions-Creations Contrary to Social Morality

“Social morality” refers to ethical or moral norms and rules generally recognized as justifiable and accepted by the public. Its connotation is based on certain cultural background, continuously changes with time and social progress, and varies from region to region. Social morality referred to in the Chinese Patent Law indicates that within the territory of China.

Where an invention-creation is contrary to social morality, it shall not be granted a patent right. For example, inventions-creations such as a design with drawings or photographs of violence, murder or obscenity, an artificial sexual organ or its substitute not for medical use, or a method of mating a human-being with an animal, a process for modifying the germ line genetic identity of human beings or a human being thus modified, a process for cloning human beings or a cloned human being, use of human embryos for industrial or commercial purposes, and a process for modifying the genetic identity of animals which is likely to cause them suffering without any substantial medical benefit to human-beings or animals, are contrary to social morality and thus shall not be granted patent rights.

3.1.3 Inventions-Creations Detrimental to Public Interest

The expression “detrimental to public interest” means that the exploitation or use of an invention-creation may cause detriment to the public or the society or may disrupt the normal order of the State and the society.

[Examples]

Where an invention-creation employs the means of disabling or injuring a person or damaging property, such as an anti-theft device or process by causing blindness to the thief, it shall not be granted a patent right.

Where the exploitation or use of an invention-creation may seriously pollute the environment, seriously waste energy or resources, disrupt ecological balance, or impair the health of the public, the invention-creation shall not be granted a patent right.

Where a patent application has words or pictures concerning an important political event of the State or a religious belief, hurting the sentiments of the people or of an ethnic group, or advocating superstition, it shall not be granted a patent right.

However, if an invention-creation is possibly detrimental to public interest in its abuse, or has certain defects despite positive effects, such as a pharmaceutical product with side effects on human body, it shall not be refused to grant a patent right on the ground that it is detrimental to public interest.

3.1.4 Inventions-Creations Partially Contravening Article 5.1

A patent application is considered partially contravening Article 5.1 if a part of the application contains certain content that is contrary to the laws or social morality or that is detrimental to public interest and the rest part of the application is not. In respect of such an application, the examiner during examination shall notify the applicant to amend his application and delete the part contravening Article 5.1. If the applicant refuses to delete the part that is contrary to the laws, it cannot be granted a patent right.

For example, concerning an invention-creation of “a slot marbles game machine”, which will eject a certain amount of money when the player achieves a certain amount of points, the examiner shall notify the applicant to delete or amend the part

involving ejection of money and make it a mere slot marbles game machine. Otherwise, even if it is a new technical solution involving an inventive step, it cannot be granted a patent right.

Art. 5.2

3.2 Inventions-Creations Excluded from Patent Protection under Article

According to Article 5.2, no patent right shall be granted for any invention-creation where acquisition or use of the genetic resources, on which the development of the invention-creation relies, is not consistent with the provisions of the laws and administrative regulations.

According to Rule 26.1, the genetic resources referred to in the Patent Law mean the material obtained from such as human body, animal, plant, or microorganism which contains functional units of heredity and is of actual or potential value. The invention-creation is developed relying on the genetic resources referred to in the Patent Law means that the invention-creation is developed relying on the use of the heredity function of the genetic resources.

In the above-mentioned provisions, heredity function refers to the ability of organism to pass on traits or characteristics from an ancestor to a descendent through reproduction, or allow the entire organism to be reproduced.

Functional unit of heredity refers to a gene, or a DNA or RNA fragment having heredity function of an organism.

“Material obtained from such as human body, animal, plant or microorganism which contains functional units of heredity” refers to carrier of functional units of heredity, which includes not only a whole organism, but also a part of it, such as organ, tissue, blood, body fluid, cell, genome, gene, DNA or RNA fragment, etc.

With regard to an invention-creation, using the heredity function of the genetic resources refers to, for example, isolating, analyzing and/or processing the functional units of heredity to develop the invention-creation and to realize the value of the genetic resources.

“Acquisition or use of the genetic resources is not consistent with the provisions of the laws and administrative regulations” means that the acquisition or use of the genetic resources is not

beforehand approved by relevant administrative departments or licensed by relevant right holder in accordance with the provisions of relevant laws and administrative regulations of China. For example, in accordance with the provisions of "Animal Husbandry Law of the People's Republic of China" and "Measures for Examination and Approval in respect of the Entry and Exit of Genetic Resources of Livestock and Poultry and in respect of Research in Their Utilization in Cooperation with Foreign Entities", in the case of exporting abroad the genetic resources that have been included in the directory for protection of the genetic resources of livestock and poultry in China, relevant formalities for examination and approval shall be gone through. Where certain genetic resources that have been included in the directory for protection of livestock and poultry are exported abroad from China, but no formality for examination and approval has been gone through, no patent right shall be granted for any invention-creation developed relying on such genetic resources.

Art. 25

4. Subject Matters Excluded from Patent Protection under Article 25

Where a patent application claims a subject matter belonging to the subject matters excluded from patent protection under Article 25.1, it shall not be granted a patent right.

Art. 25.1(1)

4.1 Scientific Discoveries

"Scientific discoveries" refer to the revelations of substances, phenomena, transformation processes and their features and laws, which objectively exist in the nature. Scientific theories are the generalization of understandings of the nature, and are discoveries in a broader sense. All of these are the extension of the cognition of human beings. Because these discovered substances, phenomena, processes, features and laws are different from the technical solutions of reforming the objective world, they are not inventions-creations as referred to in the Patent Law and therefore cannot be granted patent rights. For example, discovery of the photosensitive property of a silver halide under illumination cannot be granted a patent right. However, patent right may be granted for the photographic film and the process to produce the film in accordance with this discovery. For another example, finding in the nature a previously unknown substance

existing in its natural state is merely a discovery, and cannot be granted a patent right (for examination of patent applications concerning substance separated or extracted from the nature for the first time, Chapter 10, Section 2.1 of this Part shall apply).

It should be noted that, although invention and discovery are different in substance, they are closely interrelated. Usually, many inventions are made on the basis of discoveries. In turn, inventions promote discoveries. Such close relationship between invention and discovery is especially prominent in "use invention" of chemical substances. When a special property of a certain substance is discovered, usually a use invention utilizing this property will be made accordingly.

Art. 25.1(2)

4.2 Rules and Methods for Mental Activities

Art. 2.2

"Mental activities" refer to human's thinking movements. They originate from human's thinking, and produce abstract results through inference, analysis and judgment, or, via human's thinking movement, produce results by indirectly acting on the nature. Rules and methods for mental activities are rules and methods governing people's thinking, expression, judgment, and memorization. Because they do not use technical means or apply the laws of nature, nor do they solve any technical problem or produce any technical effect, they do not constitute technical solutions. Rules and methods for mental activities not only fail to comply with Article 2.2, but also fall to be the circumstance as provided in Article 25.1(2). Therefore, rules and methods instructing people on how to perform this kind of activities cannot be granted patent rights.

In determining whether or not a claimed subject matter in a patent application involving rules and methods for mental activities is a patentable subject matter, the following principles shall be followed.

(1) If a claim concerns only rules and methods for mental activities, it shall not be granted a patent right.

If a claim, except for the title of the subject matter, is defined by rules and methods for mental activities in the whole contents, in substance it concerns only rules and methods for mental activities, and it shall neither be granted a patent right.

Examples include the following:

methods of examining patent applications;
methods and systems of managing organization, production,
commercial activities, or economy, etc.;
traffic rules, schedules, competition rules;
methods of deduction, inference, or operations;
rules of classifying books, methods of editing dictionary,
methods of searching information, methods of classifying pa-
tents;
rules and methods of editing calendar;
operating instructions of an instrument or an apparatus;
grammar of various languages, rules of coding Chinese char-
acters;
computer languages, computing rules;
short-cut arithmetic methods and relevant pithy formulae;
mathematical theories and methods of conversion;
methods of psychological test;
methods of teaching, lecturing, training, and beast training;
rules and methods of various games or entertainment;
methods of statistics, accounting, or bookkeeping;
music books, food recipes, or chess manuals;
methods of keeping fitness;
methods of disease survey and methods of population census;
methods of presenting information; and
computer programs per se.

(2) Except the cases described above in point (1), if a claim
in its whole contents contains not only matter of rule or method
for mental activities but also technical features, then the claim,
viewed as a whole, is not a rule or method for mental activities,
and shall not be excluded from patentability under Article 25.

Art. 25.1(3) 4.3 Methods for Diagnosis or for Treatment of Diseases

“Methods for diagnosis or for treatment of diseases” refer to
the processes of identifying, determining, or eliminating the
cause or focus of diseases which are practiced directly on living
human or animal bodies.

For humanity and ethical reasons, it is acknowledged that a
doctor shall be given the freedom to choose any means in the
course of diagnosis or treatment of diseases. Moreover, this kind
of methods are not susceptible of industrial application because

they are practiced directly on living human or animal bodies, and are not inventions-creations in the context of the Patent Law. Therefore, methods for diagnosis or for treatment of diseases shall not be granted patent rights.

However, instruments or apparatus for implementing these methods of diagnosis or treatment, or substances or materials for use in such methods are subject matters for which patent right may be granted.

4.3.1 Diagnostic Methods

Diagnostic methods refer to the processes of identifying, studying, and determining the cause or focus of diseases on living human or animal bodies.

4.3.1.1 Inventions Belonging to Diagnostic Methods

Where a method involving diagnosis of a disease complies with the following two requirements, it is a diagnostic method and cannot be granted a patent right:

- (1) it is practiced on a living human or animal body; and
- (2) its immediate purpose is to obtain the diagnostic result of a disease or health condition.

If an invention, as viewed from its description, is practiced on samples in vitro, but its immediate purpose is to obtain the diagnostic result of a disease or health condition for the same subject, it shall not be granted a patent right.

If a method claimed in a patent application includes diagnostic steps, or includes testing steps if no diagnostic steps, and the diagnostic result of a disease or health condition can be reached immediately based on the diagnostic or test information thus obtained according to the medical knowledge in the prior art and the disclosure of the application, then the method can be regarded as satisfying the above requirement (2).

The following are examples of diagnostic methods for which no patent right shall be granted:

method of measuring blood pressure, method of taking pulse, feet diagnostic method, X-ray diagnostic method, ultrasonic diagnostic method, gastrointestinal radiography diagnostic method, endoscopy diagnostic method, isotope tracing diagnostic method, infrared noninvasive diagnostic method, method of evaluating

the risk of suffering diseases, method of predicting the therapeutic efficacy for diseases, and gene screening diagnostic method.

4.3.1.2 Inventions Not Belonging to Diagnostic Methods

The following are examples which do not belong to diagnostic methods:

(1) method of pathological anatomy practiced on a dead human or animal body;

(2) method the immediate purpose of which is only to obtain information from the living human or animal body as an intermediate result rather than to obtain the diagnostic result or health condition, or method of processing such information (e.g., physique and body parameters, physiological parameters, or other parameters); and

(3) method the immediate purpose of which is only to treat or test the body tissues, body fluids, or excrements that have been removed from the human or animal body in order to obtain information as an intermediate result rather than to obtain the diagnostic result or health condition, or method of processing such information.

As for the above items (2) and (3), it should be noted that only if the diagnostic result of a disease and health condition cannot be reached immediately based on the obtained information per se in accordance with the medical knowledge in the prior art and the disclosure of the application, can the information be regarded as an intermediate result.

4.3.2 Methods of Treatment for Diseases

Methods of treatment for diseases refer to the processes of intercepting, relieving, or eliminating the cause or focus of diseases so that the living human or animal bodies may recover or gain health or relieve pain.

Methods of treatment for diseases include the various methods which serve treatment purpose or which are of treatment nature. Prophylactic methods and methods of immunization are regarded as methods of treatment for diseases.

For a method both possibly serving treatment purpose and possibly serving non-treatment purpose, unless it is clearly stated

that the method serves non-treatment purpose, it cannot be granted a patent right.

4.3.2.1 Inventions Belonging to Methods of Treatment for Diseases

The following are examples that belong to or shall be regarded as methods of treatment for diseases and thus shall not be granted patent rights:

- (1) methods of treatment by surgery, methods of treatment by pharmaceutical therapy, or psychotherapeutics;
- (2) methods of acupuncture, anesthesia, manipulation, massage, Gua Sha (scraping therapy), qigong, hypnosis, medicated bath, air bath, sunbath, forest bath, and nursing care for the purpose of treatment;
- (3) methods of stimulating or irradiating a human or animal body by radiation of electricity, magnetism, sound, light, or heat etc. for the purpose of treatment;
- (4) methods of coating, freezing, or diathermy etc. for the purpose of treatment;
- (5) various immunization methods for prevention of diseases;
- (6) methods auxiliary to a surgery treatment and/or pharmaceutical therapy, such as method of processing cells, tissues, or organs that will be returned to the same subject, method of hemodialysis, method of monitoring the depth of anesthesia, method of taking medicines, method of injecting medicines, or method of applying medicines externally;
- (7) methods of fertilization, contraception, increasing the number of sperm, adesculation, or embryonic transfer etc. for the purpose of treatment;
- (8) methods of cosmetic surgery, stretching limbs, losing weight, or increasing height for the purpose of treatment;
- (9) methods of treating human or animal wounds, such as method of disinfecting or bandaging a wound; and
- (10) other methods such as method of artificial respiration and method of oxygen supply for the purpose of treatment.

It shall be noted that although methods of treatment for diseases by using medicines are not patentable, medicines per se can be granted patent rights. For examination of patent applications

concerning medical use of substances, Chapter 10, Sections 2.2 and 4.5.2 of this Part shall apply.

4.3.2.2 Inventions Not Belonging to Methods of Treatment for Diseases

The following methods are examples which do not belong to methods of treatment for diseases, and shall not be excluded from patentability under Article 25.1(3):

(1) methods of making artificial limbs or other prostheses, and methods of measurement in making such artificial limbs or prostheses. Take for example a method of making dental prosthesis, including the step of making tooth mould in the oral cavity of the patient and the step of making dental prosthesis outside the oral cavity. Although the ultimate aim is for treatment, the purpose of the method in itself is to make suitable dental prosthesis;

(2) methods of stockbreeding by treating animal bodies by a non-surgery means to change their growing trait, such as methods of applying certain electromagnetic stimulation to live lambs in order to accelerate their growth speed, improve the quality of mutton, or increase the output of wool;

(3) methods of butchering animals;

(4) methods of treating dead human or animal bodies, such as methods of anatomy, beautification, antiseptics, or making specimens;

(5) methods of purely cosmetic nature, i.e., methods of cosmetic nature which are not invasive to human body or do not produce wounds, including methods of deodorization, protection, decoration, or beautification for non-treatment purpose practiced partially on such directly visible parts as skin, hair, nail, and teeth externals;

(6) methods for making a human or animal not in a diseased state feel comfortable or pleased, or methods for supplying oxygen, negative oxygen ions, or moisture under a special condition such as for diving or for shielding from toxic gas; and

(7) methods of killing bacteria, viruses, lice, or fleas on a human or animal body (on the skin or in the hair, excluding wounds and infected sites).

4.3.2.3 Methods of Surgery

Methods of surgery refer to the methods of traumatic or invasive treatment such as incision, resection, stitching, and tattooing practiced on living human or animal bodies with the aid of instruments. Such methods cannot be granted patent rights. However, a method of treatment such as incision, resection, stitching, and tattooing practiced on a dead human or animal body may be patentable in so far as it does not violate Article 5.1.

Methods of surgery are divided into one kind for the purpose of treatment and the other kind for the purpose of non-treatment.

A method of surgery for the purpose of treatment belongs to methods of treatment for diseases, for which no patent right shall be granted in accordance with Article 25.1(3).

For examination of methods of surgery for non-treatment purposes, Chapter 5, Section 3.2.4 of this Part shall apply.

Art. 25. 1(4)

4.4 Animal and Plant Varieties

Animal and plant are living things. According to Article 25. 1(4), no patent rights shall be granted for animal and plant varieties. Animal referred to in the Patent Law does not include human being, and it refers to the life form which cannot synthesize carbohydrate and protein by itself but maintains its life only by absorbing natural carbohydrate and protein. Plant mentioned in the Patent Law refers to the life form which maintains its life by synthesizing carbohydrate and protein from the inorganics, such as water, carbon dioxide, and inorganic salt, through photosynthesis, and usually is immovable. Animal and plant varieties can be protected under other laws and regulations other than the Patent Law. For example, new plant varieties can get protection under the Regulations on the Protection of New Varieties of Plants.

Moreover, according to Article 25.2, patent right may be granted for processes used in producing animal and plant varieties. The processes of production herein refer to non-biological processes, and do not include those for the production of animals or plants through essentially biological processes.

Whether or not a process is an “essentially biological

process" depends on the degree of human technical involvement in the process. If the human technical involvement is the controlling or decisive factor for achieving the result or effect of that process, the process is not essentially biological. For example, the method of raising high yield dairy cattle through irradiation and the method of producing lean meat pigs by improving raising approach are patentable subject matters.

Microorganism inventions refer to those relating to producing a chemical substance (such as an antibiotics) or decomposing a substance by means of microorganisms such as various bacteria, fungi, and viruses. Microorganisms and microbial processes are all patentable. For examination of patent applications for invention concerning microorganisms, the relevant provisions of Chapter 10 of this Part shall apply.

Art. 25.1(5)

4.5 Methods of Nuclear Transformation and the Substances Obtained Therefrom

Methods of nuclear transformation and the substances obtained therefrom are of much concern with national interests in economy, defense, scientific research, and public order, and shall not be monopolized by individuals or entities. Therefore they cannot be granted patent rights.

4.5.1 Methods of Nuclear Transformation

Methods of nuclear transformation refer to the processes of one or more atomic nucleus forming one or more new atomic nucleus through fission or fusion, such as the method of magnetic mirror traps and the method of close traps for realizing nuclear fusion reaction and the various methods for realizing nuclear fission reaction. Such methods cannot be granted patent rights.

However, particle acceleration methods for increasing particle energy to realize nuclear transformation (such as electron traveling wave acceleration method, electron standing wave acceleration method, electron collision method, electron circular acceleration method and so on) are not methods of nuclear transformation, and are thus patentable subject matters.

The various apparatus and devices used for realizing nuclear transformation, and the components thereof, are all patentable subject matters.

4.5.2 Substances Obtained by Means of Nuclear Transformation

Substances obtained by means of nuclear transformation mainly refer to various radioisotopes manufactured or produced by accelerators, reactors, or other nuclear reaction apparatus. Such radioisotopes cannot be granted patent rights.

However, use of those isotopes and the apparatus and devices used therefor are subject matters for which patent rights may be granted.

Chapter 2 Description and Claims

1.Introduction

According to Article 26.1, any invention application shall include a description (if necessary, appended drawings are required) and its abstract, and claims. Any utility model application shall include a description (appended drawings are required) and its abstract, and claims.

The description and the claims are legal documents for setting forth an invention or utility model and for determining the extent of protection thereof.

Art. 26. 3 The description and the drawings are mainly used to set forth the invention or utility model in a manner sufficiently clear and complete, so as to enable a person skilled in the art to understand and carry out the invention or utility model.

Art. 26. 4 The claims shall be supported by the description and shall define the extent of patent protection sought for in a clear and concise manner.

According to Article 59.1, the extent of protection of the patent right for invention or utility model shall be determined by the terms of the claims, and the description and the appended drawings may be used to interpret the content of the claims.

This Chapter is made to set forth general provisions applicable to all technical fields as to the main contents of the description and the claims and the drafting requirements thereof. For special issues concerning the description and the claims of patent applications relating to computer programs and in the field of chemistry, Chapters 9 and 10 of this Part shall apply respectively.

2.Description

Article 26.3 and Rule 17 provide for the substantial contents and drafting manner of the description respectively.

2.1 Requirements that the Description shall Satisfy

Article 26.3 provides that the description shall set forth the

invention or utility model in a manner sufficiently clear and complete so as to enable a person skilled in the art to carry out the invention or utility model.

The description shall set forth the invention or utility model in a manner sufficiently clear and complete to such an extent that a person skilled in the art can carry it out. In other words, the description shall comply with the requirement of disclosing the invention or utility model sufficiently.

For the definition of the “person skilled in the art”, Chapter 4, Section 2.4 of this Part shall apply.

Art. 26. 3

2.1.1 Clarity

The contents of the description shall be clear, and specifically shall meet the following requirements:

(1) the subject matter shall be clear. The description shall, starting from the prior art, clearly set forth what the invention or utility model wants to do and how to do so as to enable a person skilled in the art to precisely understand the subject matter of the invention or utility model for which protection is sought. In other words, the description shall disclose the technical problem the invention or utility model aims to solve and the technical solution adopted to solve the problem; and state, with reference to the background art, the advantageous effects of the invention or utility model. Said technical problem, technical solution, and advantageous effects shall be adapted to one another and free of contradiction or irrelevancy; and

(2) the expression shall be precise. The description shall use terms of the technical field to which the invention or utility model pertains. The description shall precisely express the technical contents of the invention or utility model without any ambiguity or equivocation that may prevent a person skilled in the art from understanding the invention or utility model clearly and properly.

Art. 26. 3

2.1.2 Completeness

A complete description shall include all the technical contents that are necessary for understanding and carrying out the invention or utility model.

A complete description shall include the following contents:

(1)the contents which are indispensable for the understanding of the invention or utility model,such as the description of the relevant technical field and the state of the background art and the brief description of the drawings if any;

(2)the contents that are needed for determining whether or not the invention or utility model possesses novelty,inventive step and practical applicability,such as the technical problem to be solved by the invention or utility model,the technical solution adopted to solve the problem,and the advantageous effects of the invention or utility model; and

(3)the contents that are needed for carrying out the invention or utility model,such as the mode for carrying out the technical solution adopted to solve the technical problem of the invention or utility model.

For an invention or utility model that overcomes a technical prejudice,the description shall explain why the invention or utility model is said to have overcome the technical prejudice,the difference between the new technical solution and the technical prejudice,and the technical means adopted to overcome the technical prejudice.

It should be noted that all the relevant contents that a person skilled in the art cannot obtain directly or solely from the prior art shall be described in the description.

Art. 26. 3

2.1.3 Enablement

The description shall enable a person skilled in the art to carry out the invention or utility model.It means that the person skilled in the art can,in accordance with the contents of the description,carry out the technical solution of the invention or utility model,solve the technical problem,and achieve the expected technical effects.

The description shall clearly set forth the technical solution of the invention or utility model,describe in detail the specific modes for carrying out the invention or utility model,and entirely disclose the technical contents necessary for understanding and carrying out the invention or utility model,to such an extent that a person skilled in the art can carry out the invention or utility model.If the examiner can reasonably doubt that the invention or utility model does not meet the requirement of sufficient

disclosure, he shall invite the applicant to make a clarification. The following are examples of the circumstances in which the technical solution described in the description is regarded as unable to be carried out due to lack of technical means to solve the technical problem:

(1) the description sets forth only a task and/or an assumption, or simply expresses a wish and/or a result, providing no technical means that a person skilled in the art can implement;

(2) the description sets forth a technical means, but the means is so ambiguous and vague that a person skilled in the art cannot concretely implement it according to the contents of the description;

(3) the description sets forth a technical means, but a person skilled in the art cannot solve the technical problem of the invention or utility model by adopting said means;

(4) the subject matter of an application is a technical solution consisting of several technical means, but one of the means cannot be implemented by a person skilled in the art according to the contents of the description; and

(5) the description sets forth a concrete technical solution but without experimental evidence, while the solution can only be established upon confirmation by experimental result. For example, in general, the invention of a new use for a known compound requires experimental evidence in the description to validate the new use and effects thereof; otherwise, the requirement of enablement cannot be met.

Art. 26. 3

2.2 Manner and Order of the Description

According to Rule 17, the description of a patent application for invention or utility model shall state the title of the invention or utility model, which shall be the same as appears in the request. The description shall include the following parts:

(1) technical field: specifying the technical field to which the claimed technical solution pertains;

(2) background art: indicating the background art which can be regarded as useful for the understanding, searching, and examination of the invention or utility model, and when possible, citing the documents reflecting such art;

(3) contents of the invention (or utility model): disclosing Rule 17.1

the technical problem to be solved by the invention or utility model and the technical solution adopted to solve the problem; and stating, with reference to the prior art, the advantageous effects of the invention or utility model;

(4) description of figures: where the description has appended drawings, briefly describing each figure in the drawings; and

(5) specific mode for carrying out the invention (or utility model): describing in detail the preferable mode contemplated by the applicant for carrying out the invention or utility model; where appropriate, this shall be done in terms of examples, and with reference to the drawings, if any.

Rule 17.2 The description of a patent application for invention or utility model shall be presented in the above manner and order, and each of the parts shall be preceded by a heading, unless, because of the nature of the invention or utility model, a different manner or order would result in a better understanding and a more economical presentation.

Rule 17.3 The description of the invention or utility model shall use standard terms and be in clear wording, and shall not contain such references to the claims as: "as described in claim ...", nor shall it contain commercial advertising.

Rule 17.4 Where an invention application contains disclosure of one or more nucleotide or amino acid sequences, the description shall contain a sequence listing in compliance with the prescribed standard. For the submission of the sequence listing, see Chapter 1, Section 4.2 of Part I of these Guidelines.

The following is a detailed explanation of the manner and order mentioned above.

Rule 17.1 2.2.1 Title

The title of the invention or utility model shall be clear and brief. It shall appear at the middle top of the first page of the main text of the description.

The title of the invention or utility model shall be made in accordance with the following requirements:

(1) the title of the invention or utility model in the description shall be the same as appears in the request. Normally a title shall contain no more than 25 Chinese characters; in particular cases, for example, for some applications in the field of chemis-

try, the title can be allowed to contain 40 Chinese characters at the most;

(2) it shall use technical terms generally adopted in the technical field to which the invention or utility model pertains, preferably technical terms used in the International Patent Classification, and non-technical terms shall not be used;

(3) it shall clearly, concisely, and comprehensively reflect the subject matter and the kind (product or process) of the invention or utility model for which protection is sought so as to facilitate the classification of the application. For example, if an application contains two inventions, a product of zipper and a process of making the zipper, the title shall be stated as “zipper and the process for making the same”; and

(4) the title shall not contain name of person, name of place, trademark, model, name of goods, or the like, nor shall it contain commercial advertising.

Rule 17.1(1) 2.2.2 Technical Field

The technical field of an invention or utility model shall be the specific technical field to which the claimed technical solution of the invention or utility model pertains or is directly applied, rather than a general or adjacent technical field or the invention or utility model per se. The specific technical field usually relates to the lowest position in which the invention or utility model may be classified according to the International Patent Classification. For example, as for an invention relating to an excavator cantilever, the inventive feature of which is a change from rectangular section in the background art to elliptic section for the cantilever, the technical field to which the invention pertains may be written as “the invention relates to an excavator, especially to an excavator cantilever” (specific technical field), rather than “the invention relates to a building machine” (general technical field), or “the invention relates to elliptic section in an excavator cantilever” or “the invention relates to an excavator cantilever of an elliptic section” (the invention per se).

Rule 17.1(2) 2.2.3 Background Art

This part shall indicate the background art which can be regarded as useful for the understanding, searching, and examina-

tion of the invention or utility model, and when possible, cite the documents reflecting such art, especially the prior art documents which contain the technical features stated in the preamble portion of the independent claim of the invention or utility model, that is, the closest prior art documents. The documents cited in the description may be either patent documents or non-patent literature, such as periodicals, magazines, manuals, books etc. Where a patent document is cited, at least the country of origin and the publication number, and preferably the publication date, of the patent document shall be clearly indicated. Where a non-patent document is cited, the title and the detailed source of the document shall be clearly indicated.

Moreover, in this part, the problems and defects existing in the background art shall also be objectively described; however, this requirement is limited only to the problem and defect to be solved by the technical solution of the invention or utility model. Where appropriate, the reason why such problem exists and the difficulties encountered in solving the problem may also be explained.

Citation of documents shall further comply with the following requirements:

- (1) the documents cited shall be publications, either in paper form, or in electronic form;
- (2) for non-patent documents and foreign patent documents, the publication date shall be earlier than the filing date of the application; for Chinese patent documents, the publication date shall be no later than the publication date of the application; and
- (3) where the cited document is a foreign patent or non-patent document, the source and relevant information of the cited document shall be indicated in the original language as used for its publication. If necessary, Chinese translation thereof shall be provided, and put in parentheses.

If the citation of a document satisfies the above requirements, the description of the application shall be regarded as having set forth the contents of the document. For examination as to whether such a citation meets the requirement of sufficient disclosure, see Section 2.2.6 of this Chapter.

Rule 17.1 (3)

2.2.4 Contents of the Invention or Utility Model

This part shall clearly and objectively describe the following contents.

(1)The technical problem to be solved

The technical problem to be solved by the invention or utility model refers to the technical problem existing in the prior art that the invention or utility model aims to solve. The technical solution set forth in a patent application for invention or utility model shall be able to solve the problem. The technical problem that the invention or utility model aims to solve shall be described in accordance with the following requirements:

(i)directing against the defect or deficiency existing in the prior art; and

(ii)describing objectively,in positive and concise words and with good grounds,the technical problem which the invention or utility model aims to solve. The technical effect of the invention or utility model may also be mentioned.

No commercial advertising shall be used in describing the technical problem that the invention or utility model aims to solve.

The description of an application may contain one or more technical problems which the invention or utility model aims to solve,but meanwhile the technical solutions to solve these technical problems shall also be set forth in the description. Where one application contains more than one invention or utility model, all the technical problems to be solved described in the description shall be related to a single general inventive concept.

(2)Technical solution

The core of a patent application for invention or utility model is the technical solution set forth in the description.

The requirement of disclosing the technical solution adopted to solve the technical problem as provided in Rule 17.1(3) means that the technical features of the solution adopted by the invention or utility model to solve the technical problem shall be described clearly and completely. This part shall reflect at least the technical solution as in the independent claim that contains all the essential technical features,and may also reflect preferable

solutions containing other additional technical features.

The technical solutions set forth in the description shall be consistent in presentation with the corresponding technical solutions defined in the claims.

Generally, this part shall first state the technical solution as in the independent claim, in terms similar to or same as those used in the independent claim, so as to express the essence of the invention or utility model in the form of aggregation of its essential technical features, and if necessary, explain the relations between the aggregation of essential technical features and the technical effects of the invention or utility model.

Then, this part may reflect preferable technical solutions with further improvements as in the dependent claims by describing the additional technical features of the invention or utility model.

Where one application contains more than one invention or utility model, the technical solution of each invention or utility model shall be described separately.

(3) Advantageous effects

The description shall clearly and objectively state the advantageous effects of the invention or utility model as compared with the prior art.

Advantageous effects mean the effects which directly result from the technical features constituting the invention or utility model, or the effects which these technical features are bound to produce.

Advantageous effects are an important criterion for determining whether an invention represents a "notable progress", or a utility model represents a "progress".

Usually, advantageous effects may take the form of improvement in productivity, quality, precision, or efficiency, saving of energy consumption, raw material, or working procedures, simplification or convenience in processing, operation, control, or use, reparation or cure of environment pollution, or emergence of useful function, etc.

Advantageous effects may be described by way of analysis of the structural features of the invention or utility model in combination with theoretical explanation, or illustrated with reference to experimental data, rather than by just assertion that the

invention or utility model possesses the advantageous effects.

However, no matter which approach is applied to explain the advantageous effects, the invention or utility model shall be compared with the prior art and the difference between the invention or utility model and the prior art shall be pointed out.

The advantageous effects of an invention or utility model in the field of mechanics or electricity may, under certain circumstances, be explained by analysis of the structural features of the invention or utility model in conjunction with their operation mode. However, for an invention in the field of chemistry, under most circumstances, it is appropriate to explain the advantageous effects with reference to experimental data rather than in the above way.

For those matters measurement of which is not available at present and the judgment of which has to rely on human sensory organs, such as taste and smell, the advantageous effects may be described by means of statistical experimental results. Where the advantageous effects are explained by citing experimental data, necessary experimental conditions and methods shall be provided.

Rule 17.1 (4) 2.2.5 Description of Figures

Where the description has appended drawings, it shall state the title of each figure in the drawings and briefly describe the contents as illustrated. Where there are many components or parts, the names of the specific components or parts in the drawings may be provided in the form of a list.

Where there is more than one figure in the drawings, all of the figures shall be briefly described.

For example, for a patent application entitled "an energysaving system for coal-fired boiler", the description of which contains four figures, the figures may be described as follows:

Fig.1 is the front view of the energy-saving system for coalfired boiler;

Fig.2 is a side view of said energy-saving system in Fig.1;

Fig.3 is the view along the direction A as shown in Fig.2;

and

Fig.4 is the sectional view along the line B-B as shown in Fig.1.

Rule 17.1(5) **2.2.6 Specific Mode for Carrying Out the Invention or Utility Model**

The preferred mode for carrying out the invention or utility model is an important part of the description, which is extremely important for sufficiently disclosing, understanding, and carrying out the invention or utility model, as well as for supporting and interpreting the claims. Therefore, the description shall describe in detail the preferred mode contemplated by the applicant for carrying out the invention or utility model. Where appropriate, this shall be done in terms of examples, and with reference to the drawings, if any.

The preferred mode for carrying out the invention or utility model shall embody the technical solution adopted in the application for solving the technical problem, and shall also describe the technical features of the claims in detail so as to support the claims.

The preferred mode for carrying out the invention or utility model shall be described in such detail as to enable a person skilled in the art to carry out the invention or utility model.

Embodiments are exemplification of the preferred modes for carrying out the invention or utility model. The number of embodiments shall be determined in accordance with the nature of the invention or utility model, the technical field to which the invention or utility model pertains, the state of the prior art, and the claimed extent of patent protection.

The description may give only one example if the example is sufficient to support the technical solution as summarized in the claims. Where a claim (especially an independent claim) covers a broad protection extent and the generalization cannot be supported by only one example, the description shall give at least two different examples to support the claimed extent of patent protection. Where the improvement of a claim compared to the background art involves a numerical range, the description shall usually give examples for the values near the both ends (preferably the both end values), and, where the range is broad, at least one example for an intermediate value.

Where the technical solution of an invention or utility model is simple, if the part of description concerning technical solu-

tion has given a clear and complete explanation of the claimed subject matter, it is not necessary to repeat the explanation in the part of description concerning specific mode for carrying out the invention or utility model.

For an invention or utility model for product, the embodiment or example shall describe the mechanical structure, electrocircuit structure, or chemical composition of the product, and illustrate the interrelations among the various parts of the product.

In the case of operational product, if mere description of the structure is not sufficient to enable a person skilled in the art to understand and carry out the invention or utility model, the action process or operation steps thereof shall also be described.

For a process invention, the embodiment or example shall describe the steps of the process, including technological conditions which may be expressed by different parameters or parameter ranges.

In this part, generally the closest prior art or the technical features of the invention or utility model in common with the closest prior art may not be described in detail, but the technical features by which the invention or utility model is distinguished from the prior art and the additional technical features in the dependent claims shall be described in detail sufficient to enable a person skilled in the art to carry out the technical solutions. It should be noted that, for the convenience of examination and straightforward understanding of the invention or utility model by the public, those contents which are indispensable for the description to comply with the requirement of Article 26.3 cannot be described by only reference to other documents, but shall be substantially described in the description.

In description of the preferred mode for carrying out an invention or utility model with reference to the drawings, the reference numbers or symbols used shall be consistent with those appearing in the drawings and be placed after the corresponding technical terms without parenthesis. For example, a description for a circuit connection may be written as "resistor 3 is connected with capacitor 5 via the collector of transistor 4", but shall not be written as "3 is connected with 5 via 4".

2.2.7 Other Requirements on Drafting of the Description

The description shall use normal terms and be clear in wording. In other words, the contents of the description shall be clear and definite and without any ambiguity, vagueness, or self-contradiction so as to facilitate the understanding by a person skilled in the art.

The description shall use the technical terms as recognized in the technical field to which the invention or utility model pertains.

As for terms of natural science, where there is national standard, the standard terms shall be used. Where there is no national standard, the terms generally accepted in the art may be used, and little known or newly emerging technical terms, or the terms in loan word (in Chinese transliteration or free translation) may also be used, provided that their meanings are clear to a person skilled in the art and are not misleading. If necessary, specially formulated technical terms may be used, in which case they shall be clearly and adequately defined or explained. Generally, terms already having an established meaning in the art shall not be used to mean something different so as to avoid misunderstanding and confusion. Technical terms and symbols used in the description shall be consistent throughout.

The description shall use Chinese. However, subject to the condition that no ambiguity is caused, some particular words in a language other than Chinese may also be used. Technical term in a foreign language shall be annotated with Chinese translation or explained in Chinese where it is used in the description for the first time.

For example, expressions not in Chinese may be used under the following circumstances:

(1) for technical terms in a foreign language which are well known in the art, expression not in Chinese is accepted. For example, "EPROM" is used to mean "erasable and programmable read-only memory", and "CPU" is used to mean "central processing unit". However, it is not allowed to use foreign technical terms continuously in one sentence which may cause the sentence difficult to understand; and

(2) for measuring units, mathematic symbols, mathematic formulas, various programming languages, computer programs,

symbols with special meaning(such as GB,the abbreviation of Chinese National Standard)etc.,expression not in Chinese is allowed.

Moreover,the source and title of a foreign patent document, patent application,or non-patent literature cited in the description shall be in the original language,followed by the Chinese translation put in parenthesis if necessary.

Measuring units in the description shall use the legal measuring units,including SI units and other selected units.If necessary, other measuring units well recognized in the art may be indicated in the parentheses at the same time.

Where the name of goods is inevitable in the description,the model,specification,function,and manufacturer of the same shall follow it.

The description shall avoid defining a substance or product by use of a registered trademark.

Rule 18

2.3 Drawings

Art. 26. 3

The drawings are a component part of the description. The function of drawings is to supplement the explanation in the text of the description with figures to enable a person to intuitively and visually understand each technical feature and the whole technical solution of the invention or utility model.For patent applications in the field of mechanics or electricity,the function of drawings is particularly outstanding.Therefore,the drawings shall clearly reflect the contents of the invention or utility model.

The description of an invention application may contain no drawings if the text of the description can set forth the technical solution of the invention in a manner sufficiently clear and complete.

Rule 17. 5

The description of a utility model application shall include drawings.

Rule 18. 2

Where more than one figure is included in an application, throughout the figures indicating the same embodiment,the reference sign indicating the same composite part (the same technical feature or the same object)shall be the same.The same reference sign used in the text of the description and the drawings shall indicate the same composite part.Reference signs not men-

tioned in the text of the description shall not appear in the drawings.

Reference signs not appearing in the drawings shall not be mentioned in the text of the description either.

Rule 18.3

The drawings shall not contain any other explanatory notes, except words which are indispensable. For drawings like flow sheets and block schematics, the necessary words or signs shall be provided in the blocks.

For requirements concerning the making of drawings, Chapter 1, Section 4.3 of Part I shall apply.

Rule 23

2.4 Abstract

The abstract is a summary of the contents set forth in the description. It is just a sort of technical information with no legal effect.

The contents of the abstract do not form a part of the initial disclosure of the invention or utility model. Therefore, they shall not serve as a basis for subsequent amendments to the description or claims, nor shall they be used to interpret the extent of protection of the patent right.

The abstract shall comply with the following requirements:

Rule 23.1 & .2

(1) the abstract shall indicate the title of the invention or utility model and the technical field to which the invention or utility model pertains, and shall be drafted in a way which allows the clear understanding of the technical problem, the gist of the technical solution to that problem, and the principal use(s) of the invention or utility model, wherein the main concentration shall be on the technical solution. The abstract may contain a chemical formula which best characterizes the invention;

Rule 23.2

(2) for applications with drawings, a figure which best characterizes the main technical features of the technical solution of the invention or utility model shall be provided by the applicant or designated by the examiner as the figure accompanying the abstract, and the figure accompanying the abstract shall be one of the figures in the appended drawings;

Rule 23.2

(3) the scale and the distinctness of the figure accompanying the abstract shall be as such that a reproduction with a linear reduction in size to 4cm×6cm would still enable all details to be clearly distinguished; and

Rule 23.2

(4) the whole text (including punctuation marks) of the ab-

abstract shall contain no more than 300 Chinese characters, and no commercial advertising shall be presented in the abstract. Moreover, reference signs appearing in the text of the abstract shall be put in parentheses.

The above sections of this Chapter set forth detailed provisions on the substantial contents of the description and the drafting requirements thereof. It should be noted that, in substantive examination, the description being in conformity with Article 26.3 due to insufficient disclosure is a ground for rejection according to Rule 53, while the description having mere defects of nonconformity with Rule 17 is not a ground for rejection according to Rule 53. If the description has the defect of nonstandard words and unclear wording which cannot prevent the invention from being carried out, the defect belongs to those set forth in Rule 17, and the examiner shall not reject the application on this ground. Furthermore, the grounds for rejection as provided in Rule 53 do not include the failure of the abstract to meet the requirements.

3. The Claims

Art. 26.4

The claims shall be supported by the description and shall define the extent of patent protection sought for in a clear and concise manner.

The claims shall describe the technical features of the invention or utility model, and the technical features may be either component elements that constitute the technical solution of the invention or utility model, or the interrelations between the elements. Article 26.4 and Rules 19-22 set forth provisions on the contents and drafting of claims.

Rule 20.1

The claims in a patent application shall contain at least one independent claim, and may also contain dependent claims.

3.1 Claims

3.1.1 Kinds of Claims

According to their nature, claims are divided into two basic kinds, namely, claims to a physical entity and claims to an activity, which are simply referred to as product claims and process claims respectively. The first basic kind of claim includes any

physical entity (product, apparatus) that is produced by a person”
s technical skill. The second basic kind of claim includes any activity with element of time or process (process, use). Claims to a physical entity include claims to articles, substances, materials, tools, apparatus, and equipment etc. Claims to an activity include claims to manufacturing processes, methods of use, communication methods, processing methods, and methods of applying a product for a specific purpose, etc.

The purpose of identifying the kind of a claim is to help determine the extent of patent protection thereof. In the determination of the extent of patent protection of a claim, generally all the features in the claim shall be taken into account; however, the actual definitive effect of each feature shall finally be reflected on the subject matter of the claim. For example, where one or more technical features of a product claim cannot be clearly defined by either features of structure or features of parameter, it is allowed to define the technical features by virtue of features of process. However, the subject matter of the product claim defined by the features of process is still the product, and the actual definitive effect of the features of process depends on what impact they may impose on the claimed product per se.

For a product claim the subject matter title of which contains definition by use, the definition by use shall be taken into account in determining the extent of patent protection of the product claim. However, the actual definitive effect of the use definition shall depend on the impact it imposes on the claimed product per se. For example, a claim the subject matter title of which is a “mould for molten steel”, wherein the use definition “for molten steel” has definitive effect on the subject matter “mould”. Therefore “a plastic ice cube tray” with a melting point much lower than that of “mould for molten steel” would not come within the claim, because it is impossible to be used as a mould for molten steel. However, if the definition such as “used for ...” has no impact on the claimed product or device per se and is only a description of the use or manner of use of the product or device, then it has no influence in determining for example whether the product or device has novelty or involves an inventive step. Another example is a “compound X for use in ...”. If the phrase “for use in ...” has no influence on the compound X

per se, then the use definition "for use in ..." has no definitive effect in the determination of whether or not the compound X has novelty or involves an inventive step.

3.1.2 Independent Claims and Dependent Claims

Rule 20.2

An independent claim shall outline the technical solution of an invention or utility model and state the essential technical features necessary for the solution of its technical problem.

"Essential technical features" refer to the technical features of an invention or utility model that are indispensable in solving the technical problem and the aggregation of which is sufficient to constitute the technical solution of the invention or utility model and distinguish the same over the technical solutions described in the background art.

In determining whether a certain technical feature is an essential technical feature, the examiner shall start from the technical problem to be solved and take account of the whole contents of the description, rather than simply take the technical features of an embodiment as the essential technical features.

Among the claims of a patent application, the extent of patent protection of an invention or utility model as defined in the independent claim is the broadest.

Rule 20.3

Where one claim contains all the technical features of another claim of the same kind, and further defines the technical solution of the latter, it is a dependent claim. Since the dependent claim further defines the claim on which it depends with additional technical features, its extent of patent protection falls within that of the claim on which it depends.

An additional technical feature of a dependent claim may be a feature that further defines the technical features of the claim on which it depends, or a feature newly introduced.

The claims of a patent application shall have at least one independent claim. Where there are two or more independent claims, the one that appears first is called the first independent claim, and the others are called parallel independent claims. The examiner shall note that sometimes a parallel independent claim may also refer to a preceding independent claim, for example, "An apparatus for carrying out the process of claim 1, ...", "A process for making the product of claim 1, ...", "A device contain-

ning the component of claim 1,...",or "A plug for cooperation with the socket of claim 1,...".The claim of this kind is a parallel independent claim,and shall not be regarded as a dependent claim even it refers to another independent claim.In the determination of extent of patent protection for such an independent claim containing reference to another claim,all the features of the claim referred to shall be taken into account,and their actual definitive effect shall depend on what final impact they may impose on the claimed subject matter of the independent claim.

Under some circumstances,a claim appearing in the form of dependent claim (i.e.,including a reference portion as of a dependent claim)is not necessarily a dependent claim in substance.

For example,claim 1 reads,"A machine tool having feature X". A following claim reads,"A machine tool according to claim 1, characterized in that feature X is replaced by feature Y".Here, the following claim is also an independent claim.The examiner shall not take a following claim as a dependent claim just from its form of drafting.

3.2 Requirements that the Claims shall Satisfy

Article 26.4 provides that the claims shall be supported by the description and shall define the extent of patent protection sought for in a clear and concise manner.Moreover,Rule 19.1 provides that the claims shall describe the technical features of the invention or utility model.

Art. 26. 4

3.2.1 Support in the Description

"The claims shall be supported by the description" means that the technical solution for which protection is sought in each of the claims shall be a solution that a person skilled in the art can reach directly or by generalization from the contents sufficiently disclosed in the description,and shall not go beyond the scope of the contents disclosed in the description.

Claims are usually generalizations from one or more embodiments or examples as set forth in the description.The generalization of a claim shall not go beyond the scope of the contents disclosed in the description.If the person skilled in the art can reasonably predict that all the equivalents or obvious variants of the embodiments set forth in the description have the same prop-

erties or uses, then the applicant shall be allowed to generalize the protection extent of the claim to cover all the equivalents or obvious variants. In determining whether the generalization of a claim is appropriate, the examiner shall refer to the relevant prior art. An invention which opens up a whole new field of technology is entitled to more generality in the claims than one that is concerned with advances in a known technology.

For claims generalized in generic terms or by parallel options, the examiner shall examine whether the generalization can be supported by the description. Where the generalization of a claim includes contents speculated by the applicant and the effect thereof is difficult to determine or evaluate beforehand, the generalization shall be regarded as going beyond the scope of the contents disclosed in the description. If the generalization of a claim is such that the person skilled in the art can reasonably doubt that one or more specific terms or options included in the generic terms or parallel options cannot solve the technical problem aimed to be solved by the invention or utility model and achieve the same technical effects, then it shall be taken that the claim is not supported by the description. In these cases, the examiner shall raise an objection of lack of support on the ground of Article 26.4 and invite the applicant to amend the claim.

For example, considering such a broadly generalized claim as “a method of affecting substances with high frequency electric energy”, if the description contains only one embodiment of “eliminating dust from gas with high frequency electric energy” without any description of methods for affecting other substances with high frequency electric energy, and a person skilled in the art is unable to determine or evaluate beforehand the effect of affecting other substances with high frequency electric energy, then the claim shall be taken as lacking support in the description.

For another example, considering another broadly generalized claim “a method for treating seeds of plant by controlling the freezing time and depth”, if the description contains only method for treating the seeds of one kind of plant without involving any other kind of plant, and an artisan in horticulture is unable to determine or evaluate beforehand the effect of treating seeds of other kinds of plant by such a method, then the claim

shall also be taken as lacking support in the description. Only when the general relationship between the seeds of this kind of plant and those of other kinds of plant has been indicated in the description, or sufficient embodiments have been described, so that an artisan in horticulture can understand how to use this method to treat the seeds of all kinds of plant, can the claim be regarded as having support in the description.

As for a broadly generalized claim relating to the whole class of products or machines, if it is fairly supported by the description, and there is no reason to suppose that the invention or utility model cannot be worked through the whole of the field claimed, then the claim may be acceptable even if its extent of protection is broad. However, if the information given in the description is insufficient to enable a person skilled in the art to extend the teaching of the description to the extent of protection claimed in the claim by using routine methods of experimentation or analysis, the examiner shall invite the applicant to explain and establish that a person skilled in the art can readily extend the invention or utility model to the extent of protection claimed in the claim on the basis of the information given in the description; otherwise, the examiner shall invite the applicant to restrict the claim. For example, concerning the claim "a method for treating synthetic resin mouldings to obtain changes in characteristics", if the examples described in the description relate only to thermoplastic resins, and the applicant cannot establish that this method is also applicable to thermosetting resins, then the applicant shall restrict the claim to thermoplastic resins.

Usually, for product claims, features of function or effect shall be avoided as far as possible to be used in defining the invention. It is only when a certain technical feature cannot be defined by a structural feature, or it is more appropriate to be defined by a feature of function or effect than by a structural feature, and the function or effect can be directly and affirmatively verified by experiments or operations as stated in the description or by customary means in the art, that definition by features of function or effect in a product claim can be permissible.

Technical feature defined by function in a claim shall be construed as embracing all the means that are capable of performing the function. For claim containing a feature defined by

function, whether the definition by function can be supported by the description shall be examined. If the function is carried out in a particular way in the embodiments of the description, and the person skilled in the art would not appreciate that the function could be carried out by other alternative means not described in the description, or the person skilled in the art can reasonably doubt that one or more means embraced in the definition by function cannot solve the technical problem aimed to be solved by the invention or utility model and achieve the same technical effect, then the definition by function as embracing the other alternative means or means incapable of solving the technical problem shall not be allowed in the claim.

Furthermore, if the description merely states in vague terms that other alternative means may be adopted, but the person skilled in the art cannot understand what they might be or how they might be used, then definition by function in the claims is not permitted. In addition, claim of pure functional definition cannot be supported by the description, and therefore is not permitted.

When determining whether a claim is supported by the description, the examiner shall take into account the whole contents of the description, rather than merely the contents in the part of specific mode for carrying out the invention or utility model.

If other parts of the description also include contents concerning embodiments or examples, and it can be established the generalization of the claim is appropriate viewed from the whole contents of the description, then the claim shall be considered to have support in the description.

For the claims including both independent and dependent claims or different kinds of claims, each of the claims shall be examined as to whether it is supported by the description. That an independent claim is supported by the description does not mean its dependent claims are necessarily supported by the description; that a process claim is supported by the description does not mean the product claim is necessarily supported by the description.

Where part or all of the contents of the claimed technical solution are described in the claims of the application as filed but not described in the description, the applicant is permitted to add those contents into the description. However, that the technical

solution in a claim has the same wording as that in the description does not mean the claim is necessarily supported by the description. It is only when the technical solution as defined in a claim can be reached directly or by generalization by a person skilled in the art from the contents sufficiently disclosed in the description that the claim defining that technical solution can be regarded as having support in the description.

Art. 26. 4

3.2.2 Clarity

The clarity of the claims is of the utmost importance for the determination of the extent for which protection is sought by an invention or utility model.

The requirement that the claims shall be clear means, on the one hand, individual claims shall be clear, and on the other hand, the claims as a whole shall be clear as well.

Firstly, the category of each claim shall be clear. The title of the subject matter of a claim shall indicate clearly whether the claim is a product claim or a process claim. It is not permissible to use a vague title of subject matter, such as "A technique ...", or to include both product and method in the title of subject matter of a claim, such as "A product ... and a process for making the same".

On the other hand, the title of subject matter of a claim shall also be adaptive to the technical contents of the claim.

A product claim is suitable for an invention or utility model of product, and shall usually be defined in terms of the structural features of the product. In particular cases, where one or more technical features in a product claim cannot be clearly expressed in terms of structural features, it is permissible to express them with the aid of physical or chemical parameters. Where the features cannot be clearly expressed in terms of either structural features or parameter features, it is permissible to express them with the aid of process features. When parameters are used for the expression, the parameters used must be those which can be clearly and reliably determined by a person skilled in the art according to the teachings of the description or by customary means of the relevant art.

A process claim is suitable for an invention of process, and shall usually be defined in terms of such technical features as

technological process, operational conditions, steps, and procedures.

A use claim belongs to the category of process claim. However, the examiner shall pay attention to distinguishing a use claim from a product claim from the wording thereof. For example, a claim in such a form as "using compound X as an insecticide" or "the use of compound X as an insecticide" is a use claim, and belongs to process claim, while a claim in such a form as "an insecticide made of compound X" or "an insecticide containing compound X" is not a use claim but a product claim.

Secondly, the extent of protection as defined by each claim shall be clear. The extent of protection of a claim shall be construed according to the meaning of the words used in the claim. Generally, the words used in a claim shall be understood as having the meaning that they normally have in the relevant art. In particular cases, where the description explicitly gives a certain word a special meaning and, by virtue of the definition to the word in the description, the extent of protection of the claim using the word is defined sufficiently clearly, such a case is also allowed. However, in this case the examiner should also invite the applicant to amend as far as possible the claim whereby the meaning is clear from the wording of the claim alone.

Any term whose meaning is indefinite, such as "thick", "thin", "strong", "weak", "high temperature", "high pressure", "very broad scope", etc., shall not be used in a claim, unless the term has a well-recognized definite meaning in the particular art, such as "high frequency" in relation to an amplifier. Where the term has no well-recognized meaning, it should, if possible, be replaced by a more precise wording selected from the description.

Such expressions as "for example", "such as", "had better ...", "particularly", "if necessary", and the like shall not be used in a claim, since they will define different extents of protection in a single claim, making the extent of protection thereof unclear. Where in a claim there exists a generic term being followed by a specific term introduced by one of the above expressions, the examiner shall invite the applicant to amend the claim, and it

is allowed to maintain in the claim either of the terms or to define the different extents of protection in two claims with the terms respectively.

Generally, such terms as “about”, “approximately”, “etc.”, “or the like”, and the like shall not be used in a claim, since they are likely to make the protection extent of the claim unclear. Where in a claim there exists such a term, the examiner shall make a judgment as to whether use of such term makes the claim unclear according to the specific situation, and if not, the use of such term is permitted.

Except for being used with reference signs, chemical formulae, or mathematical formulae, use of parentheses in a claim, such as “(concrete) moulded brick”, shall be avoided as far as possible so as to prevent the claim from being unclear. However, bracketed expressions with a generally accepted meaning are allowable, for example “(meth)acrylate”, “containing A of 10%-60% (weight)”.

Finally, the claims as a whole shall be clear as well. This means that the reference relations between the claims shall be clear (see Sections 3.1.2 and 3.3.2 of this Chapter).

Art. 26. 4

3.2.3 Conciseness

The requirement that the claims shall be concise means, on the one hand, individual claims shall be concise, and on the other hand, the claims as a whole shall be concise as well. For example, in one application there should not exist two or more claims that have substantially the same extent of protection.

The number of claims shall be reasonable. It is permitted to have a reasonable number of dependent claims in the claims to define those preferable technical solutions of the invention or utility model.

The expression of the claims shall be concise. Except for the technical features, a claim shall neither contain unnecessary explanations as to the cause or reason, nor shall it contain commercial advertising.

In order to avoid undue repetition of the same content between one claim and another, where possible, the claims shall be drafted in the manner of referring to a preceding claim to the largest extent.

3.3 Requirements on Drafting of Claims

Each claim shall have only one full stop at its end, since the

extent of protection of a claim is defined by the contents therein as a whole.

Rule 19.2 If there are several claims, the claims shall be numbered consecutively in Arabic numerals.

Rule 19.3 The technical terms used in the claims shall be consistent with those used in the description. The claims may contain chemical formulae or mathematical formulae but shall contain no drawings. Unless absolutely necessary, the claims shall not contain such expressions as "as described in ... of the description", or "as shown in figure ..." or the like. The situation "absolutely necessary" refers to the situation where a specific shape involved in an invention or utility model cannot be defined with words but only by drawings, in which case the phrase "as shown in figure ..." or the like can be used in the claims.

Usually, a claim shall not contain a table, unless using a table can define the subject matter of an invention or utility model more clearly.

Rule 19.4 Technical features in a claim may cite corresponding reference signs in the drawings to facilitate the understanding of the solution as in the claim. Such reference signs shall be placed in parentheses and after the corresponding technical features. Reference signs shall not be construed as limiting the extent of protection of the claim.

Generally, a claim shall be presented in one paragraph. However, where there are many technical features, the contents and the interrelations are complicated, and it is difficult to clarify the relations by punctuation, a claim may also be presented in separate lines or several paragraphs.

Usually, an open claim should use the transition phrase of "containing", "including", or "consisting essentially of ...", which shall be interpreted as including additional components or process steps non-recited in the claim is permitted. A closed claim should use the transition phrase of "consisting of ...", which shall normally be interpreted as not including any component or process step other than those set forth in the claim.

Where a claim involves a numerical range, generally the range shall be presented as far as possible in mathematical expression, such as " $\geq 30^{\circ}\text{C}$ ", ">5", etc. Normally, "more than", "less than", "exceed" and the like shall not be construed as inclu-

ding the number itself; “no less than”, “no more than”, “within” and the like shall be construed as including the number itself.

It is permissible to define an invention or utility model in the claims by generalization, provided that the claims are supported by the description. Generalization could be done by the following two means:

(1) by means of generic terms. For example, “gas laser” may be used to generalize over He-Ne laser, Argon ion laser, carbon monoxide laser, and carbon dioxide laser etc., “C₁-C₄ alkyl” to methyl, ethyl, propyl, and butyl groups, and “belt drive” to flat belt drive, vee belt drive, and odontoid belt drive etc.; or

(2) by means of parallel options, i.e., by connecting several parallel features with the conjunction word “or” or “and”, among which at least one option must be chosen. Examples include “feature A, B, C, or D”, and “a substance selected from the group consisting of A, B, C, and D”.

In generalization by means of parallel options, the specific options being put in parallel shall be comparable with each other in content. A generic term cannot be connected in parallel with a specific term by the conjunction “or”. Moreover, the meaning of the parallel options shall be clear. For example, in the expression “A, B, C, D, or the like (equipment, process, substance)”, the meaning of the option “the like” is unclear, therefore it cannot be placed in parallel with the specific products or processes (A, B, C, D).

3.3.1 Requirements on Drafting of Independent Claims

In accordance with Rule 21.1, an independent claim of an invention or utility model shall contain a preamble portion and a characterizing portion, and be presented in the following form:

(1) a preamble portion: indicating the title of the claimed subject matter of the technical solution of the invention or utility model, and those technical features which are necessary for the definition of the claimed subject matter but which, in combination, are part of the most related prior art; and

(2) a characterizing portion: stating, in such words as “characterized in that ...” or in similar expressions, the technical features of the invention or utility model which distinguish it from

the most related prior art. Those features, in combination with the features stated in the preamble portion, serve to define the extent of protection of the invention or utility model.

Rule 21.3 provides that an invention or utility model shall have only one independent claim, which shall precede all the dependent claims relating to the same invention or utility model. The intention of this provision is to make the claims as a whole clearer and more concise.

In the preamble portion of an independent claim, the "technical features which are necessary for the definition of the claimed subject matter but which, in combination, are part of the most related prior art" refer to those technical features which are necessary for the definition of the claimed subject matter but which, in combination, are part of a single document of the most related prior art. Where appropriate, it is preferable to select a prior art document that is the closest to the invention or utility model to "draw a line of demarcation".

In the preamble portion of an independent claim, in addition to the title of the claimed subject matter of the technical solution of the invention or utility model, only those necessary technical features which are closely related to the technical solution of the invention or utility model and in common with the prior art need to be stated. For example, for an invention of photographic camera which substantial point is an improvement to the cloth shutter of the camera, in the preamble portion of the independent claim it needs only state "a photographic camera, including a cloth shutter ...", and there is no need to state such other common features as lens, viewfinder, or other parts of a camera. In the characterizing portion of the independent claim, the essential technical features that are distinct from those in the closest prior art shall be stated. Those distinct technical features in combination with the technical features described in the preamble portion constitute the whole essential technical features of the invention or utility model and thereby define the extent of protection of the independent claim.

The purpose for drafting an independent claim in a two-part form is to help the public understand more clearly, among all the technical features, which are the common technical features of the invention or utility model and the closest prior art, and

which are the distinct technical features of the invention or utility model from those of the closest prior art.

In accordance with Rule 21.2, where the two-part formulation mentioned above is not appropriate to be followed because of the nature of the invention or utility model, an independent claim may be drafted not in the two-part form. Examples of this kind of invention or utility model are:

- (1) an invention which opens up a whole new field;
- (2) an invention of combination of several known integers of equal status, the gist of the invention lying solely in the combination;
- (3) an invention of improvement over a known process, the improvement lying in omitting a certain substance or material, or substituting one substance or material for another, or omitting a certain step; and
- (4) improvement over known inventions, the improvement lying in substituting a part of the known system for another or changing the interrelations thereof.

3.3.2 Requirements on Drafting of Dependent Claims

In accordance with Rule 22.1, any dependent claim of an invention or utility model shall contain a reference portion and a characterizing portion, and be presented in the following form:

- (1) a reference portion: indicating the serial number(s) of the claim(s) referred to and the title of the subject matter;
- (2) a characterizing portion: stating the additional technical features of the invention or utility model.

Rule 22.2

Any dependent claim shall only refer to the preceding claim or claims. Any multiple dependent claim, which refers to two or more claims, shall refer to the preceding claims in the alternative only, and shall not serve as a basis for any other multiple dependent claim, i.e. a subsequent multiple dependent claim shall not refer to a preceding multiple dependent claim.

The reference portion of a dependent claim shall indicate the serial number(s) of the claim(s) referred to, followed by the title of the subject matter of the same. For example, the reference

portion of a dependent claim may be written as: "A metal fiber drawing system according to claim 1, ...".

A multiple dependent claim is a dependent claim that refers

to two or more claims. A multiple dependent claim may refer to the preceding independent claim and dependent claims, or refer to two or more preceding dependent claims.

Where a dependent claim is a multiple dependent claim, the word "or" or a word synonymous with "or" shall be used between the serial numbers of the claims referred to in order to show the claims are referred to in the alternative. For example, the reference portion of a dependent claim may be drafted as: "... according to claim 1 or claim 2 ...", "... according to claim 2, 4, 6, or 8 ..."; or "... according to any one of claims 4-9 ...".

A multiple dependent claim, which refers to two or more claims, shall not serve as a basis for any other multiple dependent claim. For example, if claim 3 states: "A zoom system for video camera according to claim 1 or 2, ...", then a multiple dependent claim 4 as "A zoom system for video camera according to claim 1, 2, or 3 ..." is not allowable, since it referred to claim 3 which is a multiple dependent claim.

The characterizing portion of a dependent claim may define the technical features of the preceding claim (independent claim or dependent claim). Where the preceding independent claim is drafted in the two-part form, a subsequent dependent claim may further define the technical features either in its characterizing portion or in its preamble portion.

All the dependent claims that depend directly or indirectly on a certain independent claim shall be grouped together after the independent claim and before another independent claim.

Chapter 3 Novelty

1.Introduction

In accordance with Article 22.1,any invention or utility model for which patent right may be granted must possess novelty, inventive step,and practical applicability.Therefore,novelty is one of the essential requirements to be satisfied for an invention or utility model application to be granted a patent right.

Art. 22. 2

2.Concept of Novelty

Novelty means that,the invention or utility model does not form part of the prior art,nor has any entity or individual filed previously before the date of filing with the Patent Office an application relating to the identical invention or utility model disclosed in patent application documents published or patent documents announced on or after said filing date.

2.1 Prior Art

According to Article 22.5,the prior art means any technology known to the public before the date of filing in China or abroad. The prior art includes any technology which has been disclosed in publications in China or abroad,or has been publicly used or made known to the public by any other means in China or abroad,before the date of filing (or the priority date where priority is claimed).

The prior art shall be the technical contents that are available to the public before the date of filing.In other words,the prior art shall be in such a state that it is available to the public before the date of filing and shall contain such contents from which the public can obtain substantial technical knowledge.

It should be noted that technical contents in the state of secrecy are not part of the prior art.The state of secrecy includes not only the situation where the obligation to keep secret arises from regulations or agreements regarding confidences but also the situation where the obligation to keep secret arises from social customs or commercial practices,that is,from implicit agree-

ments or understandings.

However, if a person having the obligation to keep secret breaches the regulation, agreement, or implicit understanding, rendering the technical contents disclosed and making the technologies available to the public, these technologies shall form part of the prior art.

2.1.1 Temporal Demarcation

As regards an invention or utility model application, the temporal demarcation of prior art is its filing date or the priority date where applicable. Broadly speaking, all of the technical contents disclosed before the filing date are within the scope of prior art; however, those disclosed on the filing date are not.

2.1.2 Means of Disclosure

The means of disclosure of prior art includes disclosure by publications, disclosure by use, and disclosure by other means, without limitation on territory.

2.1.2.1 Disclosure by Publications

Publications in the context of the Patent Law mean the independently existing disseminating carriers of technical or designing contents, which shall indicate or have other evidence to prove the date of public issue or publication.

Publications of the above definition can be various printed or typed paper documents, such as patent documents, scientific and technological magazines and books, academic theses, specialized documents, textbooks, technical manuals, officially published proceedings or technical reports, newspapers, sample books, product catalogues, and advertisement brochures etc. They can also be audio or video materials made by electric, optic, magnetic, or photographic means, such as microfiches, films, negative films, videotapes, tapes, gramophone records, CD-ROMs, etc. Furthermore, they can be materials in other forms, such as those on the Internet or in other online databases.

The determination of whether a document is a publication shall not be affected by the place or language of issue, the manner of acquisition, or its age. The amount of distribution, whether it has been read, or whether the applicant is aware of it is of no

relevance either.

As for the publications with the words "Internal Materials" or "Restricted Publication" or other similar wording, if they were really distributed in a restricted scope and required to be kept confidential, they are not regarded as publications in the context of the Patent Law.

The printing date of a publication is regarded as the date of disclosure, except where the date of disclosure can be evidenced otherwise. Where only a specific month or year is indicated as the printing date, the last day of the month or year shall be regarded as the date of disclosure.

If the examiner doubts the date of disclosure of a publication, he may invite the person who submitted the publication to furnish evidence.

2.1.2.2 Disclosure by Use

Disclosure by use means that by use the technical solution is disclosed or placed in the state of being available to the public.

Means of disclosure by use include making, using, selling, importing, exchanging, presenting, demonstrating, exhibiting and the like that can make the technical content available to the public.

So long as by the above means the relevant technical content is placed in such a state that the public can know it if they wish, disclosure by use can be established, and it is of no relevance whether the public had actually known it. However, if at an exhibition or demonstration of a product no explanation of the technical contents thereof is provided so that the structure and function or composition of the product is not known to a person skilled in the art, the exhibition or demonstration does not constitute a disclosure by use.

Where disclosure by use is concerned with a product, it can be established even if the product or device used needs to be destroyed to get its structure and function known. Moreover, disclosure by use also includes disclosure on an exhibition stand or in a shop window of informative materials that are readable by the public or directly visible materials, such as posters, drawings, photographs, specimens, and samples.

The date on which the product or process is available to the public shall be regarded as the date of disclosure by use.

2.1.2.3 Disclosure by Other Means

Disclosure by other means mainly refers to oral disclosure etc..Examples include talking,reporting,speaking at symposium, broadcasting,televising,and cinematographing that make the technical contents known to the public.For contents of talking, reporting,or speaking at symposium,the date of action shall be regarded as the date of disclosure.For contents of broadcasting,televising, or cinematographing that can be received by the public, the date of broadcast or showing shall be regarded as the date of disclosure.

2.2 Conflicting Applications

In accordance with Article 22.2,when novelty of an invention or utility model application is examined,the applications relating to the identical invention or utility model which have been

filed by any entity or individual prior to the filing date of the application being examined with the Patent Office and published or announced on or after said filing date,will take away the novelty of the application being examined.During examination of novelty,for the sake of convenience,this kind of application that are prejudicial to the novelty of the application being examined are called "conflicting applications".

When conducting a search to determine whether there exists a conflicting application,the examiner shall note that not only the claims but also the description(including drawings)of the earlier patent or patent application shall be consulted,that is,the whole contents thereof shall be taken into account.

A conflicting application can also be an international application entering the Chinese national phase that was filed previously by any entity or individual,published or announced by the Patent Office on or after the filing date of the application being examined,and is for an identical invention or utility model.

It should be noted that conflicting applications refer to the applications for the identical invention or utility model filed previously before but not on the filing date of the application being examined.

2.3 Reference Documents

The relevant documents cited for determining whether an invention or utility model has novelty or inventive step, including patent and non-patent documents, are generally called "reference documents".

Since in the substantive examination stage the examiner normally does not know the technologies disclosed by use or made known to the public by other means in China or abroad, the reference documents cited in this stage are mainly publications.

The reference documents cited may be either one document or several documents. The contents cited may be either the whole contents of each document, or partial contents thereof. Reference documents are objectively existing technical materials.

When a reference document is cited to judge novelty and inventive step of an invention or utility model, the technical contents disclosed in the reference document shall be based upon. Said technical contents include not only those technical contents expressly described in the reference document but also those implied technical contents that can be derived directly and unambiguously from the disclosure by a person skilled in the art. However, it is not allowable to broaden or narrow the contents of the reference document at will. Where a reference document has drawings, the drawings may also be cited. However, when citing the drawings, the examiner shall note that only those technical features that can be derived directly and unambiguously from the drawings belong to the contents of disclosure. The contents inferred from the drawings, and the dimensions with their relations measured from the drawings without any written description cannot be taken as the contents of disclosure.

3. Examination of Novelty

The determination of whether an invention or utility model application has novelty needs to be made only after its practical applicability has been confirmed.

3.1 Principles of Examination

The following principles shall be complied with during the examination of novelty.

(1) Identical inventions or utility models

Comparing the application being examined with the relevant contents of the prior art or of the applications for invention or utility model filed previously by any entity or individual with the Patent Office and published or announced on or after the filing date of the application being examined (hereafter “previously filed and later published or announced” application), if their technical fields, technical problems to be solved, technical solutions, and their expected effects are substantially the same, they shall be regarded as identical inventions or utility models. It should be noted that, in determining the novelty of an application, the examiner shall first of all determine whether the technical solution of the application being examined is substantially the same as that of the reference document. When an application is compared with the contents disclosed in a reference document, if the technical solution defined in a claim therein and the technical solution disclosed in the reference document are substantially the same, and the person skilled in the art from the solutions can conclude that both of them can be applied to the same technical field, solve the same technical problem, and have the same expected effects, then they can be regarded as identical inventions or utility models.

(2) Separate comparison

When determining novelty, the examiner shall compare each claim of the application separately with the relevant technical contents disclosed in each item of the prior art or each previously filed and later published or announced invention or utility model, rather than with a combination of the contents disclosed in several items of the prior art or several previously filed and later published or announced applications or with a combination of several technical solutions disclosed in one reference document. That is, the principle of separate comparison shall be applied in the determination of novelty of an invention or utility model application, which is different from the approach to the determination of inventive step of an invention or utility model application (see Chapter 4, Section 3.1 of this Part).

3.2 Criterion for Examination

Article 22.2 shall serve as the criterion for judging whether

an invention or utility model possesses novelty.

Several circumstances that often arise in the judgment of novelty are provided here to facilitate the understanding of this criterion.

3.2.1 Invention or Utility Model with Identical Contents

Where the claimed invention or utility model is completely identical with the technical contents disclosed in a reference document, or there are only simple changes in wording between them, the invention or utility model does not possess novelty. Furthermore, the meaning of "identical contents" shall be construed as including the technical content directly and unambiguously derivable from the reference document. For example, a claim of an invention application is "a core of a motor rotor made of Nd-Fe-B permanent magnet alloy having a tetragonal crystal structure and a main phase of Nd₂Fe₁₄B intermetallic compound". If a reference document discloses "a core of a motor rotor made of Nd-Fe-B magnet", the claim will lose novelty, since it is well known to a person skilled in the art that the so-called "Nd-Fe-B magnet" means the Nd-Fe-B permanent magnet alloy having a main phase of Nd₂Fe₁₄B intermetallic compound and a tetragonal crystal structure.

3.2.2 Specific (Lower Level)Term and Generic (Upper Level)Term

If, when the claimed invention or utility model is compared with a reference document, the difference between them lies merely in the fact that a technical feature of the same nature is defined in a generic (upper level) term in the former and in a specific (lower level) term in the latter, then the disclosure in the specific (lower level) term takes away the novelty of the invention or utility model defined in the generic (upper level) term.

For example, a product "made of copper" disclosed in a reference document takes away the novelty of an invention or utility model for the same product "made of metal". However, the disclosure of the product made of copper does not take away the novelty of an invention or utility model for the same product made of other specific metal.

On the other hand, the disclosure in generic (upper level)

term does not take away the novelty of an invention or utility model defined in specific (lower level) term. For example, a product "made of metal" disclosed in a reference document does not take away the novelty of an invention or utility model for the same product "made of copper". For another example, if the difference between the claimed invention or utility model and a reference document lies merely in that "chlorine" is used in the invention or utility model to replace "halogen" or another specific halogen "fluorine" in the reference document, the disclosure of "halogen" or "fluorine" in the reference document does not take away the novelty of the invention or utility model which is defined by "chlorine".

3.2.3 Direct Substitution of Customary Means

If the difference between the claimed invention or utility model and a reference document is merely a direct substitution of customary means employed in the art, the invention or utility model does not possess novelty. For example, if a reference document disclosed a device using screw fastening, and the claimed invention or utility model only replaces the screw fastening with bolt fastening, the invention or utility model does not possess novelty.

3.2.4 Numerical Value and Numerical Range

If the claimed invention or utility model has a technical feature defined by numerical values or a continuous numerical range, such as the dimensions of a component, temperature, pressure, and the content of components in a composition, while all other technical features are identical with those in the reference document, then the determination of novelty shall be conducted according to the following rules.

(1) Where the values or numerical range disclosed in the reference document fall entirely within the range of the above-defined technical feature, the reference document deprives the claimed invention or utility model of novelty.

Example 1: the application claims a copper-based shape memory alloy, comprising 10-35% (weight) zinc, 2-8% (weight) aluminum, and copper as the remainder. If the reference document discloses a copper-based shape memory alloy comprising

20%(weight) zinc and 5%(weight) aluminum,it takes away the novelty of said claim.

Example 2: the application claims a trolley oven for heat treatment,wherein its arch liner has a thickness of 100-400 mm. If the reference document disclosed a trolley oven for heat treatment in which the arch liner has a thickness of 180-250 mm,it takes away the novelty of said claim.

(2)Where the numerical range disclosed in the reference document and the numerical range of the above-defined technical feature partially overlap with each other or have at least a common end point,the reference document deprives the claimed invention or utility model of novelty.

Example 1: the application claims a process for making silicon nitride ceramics,wherein the calcination time is 1-10 hours. If the reference document disclosed a process for making silicon nitride ceramics wherein the calcination time is 4-12 hours,since the two ranges overlap each other in the calcination time of 4-10 hours,the reference document takes away the novelty of said claim.

Example 2: the application claims a process for plasmasprayed coating,wherein the power of the spray gun is 20-50 kW during coating.If the reference document disclosed a plasmasprayed coating process wherein the power of the spray gun is 50-80 kW during coating,since the two ranges have a common end point 50 kW,the reference document takes away the novelty of said claim.

(3)The two end points of the numerical range disclosed in the reference document take away the novelty of the invention or utility model in which the above-defined technical feature has discrete numerical values including one of said two end points, but does not take away the novelty of the invention or utility model in which the above-defined technical feature is a numerical value at any point between said two end points.

Example: the application claims a process for making titanium dioxide photocatalyst,wherein the drying temperature is 40°C,58°C,75°C,or 100°C.If the reference document disclosed a process for making titanium dioxide photocatalyst wherein the drying temperature is 40-100°C,it takes away the novelty of said claim in the case that the drying temperature is 40°C or 100°C,

but does not take away the novelty of said claim in the case that the drying temperature is 58°C or 75°C.

(4) Where the numerical values or numerical range of the above-defined technical feature fall within the range disclosed in the reference document and do not have any common end point with it, the reference document does not take away the novelty of the claimed invention or utility model.

Example 1: the application claims a piston ring for internal combustion engine, wherein the diameter of the piston ring is 95 mm. If the reference document disclosed a piston ring of 70-105 mm in diameter used in internal combustion engine, it does not take away the novelty of said claim.

Example 2: the application claims an ethylene-propylene copolymer, wherein the polymerization degree is 100-200. If the reference document disclosed an ethylene-propylene copolymer in which the polymerization degree is 50-400, it does not take away the novelty of said claim.

For amendments to numerical ranges, Chapter 8, Section 5.2 of this Part shall apply. For examination of novelty of compounds described by formula, Chapter 10, Section 5.1 of this Part shall apply.

3.2.5 Product Claims Including Feature of Performance, Parameters, Use, or Manufacturing Process

For examination of novelty of the product claims including feature of performance, parameters, use, or manufacturing process, the following rules shall be followed.

(1) Product claims including feature of performance or parameters
For this kind of claims, the examiner shall consider whether the feature of performance or parameters in a claim implies that the claimed product has a certain particular structure and/or composition. If the performance or parameters implies that the claimed product has a structure and/or composition distinct from that of the product disclosed in the reference document, the claim has novelty. On the other hand, if the person skilled in the art from the performance or parameters cannot distinguish the claimed product from that disclosed in the reference document, it can be presumed that the claimed product is identical with the

product in the reference document and accordingly the claim does not have novelty, unless the applicant can, based on the application or the prior art, prove that the claimed product having the feature of performance or parameters is distinct from the product in the reference document in structure and/or composition. For example, an application claims a compound A in a crystalline state defined by a variety of parameters including X-diffraction data, and the reference document also disclosed a compound A in a crystalline state. If the crystalline state of the both cannot be distinguished from each other based on the disclosure of the reference document, it can be presumed that the claimed product is identical with the product in the reference document and accordingly the claim does not have novelty as compared with the reference document, unless the applicant can, based on the application or the prior art, prove that the claimed product is actually distinct in crystalline state from the product disclosed in the reference document.

(2) Product claims including feature of use

For this kind of claims, the examiner shall consider whether the feature of use in a claim implies that the claimed product has a certain particular structure and/or composition. If the use is fully determined by the inherent property of the product and does not imply any change in the structure and/or composition of the product, the product claim defined by this use feature does not have novelty as compared with the product in the reference document. For example, comparing an invention of antiviral compound X with compound X as a catalyst disclosed in a reference document, although the use of compound X has been changed, the chemical formula which determines its inherent property has no change, therefore the invention of antiviral compound X does not have novelty. However, if the use implies that the claimed product has a certain particular structure and/or composition, that is, the use indicates that the structure and/or composition of the product has changed, then the use as a definitive feature of the structure and/or composition of the product must be considered. For example, "a hook for crane" means a hook having the structure specifically suitable for a crane in size and strength. It is distinct in structure from "a hook for angling" which has the same shape but is used for fishing. Therefore they shall be considered

as different products.

(3)Product claims including feature of manufacturing process

For this kind of claims,the examiner shall consider whether the feature of manufacturing process results in a certain particular structure and/or composition of the product.If the person skilled in the art can conclude that the process will necessarily result in a product having a particular structure and/or composition

different from that of the product in the reference document, the claim has novelty.On the other hand,if the claimed product, as compared with the product in the reference document,has the same structure and composition despite the different manufacturing process,the claim does not have novelty,unless the applicant can,based on the application or the prior art,prove that the

process results in a product having a different structure and/or composition,or having a different performance thereby indicating that its structure and/or composition has changed.For example, an application claims a glass cup made by process X,and a reference document disclosed a glass cup made by process Y.If the glass cups made by the both processes respectively have the same structure,shape,and constituent material,the claim does not have novelty.On the other hand,if the process X comprises a step of annealing at a particular temperature not disclosed in the reference document,which considerably increases the breaking resistance of the glass cup so made as compared with that in the reference document,then it indicates the claimed glass cup has a different microstructure due to the different manufacturing process,and has an internal structure different from that in the reference document,therefore the claim has novelty.

The rules in the above Sections 3.2.1 to 3.2.5 also apply to the determination of whether these kinds of features are identical during the examination of inventive step.

4.Right of Priority

According to Article 29,where,within twelve months from the date on which any applicant first filed in a foreign country an invention or utility model application,he files in China an application for the same subject matter,he may,in accordance with any agreement concluded between said foreign country and

China, or in accordance with any international treaty to which both countries are party, or on the basis of the principle of mutual recognition of the right of priority, enjoy a right of priority.

Such kind of right of priority is called right of foreign priority.

Art. 29. 2; Rule Where, within twelve months from the date on which any applicant first filed in China an invention or utility model application, he files with the Patent Office an invention or utility model application for the same subject matter on the basis of the previous invention application, or he files with the Patent Office a utility model or invention application for the same subject matter on the basis of the previous utility model application, he may enjoy a right of priority. Such kind of right of priority is called right of domestic priority.

Art. 29. 1 4.1 Right of Foreign Priority

4.1.1 Conditions of Entitlement to Right of Foreign Priority

A patent application that can enjoy a right of foreign priority shall meet the following conditions:

(1) after having for the first time filed in a foreign country a patent application for an invention-creation (hereinafter first foreign application), the applicant files in China a patent application for the same subject matter (hereinafter subsequent application filed in China);

(2) so far as an invention or utility model is concerned, the filing date of the subsequent application filed in China shall be no later than twelve months from the filing date of the first foreign application; and

(3) the foreign country or intergovernmental organization where the applicant first filed the application has an agreement concerning priority with China, or is a party to an international treaty governing priority to which China is also a party, or recognizes the right of priority from China.

The entitlement of an invention-creation to a foreign priority right has no relevance with the final examination result of the first foreign application. So long as the filing date of the first foreign application has been established in the relevant foreign country or intergovernmental organization, that application can be used as the basis for claiming foreign priority.

4.1.2 Definition of Invention-Creation for the Same Subject Matter

An invention or utility model for the same subject matter as referred to in Article 29 means an invention or utility model of which the technical field, technical problem to be solved, technical solution, and prospective effect are the same as those of the first application respectively. It should be noted that the term "same" herein does not mean that the wording or manner of description is exactly the same.

The examiner shall note that the technical solution defined in the claims of the subsequent application filed in China may enjoy the right of priority of the first foreign application so long as it has been described in that foreign application. It is not necessary for said technical solution to be contained in the claims of that first foreign application (for verification of right of priority, Chapter 8, Section 4.6 of this Part shall apply).

4.1.3 Effect of Right of Foreign Priority

Where, after having filed for the first time an application in a foreign country, the applicant files in China a patent application for an invention-creation of the same subject matter within the prescribed priority period, the subsequent application filed in China will be regarded as if it had been filed on the same date as the first foreign application. Consequently, the subsequent filing in China shall not be invalidated by reason of such acts accomplished in the priority period, that is, the period between the filing date of the first foreign application and that of the subsequent application filed in China, as another filing for the same subject matter by any entity or individual, or the publication or exploitation of the invention-creation.

Furthermore, during the priority period, any entity or individual may file a patent application for the same subject matter. Because of the effect of the right of priority, no patent right shall be granted to such an application. That is to say, due to the existence of the first foreign application which is the basis of foreign priority, the patent application for the same subject matter filed by any entity or individual between the filing date of the first foreign application and that of the subsequent application

filed in China cannot be granted for a patent right because of lack of novelty.

4.1.4 Foreign Multiple Priorities and Foreign Partial Priority

In accordance with Rule 32.1, an applicant may claim one or more priorities in one application. Where multiple priorities are claimed, the priority period for the application shall be calculated from the earliest priority date.

The rules governing foreign multiple priorities and foreign partial priority are illustrated in the following.

(1) Any patent application claiming multiple priorities shall meet the requirement of unity as provided for in Article 31 and Rule 34.

(2) The first foreign applications serving as bases of the multiple priorities might be filed in different countries or inter-governmental organizations. For example, a subsequent application filed in China sets forth two technical solutions A and B, wherein solution A was described in an application first filed in France, solution B was described in an application first filed in Germany, and both the applications were filed within twelve months before the filing date of the subsequent application filed in China. Under such circumstance, the subsequent application filed in China may enjoy multiple priorities, i.e., solution A may enjoy the priority date of the French application and solution B may enjoy the priority date of the German application. If the solutions A and B are in the alternative and connected by the word "or" and claimed in one claim of the subsequent application filed in China, the subsequent application filed in China may also enjoy the multiple priorities, that is, having different priority dates. However, if the technical solution described in the subsequent application filed in China is a combination of different technical features described respectively in two or more first foreign applications, the subsequent application filed in China cannot enjoy a right of priority. For example, the technical solution described in the subsequent application filed in China is a combination of technical feature C described in one first foreign application and technical feature D described in another first foreign application, and the technical solution containing both features C and D has never been described in the two first foreign applications,

the subsequent application filed in China cannot enjoy the right of foreign priority on the basis of the each first foreign application.

(3)The application claiming right of foreign priority may,in addition to the technical solutions described in the application as the basis of the right of foreign priority,contain one or more new technical solutions as well.For example,in a subsequent application filed in China,in addition to the technical solution described in the first foreign application,a new technical solution which further improves or perfects said solution has also been described, such as by adding a dependent claim which reflects a new embodiment or example in the description,or by adding an independent claim meeting the requirements of unity.Under such circumstance,the examiner shall not deny the right of priority or reject the application just on the ground that the technical solution added in the claims of the subsequent application filed in China was not described in the first foreign application,but acknowledge the right of priority for the invention-creation on the same subject matter as in the first foreign application,taking the filing date of the first foreign application(i.e.,the priority date)as the filing date,and for other inventions-creations,take the filing date of the subsequent application filed in China as the filing date.Because parts of the technical solutions of the subsequent application filed in China are entitled to the right of foreign priority,it is called foreign partial priority.

Art. 29. 2

4.2 Right of Domestic Priority

4.2.1 Conditions of Entitlement to Right of Domestic Priority

A patent application that can enjoy the right of domestic priority shall meet the following conditions:

- (1)the application shall be an invention or utility model application;
- (2)after having filed for the first time an invention or utility model application in China (hereinafter first Chinese application), the applicant files another patent application for the same subject matter with the Patent Office (hereinafter subsequent application filed in China); and
- (3)the filing date of the subsequent application filed in Chi-

na shall be no later than twelve months from the filing date of the first Chinese application.

Rule 32.2

However, if the subject matter of the first Chinese application falls into any of the following circumstances, it cannot be taken as the basis for claiming domestic priority:

(1) where the applicant has claimed foreign or domestic priority, unless the claim for foreign or domestic priority was not successful;

(2) where it has been granted a patent right;

(3) where it is the subject matter of a divisional application filed under Rule 42.

It should be noted that where a domestic priority is claimed, the first Chinese application as the basis of the domestic priority shall be deemed withdrawn as from the date on which the subsequent application is filed.

4.2.2 Definition of Invention or Utility Model for the Same Subject Matter

In this regard, Section 4.1.2 of this Chapter shall apply.

4.2.3 Effect of Right of Domestic Priority

In this regard, the relevant provisions of Section 4.1.3 of this Chapter shall apply *mutatis mutandis*.

4.2.4 Domestic Multiple Priorities and Domestic Partial Priority

Rule 32.1 is applicable not only to foreign but also to domestic multiple priorities. The rules governing domestic multiple priorities and domestic partial priority are illustrated in the following.

(1) Any patent application claiming multiple priorities shall meet the requirement of unity as provided for in Article 31 and Rule 34.

(2) If the subsequent application filed in China describes several technical solutions, for example, it describes three technical solutions A, B, and C which have been described respectively in three first Chinese applications, then the subsequent application filed in China may claim multiple priorities, that is, the technical solutions A, B, and C may respectively take the filing dates of the three first Chinese applications as their priority dates.

(3) If the subsequent application filed in China describes technical solution A and embodiments a₁, a₂ and a₃, wherein only embodiment a₁ has been described in the first Chinese application, then in the subsequent application filed in China only embodiment a₁ may enjoy the domestic priority, while technical solution A and embodiment a₂ and a₃ cannot enjoy the domestic priority.

(4) If the subsequent application filed in China describes technical solution A and embodiments a₁ and a₂, wherein technical solution A and embodiment a₁ have been described in the first Chinese application, then in the subsequent application filed in China technical solution A and embodiment a₁ may enjoy the domestic priority, while embodiment a₂ cannot enjoy the domestic priority.

It should be noted that the above paragraph refers to the situation where the extent of protection for technical solution A cannot be fully supported by only embodiment a₁ and thus the applicant may supplement embodiment a₂ to support solution A.

However, if embodiment a₂ forms part of the prior art when the subsequent application is filed in China, then it shall be deleted and the extent of protection for technical solution A shall be limited to the extent that can be supported by only embodiment a₁.

(5) If, after a first subsequent application was filed in China following the first Chinese application, the applicant filed a second subsequent application in China, and the first Chinese application describes only technical solution A₁, the first subsequent application describes technical solution A₁ and A₂ wherein A₁ enjoys the priority of the first Chinese application, and the second subsequent application describes technical solutions A₁, A₂, and A₃, then, in the second subsequent application, technical solution A₂ may enjoy the priority of the first subsequent application, and technical solution A₁ cannot claim the priority of the first subsequent application since the latter has already enjoyed a right of priority, but it may nevertheless claim the priority of the first Chinese application.

5. Grace Period for Non-Prejudicial Disclosures

Article 24 provides that an invention-creation for which a patent application is applied does not lose its novelty where,

within six months before the date of filing, one of the following events occurred:

- Rules 30.1 & 30.2 (1) where it was first exhibited at an international exhibition sponsored or recognized by the Chinese Government;
- (2) where it was first made public at a prescribed academic or technological meeting;
- (3) where it was disclosed by any person without the consent of the applicant.

For examination regarding the above three circumstances, Chapter 1, Section 6.3 of Part I shall apply.

An invention-creation for which a patent application is applied does not lose its novelty where, within six months before the date of filing, any of the events prescribed in Article 24 occurred.

In other words, even if any of these events occurred, the relevant invention-creation does not form part of the prior art to said application. That period of six months is called the "grace period".

The effect of grace period is different from the effect of priority.

The grace period means that some kinds of disclosure are merely regarded as non-prejudicial to the novelty and inventive step of the application, including some disclosure by the applicant (including inventor) and some disclosure by a third person who got

knowledge of the invention-creation from the applicant or inventor by legal or illegal means. Actually, an invention-creation will

form part of the prior art once it was disclosed, but the above kinds of disclosure in a certain period are regarded as non-prejudicial to the application, that is, not forming part of the prior art that may affect the novelty and inventive step of the application.

Nevertheless, it does not mean the date of disclosure of the invention-creation is regarded as the filing date of the application.

Therefore, if any third person makes an identical invention-creation independently during the period from the date of disclosure to

the date of filing and files a patent application earlier than the application by the applicant, then, according to the principle of first-to-file, the applicant cannot get the patent right. On the other

hand, the application by the third person does not have novelty and cannot be granted patent right, due to the disclosure of the invention-creation by the applicant (including inventor) which makes

the invention-creation form part of the prior art to the applica-

tion by the third person.

If, within six months from the date on which any of the events described in Article 24 occurred and before the applicant files the application, the invention-creation was disclosed once again, provided that the disclosure does not belong to any of the prescribed events, the later disclosure will take away the novelty of the application. If the later disclosure also falls into any of the three prescribed events, the application does not lose novelty because of this later disclosure, but the grace period shall be calculated from the date of the first disclosure.

Rule 30.4

Where a patent application falls into the circumstance as prescribed in Article 24(3), the Patent Office may, when it deems necessary, require the applicant to submit relevant certifying documents to prove the date on which the event occurs and the substantial contents of the disclosure.

Rule 30.5

Where the applicant fails to make a declaration and submit certifying documents as required in Rule 30.3 (see also Chapter 1, Section 6.3 of Part I), or fails to submit certifying documents within the specified time limit as required in Rule 30.4, the application cannot enjoy the grace period of novelty as provided for in Article 24.

When a dispute arises as to the application of Article 24, the party claiming for its applicability shall bear the burden of proof or make a convincing explanation.

Art. 9

6. Handling of Identical Inventions-Creations

Article 9 provides that, for any identical invention-creation, only one patent right shall be granted. Where two or more applicants have separately filed patent applications for an identical invention-creation, the patent right shall be granted to the applicant whose application was filed first.

These provisions thus establish the principle of non-double patenting. The purpose of preventing duplicate patent rights being granted to an identical invention-creation is to prevent interference between patent rights.

As for invention or utility model, "identical invention-creation" referred to in Article 9 and Rule 41 means claims which exist in two or more applications or patents, and have the same extent of patent protection.

Where there is an earlier application constituting a conflicting application or, after disclosure, constituting part of the prior art, the later application (or patent) shall be examined in accordance with Article 22.2 or Article 22.3, rather than in accordance with Article 9.

6.1 Principles of Determination

Article 59.1 provides that the extent of protection of the patent right for invention or utility model patent shall be determined by the terms of the claims. The description and the appended drawings may be used to interpret the content of the claims.

For avoidance of double patenting, in determining whether two invention or utility model applications or patents are identical, the examiner shall compare the contents of the claims thereof with each other, rather than compare the claims of one with the complete disclosure of the other.

In the determination of identical inventions-creations, if the extent of protection of a claim in one application or patent is identical with that of a certain claim in the other application or patent, it shall be concluded that the both are identical inventions-creations.

Where the contents of the descriptions of two applications or patents are identical, but the extents of protection of their claims are different, it shall be concluded that the two claimed inventions-creations are not identical. For example, where the same applicant filed two applications the descriptions of which all contain a product and a process to produce the product, if the claims of one application claim the product and the claims of the other claim the process, the inventions-creations claimed in the two applications shall be regarded as different. It shall be noted that, where the extents of protection of the claims of two inventions-creations partially overlap with each other, the inventions-creations shall not be regarded as identical. For example, where the claim of an application includes a technical feature defined by continuous numerical range, if the continuous numerical range is not completely the same as that in the claim of another invention or utility model application or patent, the two applications shall not be regarded as identical inventions-creations.

6.2 Method of Handling

6.2.1 Handling of Two Applications

6.2.1.1 By the Same Applicant

Where, during examination, it is found that the same applicant has filed two patent applications for an identical invention creation on the same day (the date of filing, or the priority date where priority is claimed), and these two applications have met all the other conditions for patentability, the examiner shall notify the applicant of making a choice or amendments with respect to the two applications respectively. If the applicant fails to make any response within the specified time limit, the corresponding application shall be deemed to have been withdrawn. If the applications are still not in conformity with Article 9.1 after the applicant has made observations or amendments, both of the applications shall be rejected.

6.2.1.2 By Different Applicants

Where, during examination, it is found that different applicants have separately filed a patent application for an identical invention-creation on the same day (the date of filing, or the priority date where priority is claimed), and these applications have met all the other conditions for patentability, the examiner shall notify, in accordance with Rule 41.1, the applicants to carry on negotiations among themselves to decide who shall be the applicant. If an applicant fails to make any response within the specified time limit, the corresponding application shall be deemed to have been withdrawn. If no agreement is made after the negotiation, or, after the applicants have made their observations or amendments, the applications are still not in conformity with Article 9.1, all of the applications shall be rejected.

6.2.2 Handling of One Application and One Patent

Where, during the examination of a patent application, it is found that another patent application filed by the same applicant for the identical invention-creation on the same day (the date of filing, or the priority date where priority is claimed) has been

granted a patent right, and the application being examined has met all the other conditions for patentability, the applicant shall be notified to make amendments. If the applicant fails to make any response within the specified time limit, the application shall be deemed to have been withdrawn. If the application is still not in conformity with Article 9.1 after the applicant has made observations or amendments, it shall be rejected.

Art. 9.1 &
Rule 41.2

However, where an applicant files on the same day (means the date of filing) applications for both patent for utility model and patent for invention relating to the identical invention-creation, if the patent for utility model has been granted and does not terminate, and the applicant has stated the fact respectively upon filing the applications, double patenting may be avoided by amending the invention application, or alternately by abandoning the patent for utility model. Therefore, during the examination of the invention application mentioned above, if the invention application has met all the other conditions for patentability, the applicant shall be notified to make a choice or make amendments. Where the applicant chooses to abandon the patent for utility model which has been granted, he shall submit a written declaration to abandon the patent for utility model at the time of making response to the Office Action. In this case, the examiner shall issue Notification to Grant Patent Right regarding the invention application which has met all the conditions for patentability but has not been granted yet, and transfer the written declaration of abandoning the patent for utility model mentioned above to the relevant examination departments for registration and announcement by the Patent Office. In the announcement, it shall be indicated that the patent right for utility model mentioned above ceases from the date of the announcement of grant of the patent for invention.

Chapter 4 Inventive Step

1.Introduction

In accordance with Article 22.1, any invention or utility model for which patent right may be granted must possess novelty, inventive step, and practical applicability. Therefore, involving an inventive step is one of the essential requirements to be satisfied for an invention or utility model application to be granted a patent right. This Chapter provides guidelines for the examination of inventive step for invention applications only.

2. Concept of Inventive Step of Invention

Art. 22. 3 Inventive step of an invention means that, as compared with the prior art, the invention has prominent substantive features and represents notable progress.

2.1 Prior Art

The prior art referred to in Article 22.3 means the prior art as defined in Article 22.5 and Chapter 3, Section 2.1 of this Part.

The contents of a patent application filed by any entity or individual with the Patent Office previously before the filing date of the application being examined, and published or announced after said filing date, as referred to in Article 22.2, do not fall within the prior art, and therefore shall not be taken into account when inventive step of the application is assessed.

2.2 Prominent Substantive Features

That an invention has prominent substantive features means that, having regard to the prior art, it is non-obvious to a person skilled in the art. If the person skilled in the art can obtain the invention just by logical analysis, inference, or limited experimentation on the basis of the prior art, the invention is obvious and therefore has no prominent substantive feature.

2.3 Notable Progress

That an invention represents notable progress means that the invention can produce advantageous technical effect as compared with the prior art. For instance, the invention has overcome the defects and deficiencies in the existing technology, or has provided a different technical solution to solve a certain technical problem, or represents a certain new trend of technical development.

2.4 Person Skilled in the Art

Whether or not an invention involves an inventive step shall be evaluated on the basis of the knowledge and capability of the person skilled in the art. The person skilled in the art refers to a fictional "person" who is presumed to be aware of all the common technical knowledge and have access to all the technologies existing before the filing date or the priority date in the technical field to which the invention pertains, and have capacity to apply all the routine experimental means before that date. However, he is not presumed to have creativity. If the technical problem to be solved impels that person to seek technical means in other technical field, he should also be presumed to have access to the relevant prior art, common technical knowledge, and routine experimental means in the other technical field before the filing date or the priority date.

The purpose of establishing such a concept is to unify the standard of examination and to avoid subjectivity as far as possible.

3. Examination of Inventive Step of Invention

The determination as to whether or not an invention involves an inventive step shall be considered only when the invention has novelty.

3.1 Principles of Examination

In accordance with Article 22.3, when the inventive step of an invention is examined, the examiner shall examine whether or not the invention has prominent substantive features and whether or not it represents notable progress.

When evaluating whether or not an invention involves an inventive step, the examiner shall consider not only the technical solution itself, but also the technical field to which the invention pertains, the technical problem solved, and the technical effects produced by the invention. The invention shall be considered as a whole.

In the examination of inventive step, it is permissible to combine together different technical contents disclosed in one or more prior art documents to assess the claimed invention, which is different from the principle of "separate comparison" in the examination of novelty (see Chapter 3, Section 3.1 of this Part).

If an independent claim involves an inventive step, there is no need to examine the inventive step of its dependent claims.

3.2 Criterion for Examination

When the inventive step of an invention is assessed, Article 22.3 shall be the governing criterion for examination. In order to facilitate the understanding of this criterion, the typical approach to the assessment of prominent substantive features and the criterion for determining notable progress are respectively provided in the following.

3.2.1 Assessment of Prominent Substantive Features

To determine whether an invention has prominent substantive features is to determine, to the person skilled in the art, whether the claimed invention is non-obvious as compared with the prior art.

If the claimed invention is obvious as compared with the prior art, it does not have prominent substantive features. On the contrary, if the result of comparison shows that the claimed invention is non-obvious as compared with the prior art, it has prominent substantive features.

3.2.1.1 Approach to Assessment

Usually the following three steps are followed to determine whether a claimed invention is obvious as compared with the prior art.

(1) Determining the closest prior art

The closest prior art refers to a technical solution in the prior art that is the most closely related to the claimed invention, which shall be the basis for determining whether or not the claimed invention has prominent substantive features. The closest prior art may, for example, be an existing technology in the same technical field as the claimed invention, and its technical problem to be solved, technical effects, or intended use are the closest to the claimed invention, and/or has disclosed the greatest number of technical features of the claimed invention; or be an existing technology which, despite being in a different technical field from the claimed invention, is capable of performing the function of the invention and has disclosed the greatest number of technical features of the invention. It should be noted that, when determining the closest prior art, account shall be first taken of the prior art in the same or similar technical fields.

(2) Determining the distinguishing features of the invention and the technical problem actually solved by the invention

During examination, the examiner shall objectively analyze and determine the technical problem actually solved by the invention. For this purpose, the examiner shall first determine the distinguishing features of the claimed invention as compared with the closest prior art and then determine the technical problem that is actually solved by the invention on the basis of the technical effect of the distinguishing features. The technical problem actually solved by the invention, in this sense, means the technical task in improving the closest prior art to achieve a better technical effect.

In the course of examination, because the closest prior art identified by the examiner may be different from that asserted by the applicant in the description, the technical problem actually solved by the invention, which is redetermined on the basis of the closest prior art, may not be the same as that described in the description. Under such circumstance, the technical problem actually solved by the invention shall be redetermined on the basis of the closest prior art identified by the examiner.

The redetermined technical problem may depend on the particular situations of each invention. As a principle, any technical effect of an invention may be used as the basis to redetermine the technical problem, as long as the technical effect could be recognized

by a person skilled in the art from the contents set forth in the description.

(3) Determining whether or not the claimed invention is obvious to a person skilled in the art

At this step, the examiner shall make a judgment, starting from the closest prior art and the technical problem actually solved by the invention, as to whether or not the claimed invention is obvious to a person skilled in the art. In the course of judgment, what is to be determined is whether or not there exists such a technical motivation in the prior art as to apply said distinguishing features to the closest prior art in solving the existing technical problem (that is, the technical problem actually solved by the invention), where such motivation would prompt a person skilled in the art, when confronted with the technical problem, to improve the closest prior art and thus reach the claimed invention. If there exists such a technical motivation in the prior art, the invention is obvious and thus fails to have prominent substantive features.

Under the following circumstances, it is usually thought there exists such a technical motivation in the prior art.

(i) The said distinguishing feature is a common knowledge, such as a customary means in the art to solve the redetermined technical problem, or a technical means disclosed in a textbook or reference book to solve the redetermined technical problem. Example: the claimed invention concerns a building component made of aluminium, and the problem to be solved is to reduce the weight of the building component. A reference document discloses a building component of the same structure and indicates that it is made of lightweight material but does not mention the use of aluminium. In the architecture standard, aluminium is expressly pointed out to be a lightweight material and can be used as building element. Obviously the claimed invention has applied the well-known property of lightweight in aluminium. Therefore it can be concluded that there exists the technical motivation in the prior art.

(ii) The said distinguishing feature is a technical means related to the closest prior art, such as a technical means disclosed in other part of the same reference document, the function of which in the other part is the same as the function of the distinguishing

feature in the claimed invention in solving the redetermined technical problem.

Example: the invention claims a device for detecting helium leakage, comprising a general leakage detector for detecting whether a vacuum box leaks generally, a recycle means for recycling any leaked helium, and a helium mass spectrographic leakage detector for detecting specific points of leakage, wherein the helium mass spectrographic leakage detector has a vacuum suction gun.

Reference document 1 discloses in one part an automatic helium leakage detection device, comprising a general leakage detector for detecting whether a vacuum box leaks generally and a recycle means for recycling any leaked helium. In another part, reference document 1 discloses a helium leakage point detector having a vacuum suction gun, and expressly states that said leakage point detector can be a helium mass spectrographic leakage detector for detecting specific leakage points, and the helium mass spectrographic leakage detector herein has the same function as that in the claimed invention. Based on the teachings of the second part of reference document 1, a person skilled in the art can readily combine the two technical solutions in reference document 1 to reach the solution of the claimed invention. Therefore it can be concluded that there exists the technical motivation in the prior art.

(iii) The said distinguishing feature is a relevant technical means disclosed in another reference document, the function of which in that reference document is the same as the function of the distinguishing feature in the claimed invention in solving the redetermined technical problem.

Example: the invention claims a graphite disc brake having a water discharge recess for discharging the water used to clean the surface of the brake. The problem to be solved by the invention is to remove the graphite powder on the surface of the brake that is caused by friction and prejudicial to braking. Reference document 1 describes a graphite disc brake. Reference document 2 discloses a metal disc brake on which a water discharge recess is provided for discharging the water used to rinse the dust attached on the surface of the brake.

The claimed invention is distinct from reference document 1 in that a recess is provided on the surface of the graphite disc

brake, which feature is disclosed in reference document 2. The graphite disc brake described in reference document 1 would produce abrasive powder on its surface because of friction, and thus impair braking. As for the metal disc brake disclosed in reference document 2, the dust attached on its surface would impair braking. In order to solve the technical problem of braking impairment, the former has to remove abrasive powder, and the latter has to remove dust, which are of the same nature. In order to solve the braking problem in a graphite disc brake, the person skilled in the art according to the teachings of reference document 2 can readily envisage using water to rinse it and thus providing a recess thereon for discharging the rinsing water. Since the function of the recess in reference document 2 is the same as that of the recess in the claimed invention, a person skilled in the art has motivation to combine reference documents 1 and 2 and thereby reach the technical solution of the claimed invention. Therefore it can be concluded that there exists the technical motivation in the prior art.

3.2.1.2 Example of Assessment

The claim of a patent application relates to an improved exhaust valve for internal combustion engine, the exhaust valve comprising a body made of heat resistant nickel-based alloy A and a valve head part, characterized in that said valve head part is coated with a cladding of nickel-based alloy B. The invention is to solve the technical problem for improving resistance to corrosion and high temperature for the valve head part.

Reference document 1 discloses an exhaust valve for internal combustion engine, comprising a body and a valve head part. The body is made of heat resistant nickel-based alloy A, and an alloy different from that of the body is used for the cladding of the valve head part. Reference document 1 further indicates that, in order to adapt to a high temperature and erosive environment, an alloy having resistance to high temperature and erosion may be used for the cladding.

Reference document 2 discloses technical contents regarding the material of nickel-based alloy. It states that nickel-based alloy B has high resistance to extremely erosive environment and to high temperature, and can be used for exhaust valve of an en-

gine.

Among these two reference documents,since reference document 1 falls in the same technical field and has the same problem to be solved as the application,and shares the most common technical features with the application,it can be taken as the closest prior art.

Comparing the claim of the application with reference document 1,it can be seen that the difference between the solution of the application and that of reference document 1 lies in that the application specifically uses nickel-based alloy B for the cladding of the valve head part in order to adapt to high temperature and erosive environment. Therefore the problem actually solved by the application can be determined as how to better adapt the exhaust valve of an engine to high temperature and erosive environment. Based on reference document 2,a person skilled in the art can clearly recognize that nickel-based alloy B is suitable for the exhaust valve of an engine and can effectively improve its resistance to erosion and to high temperature,which functions in the same way as the alloy functions in the present invention. Therefore it can be concluded that reference document 2 has given a technical motivation to use nickel-based alloy B for the cladding of the valve heads that need to resist to erosion and high temperature, and thus prompts the person skilled in the art to combine reference documents 1 and 2 and thereby reach the technical solution of the claim in the present application. Consequently,the solution claimed in the application is obvious as compared with the prior art.

3.2.2 Assessment of Notable Progress

When evaluating whether or not an invention represents notable progress,the examiner shall primarily consider whether or not the invention produces advantageous technical effects.Usually, an invention shall be regarded as producing advantageous technical effects and therefore representing notable progress in any of the following circumstances:

(1)where,as compared with the prior art,the invention produces a better technical effect,such as quality improved,output increased,energy saving,and environmental pollution prevented

or controlled;

(2)where the technical solution provided by the invention is of a different inventive concept and can produce a technical effect of substantially the same level as in the prior art;

(3)where the invention represents a new trend of technical development; or

(4)where,despite negative effect in some respect,the invention produces outstanding positive technical effects in other respects.

4.Determination of Inventive Step of Several Types of Invention

It should be noted that the division of types of invention in this Section is mainly based on the nature of the distinguishing features of the invention from the closest prior art,and is for reference only.During examination,the examiner shall make an objective determination based on the specific conditions of each case rather than applying the examples mechanically.

The following are examples to illustrate the determination of inventive step for several types of invention.

4.1 Invention Opening up a Whole New Field

An invention opening up a whole new field refers to a totally new technical solution which is unprecedented in the history of technology and ushers in a new epoch for the development of science and technology in a certain period of time.

As compared with the prior art,an invention opening up a whole new field has prominent substantive features and represents notable progress,and therefore involves an inventive step. China's four great inventions of compass,paper,printing technique and gunpowder are typical examples of this type.In addition, examples of invention opening up a whole new field also include steam engine,filament lamp,radio receiver,radar,laser, process of inputting Chinese in computer,etc.

4.2 Invention by Combination

An invention by combination refers to a new technical solution made by combining certain known technical solutions to solve a technical problem objectively existing in the prior art.

In determining the inventive step of an invention by combination,

usually the following factors need to be taken into account:
whether those combined technical features functionally support each other, the difficulty or easiness of combination, any technical motivation to make the combination in the prior art, and the technical effect of the combination, etc.

(1) Obvious combination

If a claimed invention is merely an aggregation or juxtaposition of certain known products or processes, each functioning in its routine way, and the overall technical effect is just the sum of the technical effects of each part without any functional interaction between the combined technical features, that is, the claimed invention is just a mere aggregation of features, then the invention by combination does not involve an inventive step.

Example: the invention concerns a ballpoint pen with electronic watch, wherein the solution is merely to fix a known electronic watch on a known ballpoint pen. After combination, the electronic watch and the ballpoint pen still function as usual, without any functional interaction between them, and thus the invention is just a mere aggregation and does not involve an inventive step.

Moreover, if the combination is just a variation of a known structure, or it falls into the scope of regular development of routine technology without any unexpected technical effect, then the invention does not involve an inventive step.

(2) Non-obvious combination

If the combined technical features functionally support each other and produce a new technical effect, or in other words, if the technical effect after combination is greater than the sum of the technical effects of the individual features, then such combination has prominent substantive features and represents notable progress, and thus the invention involves an inventive step.

Whether or not any of the technical features itself in the invention by combination is completely or partially known to the public does not affect the assessment of inventive step of said invention.

Example: the invention of "a process of deep refrigerating treatment and chemical plating of Ni-P-rare earth" resides in the combination of the known processes of deep refrigerating treatment and chemical plating. In the prior art, after deep refrigerating

treatment, the work piece needs tempering treatment to eliminate stress and stabilize its structure and property. However, in the present invention, after deep refrigerating treatment the work piece does not undergo tempering or ageing treatment but is subject to chemical plating in a plating liquid of $80^{\circ}\text{C} \pm 10^{\circ}\text{C}$, thereby not only saving the step of tempering or ageing treatment, but also making the work piece having a stable structure and a coating with abrasion resistance, erosion resistance and good adhesion with the matrix. This technical effect of the invention by combination cannot be expected by the person skilled in the art in advance. Therefore, the invention involves an inventive step.

4.3 Invention by Selection

An invention by selection refers to an invention made by selecting for purpose a smaller range of options or individual option not mentioned in the prior art from a larger range of options disclosed in the prior art (a selection invention).

In determining the inventive step of a selection invention, the main factor to be considered is whether the selection can bring about unexpected technical effect.

(1) If the invention consists merely in choosing among a number of known possibilities, or merely in choosing from a number of equally likely alternatives, and the selected solution does not produce any unexpected effect, it does not involve an inventive step.

Example: while it is known in the prior art many processes of heating have been disclosed, the invention resides in selecting a known electrically heating process for a known chemical reaction requiring heating, and the selection does not produce any unexpected technical effect. Therefore, the invention does not involve an inventive step.

(2) If the invention resides in the choice of particular dimensions, temperature ranges, or other parameters from a limited range of possibilities, while such choice can be made by the person skilled in the art through normal design procedures and does not produce any unexpected technical effect, the invention does not involve an inventive step.

Example: the invention relates to a process for carrying out

a known reaction and is characterized by a specified flow rate of an inert gas. Since the person skilled in the art can make the determination of the flow rate through conventional calculations, the invention does not involve an inventive step.

(3) If the invention can be arrived at merely by a simple extrapolation in a straightforward way from the known art, it does not involve an inventive step.

Example: the invention is to improve the thermal stability of a composition Y, characterized by the use of a specified minimum content of a component X in the composition Y, while in fact the specified minimum content of component X can be derived from the relation curve between the content of component X and the thermal stability of composition Y. Therefore, the invention does not involve an inventive step.

(4) If the invention is made by selection producing unexpected technical effect, the invention has prominent substantive features and represents notable progress, and thus involves an inventive step.

Example: in a prior art document disclosing the production of thiocloroformic acid, the proportion of catalytic agent of carboxylic acid amide and/or urea to 1 mol raw material mercaptan is more than 0 and less than or equal to 100% (mol). In the given example, the amount of the catalytic agent is 2-13% (mol), and it is indicated that the productivity starts to increase from 2% (mol) of the amount of catalytic agent. Moreover, the skilled person generally turns to increase the amount of catalytic agent in order to improve productivity. In the selection invention concerning a process for producing thiocloroformic acid, less amount of catalytic agent is used [0.02-0.2% (mol)], but the productivity is increased by 11.6-35.7%, greatly exceeding the expected productivity, and moreover, the processing of reactant is also simplified. All of these show that the technical solution selected by this invention has produced unexpected effects and thus the invention involves an inventive step.

4.4 Invention by Diversion

An invention by diversion refers to an invention of applying a known technology in one technical field to another technical field.

In determining the inventive step of an invention by diversion, usually the following factors need to be taken into account:

the proximity of the diverted technical field to the previous technical field, whether there exists the corresponding technical motivation, the difficulty or easiness of the diversion, any technical difficulties to be overcome, and the technical effect of the diversion, etc.

(1) If the diversion is made between similar or close technical fields, and no unexpected technical effect is produced, the invention by diversion does not involve an inventive step.

Example: applying the supporting structure of a cabinet to support a table does not involve an inventive step.

(2) If the diversion produces an unexpected technical effect or overcomes a difficulty that has never been encountered in the previous technical field, the invention by diversion has prominent substantive features and represents notable progress, and thus involves an inventive step.

Example: the invention relates to submarine ailerons. In the prior art, a submarine stays at an arbitrary place under water by the balance between its deadweight and buoyancy of water and goes up by operating horizontal cabin to increase buoyancy. An airplane flies in the air by the buoyant force of air completely produced by the main wings. The invention learns from the technical measures in airplane and applies the idea of main wings for airplane to submarine. As a result, under the buoyant or sinking force created by the movable boards as ailerons of the submarine, the up and down performance of the submarine is greatly improved. Because many technical difficulties have been overcome in applying the aerial technology to underwater, and the invention produces extremely good effects, it involves an inventive step.

4.5 Invention of New Use of Known Product

An invention of new use of known product refers to the invention of using a known product for a new purpose.

In determining the inventive step of an invention of new use of known product, usually the following factors need to be taken into account: the proximity of the technical field of the new use to that of the prior use, and the technical effect of the

new use, etc.

(1) If the new use merely utilizes a known property of a known material, the invention of new use does not involve an inventive step.

Example: use of a known composition as a cutting agent in the same technical field as the prior art use as a lubricant does not involve an inventive step.

(2) If the new use utilizes a newly found property of the known product and can produce an unexpected technical effect, then the invention of use has prominent substantive features and represents notable progress, and thus involves an inventive step.

Example: use of pentachlorophenol preparation as herbicide, as compared with the prior art use as wood bactericide, produces unexpected technical effect, and therefore involves an inventive step.

4.6 Invention by Changing Elements

Inventions by changing elements include inventions by changing relations between elements, inventions by replacing elements, and inventions by omitting elements.

In determining the inventive step of an invention by changing elements, usually the following factors need to be taken into account: whether there exists technical motivation for the change in relations between elements or the replacement or omission of elements, and whether the technical effect can be expected, etc.

4.6.1 Invention by Changing Relations between Elements

An invention by changing relations between elements means that, as compared with the prior art, the shape, size, proportion, position, operational relationship or the like has been changed.

(1) If the change in relations between elements does not lead to a change in 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 an inventive step.

Example: in the prior art a measuring instrument having a fixed dial and a rotatable hand is disclosed, and the invention is a similar measuring instrument but having a fixed hand and a rotatable dial. The difference between the invention and the prior

art only lies in the change in the relation between elements,that is,the reversal between motion and station.This kind of reversal does not produce any unexpected effect,and therefore the invention does not involve an inventive step.

(2)If the change in relations between elements produces an unexpected technical effect,the invention has prominent substantive features and represents notable progress,and thus involves an inventive step.

Example: the invention relates to a grass mower which is characterized in that its oblique angle of blade is different from that in the traditional mower,that is,the oblique angle of the invention enables the blade to be sharpened automatically,while the angle of blade in the prior art has no such effect.The invention produces an unexpected effect through the change in the relation of elements,so it involves an inventive step.

4.6.2 Invention by Replacing Elements

An invention by replacing elements refers to an invention that is made by substituting a certain element of a known product or process with another known element.

(1)If the invention is just an equivalent alteration between known measures of the same function,or,in solving the same technical problem,a substitution of a recently developed known material with the same function for the corresponding material in a known product,or a substitution of a certain known material for the corresponding material in a known product while the similar use of the known material is already known,and it does not produce any unexpected technical effect,then the invention does not involve an inventive step.

Example: the invention relates to a pump which differs from the prior art in that the motive power in the invention is provided by a hydraulic motor instead of an electric motor.Such an invention of equivalent alteration does not involve an inventive step.

了(2)If the replacement of elements confers unexpected technical effect on the invention,then the invention has prominent substantive features and represents notable progress,and thus involves an inventive step.

4.6.3 Invention by Omitting Elements

An invention by omitting elements refers to an invention in which one or more elements of a known product or process are omitted.

(1) If, after the omission of one or more elements, the corresponding function disappears accordingly, the invention does not involve an inventive step.

Example: the invention of a painting composition differs from the prior art in that it does not comprise antifreezing agent. Since the antifreezing effect of the painting composition loses accordingly after the omission of the antifreezing agent, the invention does not involve an inventive step.

(2) If, as compared with the prior art, after the omission of one or more elements (such as the omission of one or more parts in a product invention, or the omission of one or more steps in a process invention), all the corresponding functions can still be preserved, or unexpected technical effects are brought about, then the invention has prominent substantive features and represents notable progress, and thus involves an inventive step.

5. Other Factors to be Considered in the Examination of Inventive Step

Usually, whether or not an invention involves an inventive step shall be examined according to the criterion set forth in Section 3.2 of this Chapter. It should be stressed that where an application falls into one of the following circumstances, the examiner shall take the corresponding factors into account and avoid making a rash determination that the invention does not involve an inventive step.

5.1 Solving a Long-Felt but Unsolved Technical Problem

Where the invention has solved a technical problem which was desired to be solved for a long time but not successfully solved, the invention has prominent substantive features and represents notable progress, and thus involves an inventive step.

Example: the problem of permanently marking farm animals such as cows without causing pain to the animals or damage to the hide has existed since farming began. An inventor has

successfully solved this technical problem by a solution of freeze branding on the basis of the discovery that freezing can permanently pigment the hide. That invention involves an inventive step.

5.2 Overcoming a Technical Prejudice

Technical prejudice refers to the understanding of technicians in the art of a certain technical problem in a technical field during a certain period of time that departs from the objective facts, leads the technicians to believe that there is no other possibility and hinders the research and development in that technical field. If an invention is made by overcoming such technical prejudice and adopting the technical means which was abandoned by the technicians due to the prejudice, and hereby has solved a technical problem, then the invention has prominent substantive features and represents notable progress, and thus involves an inventive step.

Example: it was generally believed that in an electric motor the smoother the interface of the commutator and the brush is, the better the contact is and the smaller the current consumption is. The invention produces coarse microgrooves on the surface of the commutator, and the current consumption is even smaller than that with a smooth surface. Because the invention has overcome the technical prejudice, it involves an inventive step.

5.3 Producing Unexpected Technical Effect

An invention produces an unexpected technical effect means that, as compared with the prior art, the technical effect of the invention represents a "qualitative" change, that is, new performance; or represents a "quantitative" change which is unexpected. Such a qualitative or quantitative change cannot be expected or inferred by the person skilled in the art in advance. If an invention produces an unexpected effect, it means the invention represents notable progress on the one hand, and it also means that the technical solution of the invention is non-obvious and thus has prominent substantive features on the other hand. Therefore the invention involves an inventive step.

5.4 Achieving Commercial Success

Where an invention achieves commercial success, if the technical features of the invention directly bring about such success, it means that the invention has advantageous effect on the one hand and it is non-obvious on the other hand. Such kind of invention has prominent substantive features and represents notable progress, and thus involves an inventive step. However, if the success is brought about by other factors, such as an advance in selling techniques or advertising, it shall not be used as a basis for assessing inventive step.

6. Points to be Noted in the Examination of Inventive Step

The following points shall also be noted in the examination of inventive step of an invention.

6.1 How an Invention is Accomplished

The way in which an invention is accomplished, no matter how arduous or easy it is, shall not affect the evaluation of the inventive step of the invention. Most inventions are the outcome of the inventor's creative work and the result of long time scientific research and working experience. However, there are some inventions that were accomplished just accidentally.

Example: the tyre of motor vehicles has high strength and good abrasion resistance, which was invented by a technician mistaking addition of 30% for 3% of carbon black in preparing materials for producing black rubber. Facts show that the rubber with 30% carbon black has high strength and abrasion resistance which cannot be expected beforehand. Although the invention was attained just because of the technician's negligence, it does not deny the inventive step of the invention.

6.2 Avoiding Ex Post Facto Analysis

When evaluating the inventive step of an invention, the examiner is apt to underestimate the inventive step of the invention

since he has already known the contents of the invention, and hence a mistake of ex post facto analysis is likely to be made. Therefore, the examiner shall always bear in mind that, in order to reduce and avoid the influence of subjectivity, the evaluation

shall be presumed to be made by a person skilled in the art on the basis of comparison between the invention and the prior art before the filing date thereof.

6.3 Consideration of Unexpected Technical Effect

During the determination of inventive step, considering the technical effect will help evaluate appropriately the inventive step of the invention. As provided in Section 5.3 of this Chapter, if the invention produces an unexpected technical effect as compared with the prior art, the examiner may determine that the invention involves an inventive step without the need to question whether its technical solution has prominent substantive features. However, it is noted that if the examiner can determine with the approach as described in Section 3.2 of this Chapter that the technical solution of invention is non-obvious to the person skilled in the art and can produce advantageous technical effect, then the invention has prominent substantive features and represents notable progress, and thus involves an inventive step. Under such circumstance, whether the invention produces unexpected technical effect shall not be overemphasized.

6.4 Examination on the Claimed Invention

The determination of whether an invention involves an inventive step shall be directed to the claimed invention, and therefore the evaluation of inventive step shall concern the technical solutions as defined in the claims. The technical features by which the invention makes contribution over the prior art, such as the technical features bringing about unexpected technical effects for the invention, or the technical features reflecting how the invention overcomes a technical prejudice, shall be included in the claims; otherwise, they shall not be taken into account in evaluating the inventive step of the invention, even if they have been set forth in the description. Moreover, the evaluation of inventive step shall be directed to the whole of each technical solution defined in the claims, that is, it is the technical solution as a whole, rather than the individual technical features, that shall be evaluated as to whether involving an inventive step.

Chapter 5 Practical Applicability

1.Introduction

In accordance with Article 22.1, any invention or utility model for which patent right may be granted must possess novelty, inventive step, and practical applicability. Therefore, possessing practical applicability is one of the indispensable requirements for an invention or utility model application to be granted a patent right.

Art. 22. 4

2. Concept of Practical Applicability

Practical applicability means that the subject matter of a patent application for invention or utility model must be one which can be made or used in an industry and can produce effective results.

An invention or utility model for which a patent right may be granted shall be one that can solve a technical problem and can be put into practice. In other words, if the application relates to a product (subject matter for invention or utility model), the product shall be able to be made industrially and solve a technical problem; if it relates to a process (subject matter for invention only), the process shall be able to be used industrially and solve a technical problem. Only when a patent application for a product or process satisfies such conditions, can it be granted a patent right.

The "industry" herein includes the industries of manufacturing industry, agriculture, forestry, fishery, animal husbandry, communication and transportation, culture and sports, articles of daily use, and medical equipment, etc.

A technical solution that can be made or used in an industry refers to any technical solution that conforms with the laws of nature, has technical features, and thus can be implemented. It does not have to involve use of a machine or manufacture of a product, but may be, for example, a process for dispersing fog, or a process for converting energy from one form to another.

That the subject matter of a patent application for invention

or utility model can “produce effective results” means that, on the date of filing the application, the economic, technical, or social effects produced by the invention or utility model can be expected by a person skilled in the art. These effects shall be positive and advantageous.

3.Examination of Practical Applicability

The determination as to whether an invention or utility model application has practical applicability shall be made before the examination on novelty and inventive step.

3.1 Principles of Examination

The following principles shall be followed when practical applicability of an invention or utility model application is examined:

(1) the examination shall be based on the entire technical contents disclosed in the description (including the drawings) and claims submitted on the date of filing, rather than merely the contents described in the claims; and

(2) practical applicability is irrelevant to how the invention or utility model was created or whether it has been implemented.

3.2 Criterion for Examination

The expression “can be made or used” referred to in Article 22.4 means that it is possible for the technical solution of an invention or utility model to be made or used industrially. A technical solution that satisfies the requirement of practical applicability shall not violate the laws of nature and shall be reproducible. Lack of practical applicability because of not being able to be made or used is owing to the inherent defect of the solution, and is irrelevant to the extent of disclosure of the description.

In the following some typical situations in which the subject matter does not have practical applicability are described.

3.2.1 Non-Reproducibility

The subject matter of an invention or utility model application having practical applicability shall be reproducible. Accordingly, the subject matter of an invention or utility model application unable to be reproduced does not have practical applicability.

ty.

Reproducibility means that, according to the technical contents disclosed, the technical solution adopted in the patent application to solve a technical problem can be implemented repeatedly by a person skilled in the art. Such repeated implementation shall not rely on any random factors and shall have the same result.

However, the examiner shall note that, for an invention or utility model application concerning a product, low rate of finished products and non-reproducibility are substantially different. The former indicates the situation where the product can be made repeatedly but the rate of finished products is low due to the failure of satisfying some technical conditions (such as the environmental cleanliness, temperature, etc.) in the course of manufacture, whereas the latter indicates the situation where even all the necessary technical conditions for implementing the invention or utility model are fulfilled, a person skilled in the art is still unable to repeat the results which the technical solution is aimed to achieve.

3.2.2 Violation of the Laws of Nature

An invention or utility model application possessing practical applicability shall comply with the laws of nature. An invention or utility model application that violates the laws of nature cannot be implemented, and thus does not possess practical applicability.

The examiner shall particularly note that those subject matters that violate the law of conservation of energy, such as perpetual motion machines, definitely do not possess practical applicability.

3.2.3 Product Utilizing Unique Natural Conditions

An invention or utility model possessing practical applicability shall not be a unique product confined by natural conditions. A unique product that is made by utilizing specific natural conditions and can never be moved does not possess practical applicability. It should be noted that the components of the above product utilizing unique natural conditions in themselves should not be regarded as not possessing practical applicability just because

said product does not possess practical applicability.

3.2.4 Methods of Surgery on Human or Animal Body for Non-Treatment

Purposes

Methods of surgery include those for treatment purposes and those for non-treatment purposes. Methods of surgery for treatment purposes are part of the unpatentable subject matters as described in Chapter 1, Section 4.3 of this Part. Methods of surgery for non-treatment purposes do not have practical applicability because these methods are practiced on the living human or animal body and cannot be used industrially. Examples of this kind include methods of surgery for cosmetic purposes, methods of extracting bezoar from the living cattle body by surgery, and methods of surgery for assisting diagnosis, such as the method of surgery adopted before coronary arteriography etc.

3.2.5 Methods of Measuring Physiological Parameters of Human or Animal Body under Extreme Conditions

Measuring the physiological parameters of a human or animal body under extreme conditions requires the subject to be placed under such conditions, raising a threat to the life of the human being or animal. Moreover, the extreme conditions which different human beings or animals can endure are different, and for each subject the specific extreme condition shall be determined by an experienced professional according to the situation of the subject. Therefore, such methods cannot be used industrially and do not possess practical applicability.

The following methods are regarded as not possessing practical applicability:

(1) the method of measuring the ability of cold resistance of a human or animal by gradually decreasing the body temperature of the human or animal; and

(2) the method of non-invasive examination for measuring the metabolic function of coronary artery by decreasing oxygen partial pressure of the inhaling air to increase the load of the coronary artery step by step and observing the compensation reaction of the coronary artery according to the dynamic change in the artery blood pressure.

3.2.6 No Effective Results

The technical solution of an invention or utility model application having practical applicability shall be able to produce anticipated effective results. The technical solution of an invention or utility model application that is obviously of no utility or deviates from the needs of society does not have practical applicability.

Chapter 6 Unity of Invention and Divisional Applications

1.Introduction

A patent application shall comply with the provisions on unity as provided in the Patent Law and its Implementing Regulations. The requirements of unity of invention or utility model applications are provided for in Article 31.1 and Rule 34. Provisions concerning the filing of divisional applications from an application lacking unity and the amendment thereof are provided for in Rules 42 and 43.

The provisions on unity in this Chapter mainly concern applications for invention, wherein the basic concepts and principles are also applicable to utility model applications. For examination of unity of design applications, Chapter 3, Section 9 of Part I of the Guidelines shall apply. For specific issues on the examination of unity of applications in the field of chemistry, Chapter 10, Section 8 of this Part shall apply.

2.Unity of Invention

2.1 Basic Concept of Unity

2.1.1 Requirement of Unity

Art. 31. 1

Unity means that a patent application for invention or utility model shall be limited to one invention or utility model. Two or more inventions or utility models belonging to a single general inventive concept may be filed as one application. That is, where there are several inventions or utility models in one application, the application is acceptable only if all the inventions or utility models are so linked as to form a single general inventive concept. This is the requirement of unity of a patent application. The main reasons for the requirement of unity for patent applications consist in the following:

(1) economic reason: in order to prevent an applicant from obtaining patent protection for several diverse inventions or utility models by paying for one patent; and

(2)technical reason: in order to facilitate the classification, search and examination of a patent application.
Lack of unity does not have prejudice to the validity of a patent.
Therefore,lacking unity shall not be taken as a ground to invalidate a patent.

2.1.2 General Inventive Concept

Rule 34 provides that two or more inventions or utility models belonging to a single general inventive concept which may be filed as one application shall be technically interrelated and contain one or more of the same or corresponding special technical features,wherein the expression “special technical features” shall mean those technical features that define a contribution which each of the inventions or utility models,considered as a whole, makes over the prior art.

Rule 34 establishes an approach to the determination of whether or not two or more inventions or utility models claimed in an application belong to a single general inventive concept.In other words,two or more inventions belonging to a single general inventive concept shall be technically interrelated.The interrelationship between the inventions is reflected in their respective claims in the form of the same or corresponding special technical features.

Rule 34 also defines the meaning of the expression “special technical features”.It is a concept specifically proposed for the evaluation of unity of a patent application.Special technical features shall be understood as the technical features that define a contribution which the invention makes over the prior art,i.e., the technical features which make the invention,as compared with the prior art and considered as a whole,have novelty and involve an inventive step.

Therefore,the expression “belonging to a single general inventive concept” referred to in Article 31.1 means having the same or corresponding special technical features.

2.2 Examination of Unity

2.2.1 Principles of Examination

In carrying out examination of unity with regard to a patent

application for invention, the following principles shall be followed by the examiner.

(1) To determine whether two or more inventions claimed in an application meet the requirement of unity in accordance with Article 31.1 and Rule 34 is to determine whether the substantive contents of the technical solution described in the claims belong to a single general inventive concept, that is, to determine whether these claims contain one or more of the same or corresponding special technical features which make the claimed inventions technically interrelated. This determination is made on the basis of the contents of the claims, and, where necessary, the contents of the description and the drawings may be referred to.

(2) The claims of two or more inventions belonging to a single general inventive concept may be drafted in any one of the following six forms of combination; however, two or more independent claims that do not belong to a single general inventive concept cannot be claimed in one application even though they are drafted in one of these forms:

(i) independent claims of the same category for two or more products or processes which cannot be included in one claim;

(ii) an independent claim for a product and an independent claim for a process specially adapted for the manufacture of said product;

(iii) an independent claim for a product and an independent claim for a use of said product;

(iv) an independent claim for a product, an independent claim for a process specially adapted for the manufacture of said product, and an independent claim for a use of said product;

(v) an independent claim for a product, an independent claim for a process specially adapted for the manufacture of said product, and an independent claim for an apparatus specifically designed for carrying out said process; or

(vi) an independent claim for a process and an independent claim for an apparatus specifically designed for carrying out said process.

Wherein, the term "same category" in item (i) means the types of the independent claims are the same, i.e., the two or more inventions claimed in one patent application only involve

either product inventions or process inventions. Several independent claims with the same category can be involved in one patent application as long as having one or more of the same or corresponding special technical features enable the two or more product inventions or process inventions technically interrelated. Items (ii)-(vi) relate to the combinations of two or more independent claims of different categories.

In the combination of an independent claim for a product and an independent claim for a process specially adapted for the manufacture of said product, the "specially adapted" process necessarily results in the claimed product which is technically interrelated with the process. However, the expression "specially adapted" is not intended to mean that the product could not also be manufactured by any other process.

In the combination of an independent product claim and an independent claim for its use, the use must be derived from the special properties of the product, with technical interrelationship being present between the product and the use.

As for the combination of an independent claim for a process and an independent claim for an apparatus specifically designed for carrying out the process, the "specifically designed" apparatus shall not only be capable of carrying out the process, but the contribution the apparatus makes over the prior art shall correspond to that made by the process. However, the expression "specifically designed" does not mean that the apparatus could not be used to carry out other processes, nor that the process could not be carried out by using other apparatus.

Whether the independent claims of different categories are drafted by way of one making reference to the other is just a matter of form, which does not affect the determination of unity.

For example, an independent claim for a process specially adapted for the manufacture of product A may either be drafted as "Process for the manufacture of product A of claim 1,..." or be drafted as "Process for the manufacture of product A,..."

(3) Enumerated above are the six examples of combination of two or more independent claims in the same or different categories which can be included in one application and the appropriate drafting order thereof. However, these six combinations are not exhaustive. In other words, it is possible to use other kinds of

combination other than those mentioned above, provided that the claims belong to a single general inventive concept.

(4) The determination of whether two or more inventions belong to a single general inventive concept shall be made without regard to whether the inventions are claimed in separate independent claims or as alternatives within a single claim. In either case, the same criteria shall be applied to determine whether there is unity. The latter case often occurs in Makush claims. For the examination of unity of invention with regard to a Makush claim, Chapter 10, Section 8.1 of this Part shall apply. Moreover, the order of the claims shall not affect the determination of unity.

(5) Generally, the examiner need only consider unity among the independent claims, and no objection of lack of unity shall be raised as between an independent claim and its dependent claims. However, where a claim appears to be dependent in its form but actually is independent, it shall be examined as to whether it meets the requirement of unity. Where an independent claim cannot be approved for lack of novelty or inventive step, it is then necessary to consider whether its dependent claims satisfy the requirement of unity.

(6) For some applications, the question of unity may be decided before search of the prior art; but for some other applications, the question of unity may be decided only after taking the prior art into consideration. Where the different inventions contained in an application obviously fails to belong to a single general inventive concept, the examiner may decide that the application does not meet the requirement of unity before a search is conducted. For example, the application contains two independent claims respectively of a herbicide and a mower. Because no same or corresponding technical features exist between the two claims, and thus it is impossible for them to have any same or corresponding special technical feature, it is obvious that there is no unity between them, which conclusion can be made before a search is conducted. However, since the special technical feature is to define the contribution over the prior art and to be compared with the prior art, it can be identified only after considering the state of the art. In this regard, for many applications the determination of unity can be made only after search.

Where,after the comparison of an application with the prior art,the novelty or inventive step of the first independent claim of the application is denied,it shall be redetermined as to whether the rest of the independent claims belong to a single general inventive concept.

2.2.2 Approach to the Examination of Unity and Examples

Prior to the search of two or more inventions claimed in one application,whether or not they obviously lack unity shall be firstly determined.If the inventions do not have any same or corresponding technical feature,or the same or corresponding technical features they have are customary means in the art,then it is impossible for them to have any same or corresponding special technical feature that defines a contribution over the prior art, and therefore the inventions obviously lack unity.

For two or more inventions that do not obviously lack unity, the determination of unity can be made only after search.In this case,the following approach is normally adopted:

(1)compare the subject matter of a first invention with the relevant prior art to identify the "special technical feature" that defines the contribution which the invention makes over the prior art;

(2)determine whether a second invention contains one or more special technical features which are the same as or correspond to those in the first invention,so as to determine whether these two inventions are technically interrelated; and

(3)if one or more same or corresponding special technical features exist between the inventions,i.e.,the inventions are technically interrelated,it can be concluded that they belong to a single general inventive concept.Conversely,if no technical interrelationship exists between the inventions,it can be concluded that they do not belong to a single general inventive concept and thus it can be determined that there is no unity between them. In the following,the basic points in combination with the basic concepts,principles,and the examination approach in the examination of unity are illustrated by way of examples.

2.2.2.1 Unity of Independent Claims of the Same Category

[Example 1]

Claim 1: A conveyer belt X characterized by feature A;

Claim 2: A conveyer belt Y characterized by feature B;

Claim 3: A conveyer belt Z characterized by features A and

B.

There is no conveyer belt characterized by the feature A or B disclosed in the prior art. From the prior art, such conveyer belt is non-obvious, and the features A and B are not interrelated.

Explanation: claims 1 and 2 do not contain any same or corresponding technical feature. Therefore, it is impossible for them to have any same or corresponding special technical feature. They are not technically interrelated, and thus do not have unity. Feature A of claim 1 is the special technical feature that defines the contribution which the invention makes over the prior art. Claim 3 contains the special technical feature A, and therefore claim 1 and claim 3 contain the same special technical feature and have unity. Similarly, claim 2 and claim 3 contain the same special technical feature B, and thus also have unity.

[Example 2]

Claim 1: A transmitter characterized by the time axis expander for video signals.

Claim 2: A receiver characterized by the time axis compressor for video signals.

Claim 3: An apparatus for conveying video signal characterized in that it consists of the transmitter in claim 1 and the receiver in claim 2.

The use of the time axis expander and the time axis compressor in the art has neither been disclosed nor implied in the prior art, and the use is non-obvious.

Explanation: the special technical feature of claim 1 is the time axis expander for video signals, and the special technical feature of claim 2 is the time axis compressor for video signals. The expander and the compressor are technically interrelated and inseparable in use, and are technical features corresponding to each other. Therefore claim 1 and claim 2 have unity. As claim 3 contains the special technical feature as contained in claim 1 and claim 2, it therefore has unity both with claim 1 and with claim 2.

[Example 3]

Claim 1: A plug characterized by feature A;

Claim 2: A socket characterized by a feature corresponding to feature A;

The plug characterized by feature A and the corresponding socket have not been disclosed or implied in the prior art, and they are non-obvious.

Explanation: claim 1 and claim 2 have a corresponding special technical feature, and the claimed plug and socket are technically interrelated and have to be used together. Therefore claim 1 and claim 2 have unity.

[Example 4]

Claim 1: A control circuit with feature A for a DC motor.

Claim 2: A control circuit with feature B for a DC motor.

Claim 3: An apparatus comprising a DC motor having control circuit with feature A.

Claim 4: An apparatus comprising a DC motor having control circuit with feature B.

From the prior art, features A and B are the technical features defining the contributions over the prior art respectively, and they are not technically interrelated.

Explanation: feature A is the special technical feature of claims 1 and 3, and feature B is the special technical feature of claims 2 and 4. However, there is no technical interrelationship between features A and B. Therefore, between claims 1 and 3 or between claims 2 and 4 there exists the same special technical feature and thus they have unity, while between claim 1 and claim 2 or 4, or between claim 3 and claim 2 or 4, there is no same or corresponding special technical feature and thus they do not have unity.

[Example 5]

Claim 1: Filament A for a lamp.

Claim 2: Lamp B having filament A.

Claim 3: Searchlight provided with lamp B having filament A and a swivel arrangement C.

As compared with the filaments disclosed in the prior art, filament A is novel and involves an inventive step.

Explanation: since above three claims have in common the same special technical feature of filament A, unity exists between claims 1, 2, and 3.

[Example 6]

Claim 1: A process B for making product A.

Claim 2: A process C for making product A.

Claim 3: A process D for making product A.

As compared with the prior art, product A is novel and involves an inventive step.

Explanation: product A is the same special technical feature common to above three process claims, and there is unity between above three processes B, C, and D. Certainly, product A per se may be also a product claim. If product A is known, it shall not be regarded as the special technical feature. In such case, unity between the three processes shall be reassessed.

[Example 7]

Claim 1: A resin composition, comprising a resin A, a filler B and a flame retardant C.

Claim 2: A resin composition, comprising a resin A, a filler B and an antistatic agent D.

The resin A, the filler B, the flame retardant C and the antistatic agent D are individually known in the art, and the combination of AB does not define the contribution which the invention makes over the prior art, while the combination of ABC forms a high performance unflammable resin composition, and the combination of ABD forms a high performance antistatic resin composition, both of which have novelty and involve an inventive step.

Explanation: although both claims contain the same features A and B, but none of A, B and the combination of AB defines the contribution which the invention makes over the prior art. The special technical feature of claim 1 is the combination of ABC, and the special technical feature of claim 2 is the combination of ABD. The both features are neither the same nor corresponding to each other. Therefore, unity does not exist between claim 2 and claim 1.

2.2.2.2 Unity of Independent Claims in Different Categories

[Example 8]

Claim 1: A compound X.

Claim 2: A method of preparing compound X.

Claim 3: The use of compound X as an insecticide.

(1) Situation 1: the compound X has novelty and involves an inventive step.

Explanation: compound X is the same technical feature common to above three claims. Since it is the technical feature that defines the contribution over the prior art, i.e. the special technical feature, claims 1, 2 and 3 have the same special technical feature, and thus unity exists between claims 1-3.

(2) Situation 2: after search, the examiner finds that the compound X lacks novelty or inventive step as compared with the prior art.

Explanation: no patent right shall be granted to claim 1 since it lacks novelty or inventive step. The common technical feature of claim 2 and claim 3 is still the compound X. However, since compound X has not made a contribution over the prior art, it is not the same special technical feature. Moreover, there is no corresponding special technical feature between claim 2 and claim 3. Therefore, there is no same or corresponding special technical feature between claim 2 and claim 3, and thus they do not have unity.

[Example 9]

Claim 1: A high strength and corrosion resistant stainless steel strip consisting essentially of (in percentage by weight): Ni=2.0-5.0, Cr=15-19, Mo=1-2, and the balance Fe, having a thickness of between 0.5 mm and 2.0 mm, and a 0.2% yield strength over 50 kg/mm².

Claim 2: A process for making a high strength and corrosion resistant stainless steel strip consisting essentially of (in percentage by weight): Ni=2.0-5.0, Cr=15-19, Mo=1-2, and the balance Fe, comprising the steps in following order:

(1) hot rolling the stainless steel strip to a thickness of between 2.0 mm and 5.0 mm;

(2) annealing the hot rolled strip at 800°C-1000°C;

(3) cold rolling the strip to a thickness of between 0.5 mm and 2.0 mm; and

(4) annealing at 1120°C-1200°C for 2-5 minutes.

As compared with the prior art, the stainless steel belt having 0.2% yield strength over 50 kg/mm² possesses novelty and involves an inventive step.

Explanation: unity is present between claim 1 and claim 2.

The special technical feature of product claim 1 is the 0.2% yield strength over 50kg/mm². The steps in process claim 2 are specially adapted for producing the stainless steel strip with such yield strength. Although this feature is not apparent from the wording of claim 2, it is clearly disclosed in the description. Therefore, these process steps are the special technical features which correspond to the feature of yield strength in product claim 1.

Claim 2 may also be drafted by making reference to claim 1, but this would not affect the unity between them. An example of drafting in this form may be:

Claim 2: A process for making the stainless steel strip as defined in claim 1, comprising the following steps:

[Steps (1)-(4) are the same as above and are omitted here.]

[Example 10]

Claim 1: A paint containing dustproof substance X;

Claim 2: A process for painting an article by using the paint as defined in claim 1, including the following steps: (1) atomizing the paint by using compressed air; (2) electrically charging the atomized paint by using an electrode arrangement A and directing the paint to the article.

Claim 3: A painting apparatus including an electrode arrangement A.

As compared with the prior art, both the paint containing substance X and the electrode arrangement A are novel and involve an inventive step. However, the process for atomizing the paint by using compressed air, electrically charging the atomized paint and directing the paint to the article is known.

Explanation: unity is present between claim 1 and claim 2, and the paint containing substance X is the special technical feature common to them. Unity is also present between claim 2 and claim 3, because the electrode arrangement A is their common special technical feature. However, unity does not exist between claim 1 and claim 3, since there is no same or corresponding special technical feature between them.

[Example 11]

Claim 1: A process for treating textile material, characterized by spraying the material with coating composition A under condition B.

Claim 2: A textile material coated according to the process of claim 1.

Claim 3: A spraying machine for use in the process of claim 1, characterized in that it includes a nozzle C providing a better distribution of the composition being sprayed on the textile material.

A process for treating textile material with a coating composition has been disclosed in the prior art, but the process for coating with the particular coating composition A under the special condition B (for example, as to temperature, irradiation, etc.), i.e. the process of claim 1 is novel. Moreover, the textile material of claim 2 presents unexpected properties. The nozzle C is novel and involves an inventive step.

Explanation: the special technical feature in claim 1 is the use of special process conditions corresponding to what is made necessary by the choice of the particular coating composition, and the textile material of claim 2 is obtained after treatment by said particular coating composition under the special condition. Therefore, claim 1 and claim 2 have the corresponding special technical feature and unity exists between them. Since the spraying machine in claim 3 has no corresponding special technical feature with claims 1 and 2, there is no unity between claim 3 and claims 1 and 2.

[Example 12]

Claim 1: A process of manufacture comprising step A and step B.

Claim 2: An apparatus specifically designed for carrying out step A.

Claim 3: An apparatus specifically designed for carrying out step B.

No prior art document relevant to the process of claim 1 has been found.

Explanation: steps A and B are respectively the special technical features defining the contribution which the inventions make over the prior art. Unity is present between claim 1 and claim 2, and between claim 1 and claim 3. As there is no same or corresponding special technical feature between claim 2 and claim 3, there is no unity between them.

[Example 13]

Claim 1: A fuel burner characterized in that there are tangential fuel inlets into a mixing combustion chamber.

Claim 2: A process for making a fuel burner, characterized in that it includes the step of forming tangential fuel inlets into a mixing combustion chamber.

Claim 3: A process for making a fuel burner, characterized by a casting procedure.

Claim 4: An apparatus for making a fuel burner, characterized in that it includes a unit X for forming tangential fuel inlets in the mixing combustion chamber.

Claim 5: An apparatus for making a fuel burner, characterized in that it includes an automatic control unit D.

Claim 6: A process of manufacturing carbon black by the fuel burner as defined in claim 1, characterized in that it includes the step of tangentially introducing fuel into a mixing combustion chamber.

In the prior art a fuel burner with non-tangential fuel inlets and a mixing combustion chamber has been disclosed. As viewed according to the prior art, the fuel burner with tangential fuel inlets is neither known nor obvious.

Explanation: unity exists between claims 1, 2, 4 and 6. The special technical feature common to all the claims is the tangential fuel inlets. However, claim 3 or 5 does not share the same or corresponding special technical feature with claim 1, 2, 4 or 6, therefore there is no unity between claim 3 or 5 and claim 1, 2, 4 or 6. Furthermore, claim 3 and claim 5 would also lack unity with each other.

2.2.2.3 Unity of Dependent Claims

According to the principle provided in Section 2.2.1, item (5) of this Chapter, no objection of lack of unity shall be raised as between a real dependent claim and the independent claim on which it depends, even if the dependent claim may additionally comprise another invention.

For example, an independent claim relates to a new process for making cast iron. In an embodiment, the cast iron is made by the process under a certain scope of temperature. In this case, a dependent claim may be drafted to protect the scope of temperature. Even if the scope of temperature is not mentioned in the independent

claim, no objection of lack of unity between the dependent claim and the independent claim shall be raised.

For another example, claim 1 is a method for making product A characterized by using B as the raw material; and claim 2 is a method for making product A according to claim 1, characterized in that the raw material B is prepared from material C.

Because claim 2 contains all the technical features of claim 1, no matter whether the process for preparing the raw material B from material C is inventive, no objection of lack of unity shall be raised as between claim 1 and claim 2.

Still another example concerns the case where claim 1 claims a turbine rotor blade characterized in that the blade is shaped in a specified manner, while claim 2 is a turbine rotor blade as claimed in claim 1 characterized in that the blade is made from alloy A. In this example, even if the alloy A is new and may independently constitute an invention and its use in turbine rotor blade is inventive, no objection on account of lack of unity shall be raised in respect of claim 2 and claim 1.

It should be noted that, under certain circumstances, a claim which appears to be dependent in its form is actually an independent claim, and thus concern in unity may arise accordingly. For example, claim 1 is a contactor with features A, B, and C, while claim 2 defines a contactor according to claim 1 wherein the feature C is replaced by feature D. Since claim 2 does not contain all the features of claim 1, it is not a dependent but independent claim. Whether the two claims have unity shall be examined according to the principles of examination on unity for independent claims of the same category.

Where an independent claim is not patentable due to the reason of lack of novelty, inventive step etc., the question of lack of unity may arise among its dependent claims.

[Example]

Claim 1: A display with features A and B.

Claim 2: The display according to claim 1 with additional feature C.

Claim 3: The display according to claim 1 with additional feature D.

(1) Situation 1: as compared with displays in the prior art, the display with features A and B as claimed in claim 1 has novelty

and involves an inventive step.

Explanation: claims 2 and 3 are dependent claims that further define the extent of protection of claim 1, and thus unity exists between claims 1, 2 and 3.

(2) Situation 2: as viewed from the combination of two prior art documents, the display as claimed in claim 1 does not involve an inventive step, and features C and D are respectively the technical features which make contributions over the prior art and are not interrelated at all.

Explanation: since claim 1 does not involve an inventive step and cannot be granted a patent right, the remaining claims 2 and 3 shall be taken as independent claims to determine whether unity exists therebetween. Because the special technical feature C of claim 2 and the special technical feature D of claim 3 are neither the same nor correspond to each other, there is no unity between claim 2 and claim 3.

3.Divisional Applications

3.1 Several Circumstances to File Divisional Application

In any of the following circumstances in which unity is not present in an application, the examiner shall invite the applicant to amend the application (including to divide the application) to meet the requirement of unity.

(1) The original claims contain two or more inventions that do not meet the requirement of unity.

Where two or more inventions not belonging to a single general inventive concept are claimed in the original claims of an application, the examiner shall invite the applicant to restrict the claims to one of the inventions (usually the invention corresponding to claim 1) or to two or more inventions belonging to a single general inventive concept. For the removed inventions, the applicant may file divisional applications.

(2) There is no unity between an added or replacing independent claim introduced during amendments to the application and the invention defined in the original claims.

In the process of examination, the applicant may amend the claims by introducing to the claims a new independent claim which defines an invention originally described in the description

only or, in response to an Office Action, by replacing an original independent claim with a new independent claim which defines an invention originally described in the description only. If there is no unity between the newly introduced invention and the invention defined in the original claims, generally the examiner shall invite the applicant to remove the added or replacing invention from the claims. The applicant may file a divisional application for the removed invention.

(3) One of the independent claims lacks novelty or inventive step, and there is no unity between the other claims.

The lack of novelty or inventive step of a certain independent claim (usually claim 1) may result in lack of unity among its parallel independent claims or even among its dependent claims in case they no longer share the same or corresponding special technical features. In this case, the claims need to be amended, and for any subject matter removed after amendment, the applicant may file a divisional application. For example, an application contains a product, a process for making the product and a use of the product, and it is found after search and examination that the product is not new. In this case, the remaining independent claims of the process for making the product and the use of the product obviously do not have the same or corresponding special technical features, and therefore, they need to be amended.

In the above circumstances, the applicant may file a divisional application on his own initiative or as a response to an Office Action. It should be noted that because whether to file a divisional application is a voluntary choice of the applicant, the examiner

shall only invite the applicant to restrict the two or more inventions that do not have unity to one invention or to amend the

inventions to form a single general inventive concept. It is up to the applicant whether to file a divisional application for any invention removed after the amendment.

Moreover, an application may be divided by filing one or more divisional applications based on that application, and a divisional application may be further divided by filing one or more further divisional applications, but the basis shall be the original application that the divisional application is derived from. Where

any further divisional application is filed from a divisional application, if the time of filing fails to satisfy the requirement provided

in Chapter 1,Section 5.1.1(2)of Part I,the further divisional application shall not be accepted unless it is filed as a response to an Office Action noting the defect of lack of unity in the divisional application.

3.2 Requirements to be Met by a Divisional Application

A divisional application shall meet the following requirements.

(1)Text of the divisional application

A divisional application shall,at the beginning of its description, i.e.,before the part of technical field to which the invention pertains,indicate the original application from which it is divided and the filing date,the application number and the title of the original application.

In filing a divisional application,a copy of the original application shall be submitted; if priority is claimed,a copy of the priority document of the original application shall also be submitted.

(2)Contents of the divisional application

Rule 53(3)

The divisional application shall not go beyond the scope of disclosure contained in the initial application.Otherwise,it shall be rejected on the ground that it does not comply with Rule 43.1 or Article 33.

(3)Description and claims of the divisional application

The claims of the parent application after division and the divisional application shall claim protection of different inventions respectively.However,their descriptions may have variations. For example,the original application contains two inventions A and B before division.After the application is divided,if the claims of the parent application claim for the protection of invention A,the description of the parent application may still contain both invention A and invention B,or just keep only invention A; if the claims of the divisional application claim for the protection of invention B,the description of the divisional application may still contain both invention A and invention B, or just keep only invention B.

For requirements concerning the applicant,time of filing and type of a divisional application,Chapter 1,Section 5.1.1 of Part I shall apply.

3.3 Examination on Division of an Application

In case where an application needs to be divided, the examination on division of an application includes the examination of the divisional application and of the parent application after division, which shall be performed according to Rules 42 and 43.

(1) In accordance with Rule 43.1, the divisional application shall not go beyond the scope of disclosure contained in the initial application. Otherwise, the examiner shall invite the applicant to make amendments. If the applicant does not make any amendment, or if the amendments made go beyond the scope of disclosure contained in the initial description and the claims, the examiner may reject the divisional application according to Rule 53(3) either on the ground that the divisional application does not comply with Rule 43.1 or on the ground that the amendments do not comply with Article 33.

(2) In accordance with Rule 42.2, where an application does not conform with Article 31.1 or Rule 34, the examiner shall invite the applicant to amend the application, that is, to restrict the application to one invention or to amend the inventions to form a single general inventive concept, within the specified time limit; the examiner shall meanwhile also remind the applicant that the application will be deemed withdrawn if no response is to be made within the time limit without justified reasons, and that the examiner may reject the application under Article 31.1 if the defect of lack of unity is not overcome. Similarly, a divisional application lacking unity of invention shall also be dealt with in the same way.

(3) Except for the examination under Rules 42 and 43, examination on other issues is the same as for a normal application.

Chapter 7 Search

1.Introduction

The search shall be conducted for every invention application before it is granted a patent right. In the procedures of substantive examination for an invention application, the search constitutes a very important step. The objective of the search is to discover from the prior art reference documents closely related or relevant to the subject matter of an application, or to find out conflicting applications or documents for avoiding double patenting, in order to decide whether the subject matter of the application possesses novelty and inventive step as provided for in Article 22.2 and Article 22.3 respectively, or meets the requirement of Article 9.1.

The provisions of this Chapter shall apply to the search on utility model patent and short-term patent of Hong Kong Special Administrative Region. Results of the search shall be recorded in a search report.

2.Search Documentation Used in Examination

2.1 Patent Documentation Used in Search

The search in substantive examination procedure for an invention application is mainly conducted in patent documentation. The patent documentation used in search mainly includes the patent documents of various countries in electronic form (either in computer searchable databases or in CD-ROMs), the search files in paper form for use in examination which are arranged according to IPC order, the patent documents of various countries in paper form which are arranged according to serial number, and the patent documents of various countries in micro-fiche.

The patent documentation in electronic form collected in the Patent Office mainly includes: the publication of Chinese invention applications, the publication of Chinese invention patents, the publication of Chinese utility model patents, the publication

of European patent applications,the international publication of patent applications under the PCT,the publication of US patents,the publication of Japanese patent applications,the publication of Japanese utility model patents,and patent abstracts of various countries.The patent documentation in paper form collected in the Patent Office mainly includes: the publication of Chinese invention applications,the publication of Chinese invention patents,the publication of Chinese utility model patents,the publication of US patents,the publication of European patent applications, the international publication of patent applications under the PCT,and patent abstracts of various countries.

2.2 Non-Patent Literature Used in Search

In addition to searching in patent documentation,the examiner shall also search non-patent literature.The non-patent literature used in search mainly includes foreign and domestic scientific and technological books,periodicals,index tools and manuals in paper form or electronic form.

3.Subject of Search

3.1 Text of Application for Search

The text of an application for search usually includes the initial claims and description (including the drawings,if any)submitted by the applicant on the date of filing.Where amendments have been made to the claims and/or description by the applicant upon the request of the examiner in accordance with Rule 44 or on his own initiative in accordance with Rule 51.1,the text of the application forming the basis of the search shall be the claims and/or description finally submitted by the applicant and in conformity with the provisions of Article 33(see Chapter 8, Section 4.1 of this Part).

3.2 Search on an Independent Claim

The search shall direct mainly to the claims of an application and with regard to the description and drawings.The examiner shall first take the technical solution defined by the independent claim as the subject of the search.At this time,the search shall be focused on the inventive concept of the independent

claim, rather than be restricted to the literal wording of the independent claim. Nevertheless, the search does not need to be broadened to cover every detail that may be derived from a consideration of the description and drawings.

3.3 Search on Dependent Claims

After the search directed to the technical solution defined by the independent claim, if a reference document that may affect the novelty or inventive step of the independent claim is found, then for assessing whether the technical solutions further defined by the dependent claims are novel and involve an inventive step as required by Article 22.2 and Article 22.3, the examiner shall continue the search by taking the technical solutions further defined by the dependent claims as the subject of the search. However, there is no need to make a further search if the additional features of the dependent claims fall into the common knowledge of the relevant art.

When the search results have revealed that the technical solution defined by the independent claim possesses novelty and involves an inventive step, generally, it is not necessary to conduct further search which is directed to the technical solutions defined by its dependent claims.

3.4 Search on Claims Characterized by Combination of Elements

For claims characterized by a combination of elements A, B, and C, the examiner shall first direct the search to the technical solution of A+B+C, and if no reference document that may affect its novelty or inventive step is found, the examiner shall further direct the search to the sub-combinations of A+B, B+C, and A+C, as well as to the single element of A, B, and C.

3.5 Search on Claims of Different Categories

Where an application contains claims of different categories (product, process, apparatus, or use), the examiner shall direct the search to all these claims of different categories. In certain circumstances, even though the application contains only claims of one category, it may be necessary to conduct the search which is directed to the relevant subject matters in other categories. For example, when the search is directed to a claim relating to a

chemical process,in order to determine its inventive step,in addition to the search directed to the process claim per se,the search shall also cover the final products made by the process,unless they are obviously known products.

3.6 Search on Description and Drawings

In addition to the search directed to the technical solutions defined by the claims,i.e.,the claimed subject matter of an application (hereinafter refers to the subject matter of the application), sometimes it may be necessary for the examiner to direct the search to other substantive contents disclosed in the description and drawings which further define the subject matter of the application.This is because when the applicant amends the claims,it is possible for him to add said contents into the claims. For example,in an application relating to an electric circuit,the technical solutions defined by the claims only relate to the function and the manner of operation of the circuit,but an important transistor circuit is disclosed in detail in the description and drawings.Under such circumstances,the search shall be directed to not only the function and the manner of operation of the circuit defined by the claims,but also the transistor circuit.In this way,even if the applicant introduces the transistor circuit into the claims in the later amendments,the examiner will not need to perform supplementary search.However,no search is necessary for the invention included in the description which has no unity with the technical solutions defined by the claims,because it is not allowable to introduce the invention as the claimed subject matter of the application into the claims in the later amendments(see Chapter 8,Section 5.2.1.3(3)of this Part).

4.Time Coverage of Search

4.1 Time Coverage of Search for Relevant Documents in the Prior Art

For an invention application,the examiner shall search all the relevant patent documents and non-patent literature in the same or analogous technical fields disclosed before the date of filing in China.The advantage of doing so is that the examiner may not need to verify the validity of priority,except for the situations

in which the priority must be verified as described in Chapter 8, Section 4.6.1 of this Part, for example, when a reference document which was applied or published within the priority interval and may affect the novelty or inventive step of the application is found.

4.2 Time Coverage of Search for Conflicting Applications

In order to determine whether there is a conflicting application prejudicial to the novelty of the subject matter of an invention application, the examiner shall additionally search at least the following:

(1) all the patent applications in the same or analogous technical fields which were filed by any entity or individual prior to the filing date of the application and published or announced within eighteen months from the filing date of the application; and

(2) all the international applications in the same or analogous technical fields designating China under the Patent Cooperation Treaty (PCT) which were filed by any entity or individual with a Receiving Office for international applications prior to the filing date of the application and internationally published within eighteen months from the filing date of the application, in order to find any international application that is identical with the application and may, after its entering of the national phase of China under the PCT, constitute a conflicting application to the application.

5. Preparation before Search

5.1 Reading the Relevant Documents

Where the following documents are cited in the description, when necessary, the examiner shall find and read them:

(1) documents cited as the basis of the subject matter of the application;

(2) documents cited as background art which relate to the technical problem to be solved by the invention; or

(3) documents which are helpful for a correct understanding of the subject matter of the application.

Art. 36

If these documents are necessary for the correct understanding under Art. 36 -

standing and evaluation of the subject matter of the application to the extent that the examiner cannot carry out a meaningful search without them, and they are not available in the Patent Office, then the examiner shall postpone the search and notify the applicant to provide a copy of these documents within a prescribed time limit. The search shall not be carried out until the copy of the documents is received (see Chapter 8, Sections 3.2.4 and 3.2.5 of this Part).

If the documents cited in the description obviously have no direct relevance with the subject matter of the application, the examiner may not take such documents into account.

If the applicant has submitted the search report of foreign countries, the examiner shall read the documents cited in the search report, especially those that may affect the novelty or inventive step of the subject matter of the application.

5.2 Checking the IPC Symbol of the Application

In order to conduct the search more effectively, the examiner shall first determine the International Patent Classification (IPC) symbol (abbreviated as classification symbol) of the application. For how to determine classification symbol, Chapter 4 of Part I of these Guidelines shall apply. For this purpose, the examiner shall, on the basis of the correct understanding of the subject matter of the application, use the rules of classification to check the IPC symbol assigned by the classification division or an

International Searching Authority. When the IPC symbol is found inappropriate, the examiner shall handle it according to the provisions of Chapter 8, Section 3.1 of this Part.

5.3 Determining the Technical Fields to be Searched

The examiner shall usually carry out the search in the technical field to which the subject matter of the application pertains. When necessary, the scope of the search shall be extended to the analogous technical fields. The technical field to which the subject matter of the application pertains is determined according to the contents of the claims, especially the specific function and use, as well as the corresponding specific embodiments which are clearly indicated. The classification symbol assigned by an examiner which indicates the invention information is the technical

field to which the subject matter of the application pertains. The analogous technical fields are determined according to the essential function or use that the subject matter of the application as revealed in the application documents has to possess, and not only the title of the subject matter of the application, or the specific function expressly indicated in the application documents. For example, a tea mixer and a concrete mixer are in the analogous fields, because mixing is the essential function of the two. Similarly, a brick cutting machine and a biscuit cutting machine also are in the analogous fields. For another example, a cable clamp having certain structural characteristics is defined in an independent claim of an application. If no relevant document can be found in the technical field to which the cable clamp pertains, the search shall be extended to the technical fields of pipe clamps and other similar clamps. These clamps possess the similar essential function with the cable clamp, thus it is quite possible for them to have the structural characteristics as defined in the independent claim. In other words, when an extended search is made, the search shall cover all the documents that may contain contents relevant to all or some of the features of the subject matter of the application.

5.3.1 Using Computer Searchable Databases

The examiner may use keywords, title of the invention, inventor's name and the like as input to search in computer searchable databases to determine the target technical fields. Among them, the search by keywords is the most utilized way to determine the target technical fields.

On the basis of the correct understanding of the subject matter of the application, the examiner may choose one or more "keywords" to conduct a computer search in the computer searchable databases, followed by a statistical analysis, e.g., a statistical analysis of the classification symbols of the found documents, so as to determine the technical fields to be searched as accurately and comprehensively as possible. In the same way, the technical fields which shall be searched for other subject matters mentioned above can also be determined.

5.3.2 Using the IPC

Where,through the use of computer searchable databases, the technical fields to be searched cannot be determined appropriately, the examiner may determine the technical fields to be searched by consulting the IPC in the following steps:

(1)looking up the "Contents of Section" at the beginning of each section of the IPC,and selecting all the possible sub-sections and classes according to the titles;and

(2)reading the class titles under the selected sub-sections and classes,and selecting the sub-classes which may be most appropriate to cover the contents of the subject of the search.

In the above two steps,the examiner shall pay attention to the notes or references of the titles of the sub-sections and/or the classes and subclasses.These notes or references may have influence on the contents of subclasses,indicating the differences between the subclasses,and may possibly direct to the expected location of the subject of the search.If in the advanced level IPC there exists a classification definition for a selected subclass in the electronic layer,the examiner shall pay attention to the detailed contents thereof because the classification definition provides the most accurate indication to the scope of the subclass.Moreover, the examiner shall note that if there is a functional classification position that is similar to the function of the subject of the search,there are possibly one or more application classification positions that are related to the subject of the search.When no specific position of the subject of the search could be found,the classification symbols of the remaining positions,of which the title of the class or group is "other xx" or "xx not listed in Group xx",may be considered as the technical fields to be searched;

(3)referring to the "Subclass Index" at the beginning of the subclass,reading the full titles of main groups together with notes and references,and selecting the main group which is most appropriate to cover the subject of the search;

(4)reading all the subgroups with one dot under the selected main group,and selecting the most appropriate one to cover the subject of the search.If the subgroup has notes and references, then other classification positions shall be taken into consideration according to these notes and references so as to find

out one or more classification positions that may be more appropriate for the subject of the search;

(5) selecting a subgroup with more than one dot which can still cover the subject of the search.

Through the above-mentioned five steps, the subgroup which is most suitable for the covering of the subject of the search can be determined. This subgroup and all its hierarchically lower subgroups in which the subject of the search are not obviously excluded are the technical fields to be searched. If there is any note

of priority with the selected subgroup, such subgroup and all its hierarchically lower subgroups in which the subject of the

search are not obviously excluded shall also be deemed as the technical fields to be searched. Furthermore, from the hierarchically immediate higher subgroups of the selected subgroup

through to the main group to which the selected subgroup belongs are the technical fields to be searched, because there include

documents relating to the subject of the search in an even broader scope. If the selected subgroup is in a subgroup according to the "last position rule", then, besides the selected subgroup and its

hierarchically lower subgroups in which the subject of the search are not obviously excluded, the search shall also be performed in the relevant subgroups under those which have the same number of dots as the selected subgroup and their hierarchically lower subgroups in which the subject of the search are not obviously excluded. Moreover, the search shall be performed

in the various relevant subgroups at the immediate higher level of

the selected subgroup through to the main group. For example, 8/20 is a subgroup with three-dot under C08G8/00. It is a selected subgroup according to the "last position rule", under which there is a four-dot subgroup 8/22. Under 8/20, there is a three-dot subgroup 8/24, which is relevant with and has the same number of dots as 8/20. Above the three-dot subgroups, there are relevant two-dot subgroup 8/08 and one-dot subgroup 8/04. Therefore, the examiner shall perform the search first in subgroup 8/20, then the search shall be carried out in subgroups 8/22, 8/24, 8/08, 8/04 through to the main group 8/00 successively; and

(6) considering other possible main groups or subgroups under the same subclass and other subclasses which are selected in step (2) by using the above-mentioned method.

5.4 Analyzing Claims and Determining Search Elements

After reading the application documents, having sufficiently understood the contents of the invention and made a preliminary determination of the IPC symbols and the technical fields to be searched, the examiner shall further analyze the claims and determine the search elements.

5.4.1 Analyzing Claims as a Whole

The examiner shall study the claims to find all the independent claims, and then make a preliminary analysis of the independent claims to determine whether or not the technical solutions claimed in the independent claims fall into the circumstances under which the search is not necessary, as provided in Section 10 of this Chapter.

For searchable claims, the examiner shall find the independent claim of the broadest protection extent and make an analysis of it. Generally, the search shall be first conducted for such independent claim.

5.4.2 Determining Search Elements

The examiner shall first analyze the technical solution defined in the independent claim of the broadest protection extent, and determine the basic search elements which can reflect this technical solution. Basic search elements are those searchable elements which can reflect the basic concept of a technical solution. In general, technical fields, technical problems, technical means, technical effects, etc. should be taken into consideration for determining the basic search elements.

After the basic search elements have been determined, the examiner shall, taking account of the features of the technical fields to be searched, determine the expressing means of each element in a computer search system, such as keywords, classification symbols, and chemical structural formulas. In order to make a complete search, it is normally required to express these search elements as far as possible by various means including keywords and classification symbols, and add the search results obtained from the various means altogether to form the search results of said search elements.

In selection of keywords, normally the various synonyms and approximate expressions of the corresponding search element need to be taken into account, and when necessary, the relevant generic term, specific term, other relevant terms, and the various synonyms and approximate expressions thereof, shall also be considered.

In determining the search elements for reflecting a technical solution, the examiner shall not only consider the explicit technical features in the solution, but also consider the equivalent features of some technical features in the solution when necessary. An equivalent feature is the feature that, as compared with the feature described, performs substantially the same function in substantially the same way, produces substantially the same effect, and can be associated by a person skilled in the art with the feature described. In determining equivalent features, such factors as the various alternative embodiments specified in the description and the contents not obviously excluded by the description shall be taken into account.

6. Search on an Invention Application

6.1 Essentials of Search

When conducting the search, the examiner shall direct his attention primarily to the novelty and at the same time pay attention to any prior art likely to have a bearing on the inventive step, and find out two or more reference documents that may destroy the inventive step of the subject matter of the application when they are combined together. The examiner shall also pay attention to any document that may be of importance for other reasons, such as documents which may contribute to a better understanding of the subject matter of the application; or the closest prior art documents which are most suitable for illustrating the subject matter of the application and are possible to become the reason for the examiner to invite the applicant to make amendments of the preamble portion of the independent claim and the relevant part of the description.

In the course of the search, the examiner shall pay attention to all of the contents of the patent documents in the prior art, especially the contents of the description (and the drawings) and

shall not pay attention to the claims only. The examiner shall compare the contents of the claims of the application to be searched with the contents as disclosed in the relevant patent documents in the prior art.

6.2 Sequence of Search

6.2.1 Search in Technical Fields to Which the Invention Pertains

The technical fields to which the invention pertains are the major technical fields of the subject matter of the application. There is the greatest possibility to find the closely relevant documents if the search is conducted in these fields. Therefore, the examiner shall begin the comprehensive search in the patent documents in these fields. For example, if the IPC symbol indicating the invention information is "xxxx7/16...(7/12 having priority)", then the search shall be directed to 7/16 first and then to 7/12; after that, the examiner shall search the various subgroups under 7/16 and 7/12, in which the subject matter of the application are not obviously excluded. Finally, the examiner shall search the subgroup at the immediate higher level up to the main group which covers the subject matter of the application. If there are more than one IPC symbols indicating the invention information, in the same way, the examiner shall search the patent documents in the technical fields defined by other IPC symbols.

As to other subject matters of the application to which the search shall be directed, the search shall be carried out in a similar way in the technical fields to which it pertains and in the relevant technical fields.

6.2.2 Search in Technical Fields of Similar Function

Based on the search results obtained by carrying out the search according to what is described in Section 6.2.1 of this Chapter, the examiner shall consider whether it is necessary to extend the search to the analogous technical fields. If it is, the search shall be carried out in these technical fields which have analogous function in the way as described in Section 6.2.1 of this Chapter.

6.2.3 Search after Redetermination of Technical Fields

If no reference documents are found after the search described in Sections 6.2.1 and 6.2.2 of this Chapter, it is possible that the technical fields have not been correctly determined. Then, the examiner has to redetermine the technical fields and carry out the search in those fields.

In carrying out the search as described in Sections 6.2.1, 6.2.2 and 6.2.3 of this Chapter, the chronological order of the search, i.e., the sequence of the disclosure date of the search materials to be consulted, shall be, in general, from latest to previous as compared with the filing date of the application.

6.2.4 Search in Other Materials

Where necessary, the examiner shall carry out search in the non-patent literature for search (see Section 2.2 of this Chapter).

Besides, the examiner may consult the documents cited in the reference documents obtained in the above-mentioned Sections 6.2.1-6.2.3, and the relevant documents listed as "reference cited" of the publication of invention applications or publication of invention patents obtained from the search.

6.3 Detailed Steps

6.3.1 Manner of Computer Search

When conducting a computer search, in order to make a complete search, the examiner shall express each search element by various means, such as by keywords, classification symbols and chemical structural formulas. For example, for a claim including two basic search elements A and B, the basic search strategy may be as follows: making an "OR" combination of the search result from classification symbols with that from keywords of search element A as the search result for search element A; making an "OR" combination of the search result from classification symbols with that from keywords of search element B as the search result for search element B; and then making an "AND" combination of the above search result for search element A with that for B as the search result for the claim.

In practical search, the examiner may conduct the search by means of different combinations according to the specific circumstance of the application. For example, the examiner may:

(1) make an "AND" combination of the search result from classification symbols of element A with the search result from keywords of element B;

(2) make an "AND" combination of the search result from classification symbols of element A with the search result from classification symbols of element B;

(3) make an "AND" combination of the search result from keywords of element A with the search result from keywords of element B;

(4) make an "AND" combination of the search result from keywords of element A with the search result from classification symbols of element B; or

(5) make an "OR" combination of the search result from classification symbols with that from keywords of element A, and then make an "AND" combination of the above result with the search result from keywords or classification symbols of the element B.

If no relevant reference document is found by one means of search, the examiner shall consider whether there may be any document possibly missed by this means. For example, in the above search means (1), possibly missed documents include: those documents having the keywords relevant with at least one of A and B but not assigned any of the classification symbols of A; and those documents assigned a classification symbol that is the same as at least one of the classification symbols of A and B, but not having any of the keywords relevant with B. For those possibly missed documents, the examiner shall adjust the means of search to conduct a targeted search. Where no reference document capable of affecting the novelty or inventive step of the technical solution is found by search directed to the combination of search elements A and B, in general, the examiner shall consider the results from conducting search respectively directed to the individual search elements A or B. If the technical solution involves a plurality of basic search elements, e.g., basic search elements A, B and C, where no reference document capable of affecting the novelty or inventive step of the technical solution is

found, in general, the examiner shall consider conducting search directed to the combinations of the basic search elements, e.g., the combinations of A+B, A+C and B+C; if necessary, the individual search elements A, B or C shall also be considered.

Furthermore, in the process of computer search, the examiner may also at any time use a relevant document to trace the citing documents, cited documents, inventors, or applicants in order to find further relevant documents.

6.3.2 Manner of Manual Search

In the process of manual search, the examiner may consult the patent documents in the following steps.

Step 1: in the search files of the technical fields to be searched, quickly skim through the abstract and figure on the first page of the patent documents and the contents of the independent claims in the claims, the patent abstracts of Japan, Russia (including the former USSR), Germany (including the former Federal Republic of Germany), UK, France, Switzerland, etc., bibliographic data of the Chinese and foreign periodicals and thesis, and pick out those documents which are considered to be relevant to the subject matter of the application after a preliminary judgment. If the application to be searched has drawings showing various detailed structures, the examiner may compare the drawings of the application with those of the documents in the search files one by one, and pick out those documents with the same or similar structures as those in the application.

Step 2: carefully read the abstracts, drawings, and claims of the patent documents selected in Step 1, and the documents corresponding to the abstracts and bibliographic data selected in Step 1, and pick out those documents which are rather relevant to the application.

Step 3: carefully read, analyze and study the descriptions of the documents selected in Step 2, and finally determine the reference documents to be used in the search report and in the Office Action.

6.4 Search for Conflicting Applications

6.4.1 Basic Principles

The search for any conflicting application shall be carried out as completely as possible before Notification to Grant Patent Right is sent out to an application, that is, the examiner shall search in the updated available patent documents for all the documents of the applications filed before the filing date of the present application and published or announced after said filing date.

6.4.2 Search on an Application Entering Substantive Examination

Stage after Publication on Schedule

Usually, an invention application shall be published after the expiration of eighteen months from its filing date and may thereafter enter the stage of substantive examination. In this situation, the search made before the issuance of the first Office Action shall include the search for conflicting applications.

6.4.3 Search on an Application Entering Substantive Examination

Stage after Publication ahead of Schedule

Where an invention application is published ahead of schedule and then enters the substantive examination stage, the examiner may preliminarily carry out a search for conflicting applications before the issuance of the first Office Action. If the examination of that application is concluded less than eighteen months after the filing date of that application, the examiner shall carry out supplementary search step by step depending on the introduction of the conflicting applications into the patent documents for search. If the examination is concluded on or after the date of expiration of eighteen months from the filing date, the examiner shall make a further search for conflicting applications before the examination is concluded.

7. Search to Avoid Double Patenting

Art. 9.1

In order to avoid double patenting, the search shall be conducted as completely as possible before Notification to Grant Patent Right is sent out to an application, that is, applications or the patent documents relating to identical inventions-creations

which are present in the Chinese patent documents shall be found out. For judgment of identical inventions-creations, Chapter 3, Section 6 of this Part shall apply.

8. Termination of Search

8.1 Limit of Search

Theoretically, a perfect search shall be comprehensive and complete. However, the search shall be limited in view of reasonableness of cost. The examiner shall, at any time, determine whether the search shall be stopped according to the quantity and quality of the selected reference documents. The factors to be considered are the balance of time, energy and cost spent on the search and the expected results.

8.2 Several Circumstances of Termination of Search

The examiner may terminate the search when one of the following circumstances occurs during the search:

(1) where a reference document closely related to all of the subject matters of the application has been found out, so that the examiner thinks that the document has clearly disclosed all of the technical features of all the subject matters of the application or the contents disclosed by the document may enable a person skilled in the art to obtain all of the technical solutions described in the claims, that is, the novelty or inventive step of all of the subject matters of the application are prejudiced by that reference document alone, and that document constitutes a document at category "X" or category "E" provided by the search report;

(2) where two or more reference documents closely related to all of the subject matters of the application have been found out, so that the examiner thinks that a person skilled in the art can easily combine them to obtain all of the technical solutions of the claims, that is, the inventive step of all of the subject matters of the application are prejudiced by the combination of these reference documents, and these documents constitute documents at category "Y" provided by the search report;

(3) where according to his knowledge and working experience, the examiner thinks that it is impossible to discover closely

related reference documents, or the time, energy and cost spent on the work is not commensurate with the expected results, it is therefore not worth continuing the search; or

(4) where closely related reference document(s) mentioned in the above paragraph (1) or (2) (usually the document(s) of category "X" or "Y" as specified in the search report) is found from the materials provided by the public or from the foreign search materials or foreign examination results provided by the applicant.

9. Search under Special Circumstances

9.1 Search on an Application of Which the Subject Matter Covers

More than One Technical Field

Where the subject matter of an application covers different technical fields, as the case requires, the examiner shall, in addition to making search in the technical field in which he works, consult the examiners working in the other technical fields to decide how to make further search.

9.2 Search on an Application Which Lacks Unity

9.2.1 Search on an Application Which Lacks Unity Obviously

Where it can be determined that unity does not exist between the subject matters of an application after the examiner analyzes and studies the claims and description (and the drawings), one of the following measures may be taken:

(1) performing search after the applicant makes necessary amendments to eliminate the defect of lack of unity; or

(2) where all of the technical solutions described in two or more independent claims, between which unity is not present, fall into the technical field in which the examiner is responsible for performing examination and the search fields of them are very close or even overlap to a great extent, the examiner may make search for them together under the circumstance that it takes little or no additional search effort. As a result, the examiner may both indicate the defect of the lack of unity and evaluate these independent claims when drafting the Office Action. In this way, the procedure of examination can be accelerated by reducing

one Office Action.If one or more independent claims of the application are found to lack novelty or inventive step after search,the applicant may delete these claims rather than make divisional application(s)after receiving the Office Action,thus unnecessary work is avoided by doing so.Moreover,the reference documents which further indicate that unity is not present between the subject matters of the application may be found through such search.

9.2.2 Search on an Application Which Lacks Unity Nonobviously

An application that does not obviously lack unity refers to the application in which whether the unity is present between its claimed subject matters can be determined only after the search.The examiner shall perform the search for such an application in a way as follows:

(1)when making a search for the first independent claim,if the examiner finds that the claim is lack of novelty or inventive step after the search,according to the principles of examination on unity as provided in Chapter 6,Section 2.2.1 of this Part,he shall determine whether there exists unity between the remaining independent claims.Search is not required for those independent claims which lack unity;

(2)where the inventive concept of two or more inter-parallel independent claims of an application are very close,and none of the independent claims needs to be searched in other technical fields,the examiner may make search for all of the subject matters of the application,because it will not greatly increase the workload; and

(3)when making search directed to an independent claim,if the examiner finds the claim lack of novelty or inventive step, which causes that unity is not present between its inter-parallel dependent claims,the examiner may apply mutatis mutandis the methods described in Section 9.2.1(1),9.2.1(2),9.2.2(1)or 9.2.2(2)of this Chapter to handle it.

9.3 Search under Other Circumstances

Where part of the subject matters of an application fall into the situations described in Section 10 of this Chapter,the examiner shall make search directed to the other subject matters

that are not in these situations. Where the defect of lack of unity exists between the other subject matters that are not in these situations, the search shall be made in accordance with the provisions of Section 9.2 of this Chapter.

10. Subject Matters for Which Search is Not Required

It is not necessary for the examiner to make the search if all of the subject matters of an application fall into one of the following circumstances:

- (1) falling into the circumstances mentioned in Articles 5 and 25 according to which no patent right shall be granted for the application;
- (2) contravening Article 2.2;
- (3) lacking practical applicability;
- (4) the description and claims fails to set forth clearly and completely the subject matters of the application so that a person skilled in the art cannot carry it out.

11. Supplementary Search

During the course of the substantive examination of an application, in order to obtain more suitable reference documents, the examiner shall make a supplementary search under any of the following circumstances:

- (1) where the applicant has amended the claim(s), but the earlier search did not cover the protection extent claimed in the amended claim(s);
- (2) where the clarification of the applicant makes the earlier search incomplete or inaccurate;
- (3) where the earlier search made before the issuance of the first Office Action is incomplete or inaccurate; or
- (4) where the change of the Office Action makes the earlier search incomplete or inaccurate so that it is necessary to increase or change the technical fields to be searched.

During the course of restored examination after reexamination, if any of the above circumstances occurs, the supplementary search shall be made.

Moreover, as to the international patent application designating China which may constitute a conflicting application, as described in Section 4.2(2) of this Chapter, a supplementary search

shall be made before Notification to Grant Patent Right is sent to an application to check whether the international patent application has entered the national phase of China and has been published in Chinese.

12.Search Report

The search report is used to record the results of the search, especially the documents which constitute the relevant prior art. The search report shall use the form prescribed by the Patent Office, and it shall clearly record the technical fields and databases to be searched, the basic search elements used and their expressions (e.g., keywords, etc.), and the reference documents obtained by the search with symbols showing the level of relevance of the reference documents with the subject matter of the application. The examiner shall fill in all other items as required in the form of search report.

In a search report, the following symbols are used to express the relevance of a reference document with a claim:

“X”: the document that when taken alone, prejudices the novelty or inventive step of the claim;

“Y”: the document that when combined with other such documents cited in the search report, prejudices the inventive step of the claim;

“A”: the document defining the general state of the art, i.e., the document that reflects part of the technical features of the claim or the relevant prior art;

“R”: the patent or patent application document belonging to identical invention-creation that was submitted to the Patent Office by any entity or individual on the date of filing;

“P”: the intermediate document, that is the document published on dates falling between the filing date of the application being examined and the claimed priority date, or the document that causes necessity to verify the priority of the application; and

“E”: the conflicting application document that when taken alone, prejudices the novelty of the claim.

Among the above categories of documents, symbols “X”, “Y” and “A” indicate the relevance of a reference document with a claim of the application in contents; symbols “R” and “E” indicate the relevance of a reference document with a claim of the

application both in time and in contents; and symbol "P" indicates the relevance of a reference document with a claim of the application in time, which shall be followed by a symbol of "X", "Y", "E" or "A" indicating the relevance of the document in contents. Symbol "P" is used under the circumstance that the priority of an application has not been verified.

Where a claim includes several parallel technical solutions and the level of interrelationship between a reference document and these technical solutions are different, the examiner shall use the symbol which represents the highest level of interrelationship to indicate the reference document.

Besides the documents of above categories, other documents cited in the Office Action shall also be filled in the search report, without the category symbols and/or the claims related to.

Chapter 8 Procedure for Substantive Examination

1.Introduction

According to Article 35,the Patent Office shall perform substantive examination for an application for invention.

The purpose of substantive examination is to judge whether the patent right shall be granted to an invention application,especially whether the application meets the requirements of novelty, inventive step and practical applicability as set out in the relevant provisions of the Patent Law.

In accordance with Article 35.1,the procedure for substantive examination usually shall be started upon the request of the applicant.However,in accordance with Article 35.2,such substantive examination may be started by the Patent Office on its own initiative.

In accordance with Article 39,where it is found upon substantive examination that there is no grounds for rejection of the invention application,the Patent Office shall make a decision to grant the patent right for invention.

In accordance with Article 38,in the course of substantive examination,where,after the applicant has made the observations or amendments,the Patent Office finds that the invention application is still not in conformity with the provisions of the Patent Law,i.e.,it still has defects falling into the situations described in Rule 53,the application shall be rejected.

In accordance with Article 32,an applicant may withdraw his application at any time before the patent right is granted. Furthermore,in Articles 36.2 and 37 and Rule 42.2,circumstances are described where an application shall be deemed to be withdrawn in the procedure for substantive examination.

The substantive examination in this Chapter refers to the substantive examination to a Chinese invention application.As for the substantive examination of an international application in the Chinese national phase,where there are specific provisions in Chapter 2 of Part III of these Guidelines “Substantive Examination of International Applications Entering the National Phase”,

the examination shall be conducted in accordance with those provisions;
where there is no specific provisions, the provisions of
this Chapter shall apply.

2.Procedure for Substantive Examination and Basic Principles Thereof

2.1 Outline of Procedure for Substantive Examination

Circumstances that may occur in the procedure for substantive examination are as follows:

- Art. 37 (1)where the examiner,after making substantive examination of the invention application,finds that the application is not in conformity with the provisions of the Patent Law and its Implementing Regulations,he shall notify the applicant and request him to submit his observations or,if necessary,to amend the application within a specified time limit.The notification (e.g.,Notification of the Office Action,Notification to Make Divisional Application,Notification to Submit Materials,etc.)issued by the examiner and the response made by the applicant may be repeated for several times until the patent right is granted to the application or the application is rejected or withdrawn or deemed to be withdrawn;
- Art. 39 (2)where it is found,upon substantive examination,that there is no grounds for rejection of an application,or the initial defects in the application have been overcome after the observations or amendments have been made by the applicant,Notification to Grant Patent Right shall be issued;
- Art. 38 (3)where,after the applicant has made the observations or amendments,the examiner finds that the defects falling into the situations described in Rule 53,which have been pointed out in the Office Action still exist in the application,the application shall be rejected; and
- Art. 37 & 36. 2 (4)where,without any justified reason,the applicant fails to
Rule 42. 2 reply in due time to Notification of the Office Action,Notification to Make Divisional Application,or *Notification to Submit Materials, etc.,the examiner shall send Notification that Application Deemed to be Withdrawn.*

Furthermore,where necessary,the examiner may have interview, telephone discussion or on-spot investigation in the proce-

procedure for substantive examination according to the provisions of these Guidelines.

2.2 Basic Principles in Procedure for Substantive Examination

(1) Principle of examination upon request

Except in certain special cases provided for in the Patent Law and its Implementing Regulations, the procedure for substantive examination shall be started only upon the request of the applicant. The examiner shall perform the examination on the basis of the application documents (including those submitted when the application was filed, when amendment was made according to the Patent Law or when response to the Office Action was made) duly submitted by the applicant according to the Patent Law.

(2) Principle of hearing

In the course of substantive examination, at least one opportunity of stating observations and/or amending application documents against the facts, grounds and evidence on which the rejection relies shall be given to the applicant before the decision of rejection is made, that is, the facts, grounds and evidence on which the rejection relies shall be notified to the applicant before the examiner makes a decision of rejection.

(3) Principle of procedural economy

In the course of substantive examination of an invention application, the examiner shall make the examination procedure as brief as possible. In other words, the examiner shall try his best to close the case as early as possible. To reach this aim, the examiner shall indicate all the defects of the application which are not in conformity with the Patent Law and its Implementing Regulations in the first Office Action and invite the applicant to make response for all the issues within the specified time limit, unless he is sure that the application is not possible to be granted the patent right. The correspondence between the examiner and the applicant shall be reduced to the least to economize on procedure.

However, the examiner shall not neglect the principle of examination under request and the principle of hearing for the reason of economizing on procedure.

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3.Verification of Application Documents and Preparation of Substantive Examination

3.1 Verification and Check of IPC Symbol of Application

On receiving an application,the examiner shall,no matter whether the examination will be conducted in the near future, first verify and check the IPC Symbol of the application. When the examiner finds that the application is beyond his responsibility,he shall timely deal with it in accordance with the rules of coordination of classification so as not to delay the examination. Where the examiner finds that although the classification Symbol is not precise,but still belongs to his responsibility,he shall correct it on his own initiative.

3.2 Verification of Application File

For the application files within his responsibility according to classification,or for the applications allocated to him,the examiner shall timely check them,no matter whether they are to be examined in the near future.For documents on formalities and other documents not related to the substantive examination, which shall be handled by other departments,the examiner shall deliver these documents to the corresponding departments in time to avoid any delay.

Art. 35;Rule 50 3.2.1 Check of Grounds for Initiating the Procedure

The examiner shall check whether a request for the substantive examination is included in the application file,whether it was submitted within three years from the date of filing (for divisional application,see Chapter 1,Section 5.1.2 of Part I of these Guidelines),and whether Notification of Publication and Entering the Substantive Examination Stage of the Application is included in the application file.Where the Patent Office,on its own initiative,determines to proceed the substantive examination to the invention application,the examiner shall check whether there is a notification with the signature of the Commissioner and the record indicating that the applicant has been notified.

Art. 26. 1

Rule 51. 1

3.2.2 Check of Application Documents

The examiner shall check whether the documents for substantive examination (including initial application documents and published documents, and the amended documents if the applicant has, on his own initiative or upon the request of the Patent Office in the course of preliminary examination, made any amendment of the documents) are complete.

Art. 30

3.2.3 Check of Material Related to Priority

Where the applicant claims the right of foreign priority, the examiner shall check, in the application file, whether there are declaration of claiming the right of priority and copy of the earlier patent application documents certified by the competent authority of the foreign country or the inter-governmental organization in which the earlier application was filed. Where the applicant claims the right of domestic priority, the examiner shall verify, in the application file, whether there are declaration of claiming the right of priority and copy of patent application documents that were first filed in China.

Art. 36. 2; Rule **3.2.4 Check of Other Relevant Documents**

For an invention application that has already been filed in a foreign country, the examiner shall check, in the application file, whether there are documents submitted by the applicant that concern the search for the purpose of application examination or the results of examination made in that country.

Art. 36. 2

3.2.5 Handling of Application File with Defect

Where the examiner finds any ground, document or material mentioned in the above-mentioned Sections 3.2.1 to 3.2.3 missing in an application file, or any documents not in conformity with the provisions of the Patent Law and its Implementing Regulations, he shall return the application to the Procedure Administration Department and state the reason for doing so. When the examiner finds that the materials mentioned in the abovementioned Section 3.2.4 are missing in an application file, and he is sure that the applicant has obtained such materials, he may fill in Notification to Submit Materials and invite the applicant

to submit the relevant materials within the specified time limit of two months. If the applicant fails to do so without any justified reason, the application shall be deemed to be withdrawn. Besides, before substantive examination is conducted, it is preferable for the examiner to have a rough reading of the application documents to see if it is necessary to invite the applicant to submit any relevant reference materials. If it is, the examiner may fill in Notification to Submit Materials to notify the applicant to submit such materials within the specified time limit of two months. To finish this work in advance may accelerate the examination procedure.

3.3 Establishment of Personal Examination File

After checking the application file, the examiner shall establish a personal examination file to record the important information of the application examined by himself and add relevant information in the subsequent stages of examination, so as to have the information of the examination proceedings and the basic status of each application in hand at any time.

3.4 Order of Examination

3.4.1 General Principles

Except for the special circumstances described in Section 3.4.2 of this Chapter, the examination shall be performed according to the order of receipt for all the invention applications that are received. However, the applications belonging to the same category received successively may be handled together.

After the applicant responds to the first Office Action, the examiner shall continue the examination in the order of the time of receiving the responses.

3.4.2 Special Treatment

There may be special treatment in the following circumstances:

(1) for applications having great significance to the interest of the State or to the public interest, upon the request of the applicant or the competent authorities concerned and with the approval of the Commissioner of the Patent Office, examination

may be conducted first and handled with priority in the later examination proceedings;

Art. 35. 2

(2)for applications of which the substantive examination is started on the initiative of the Patent Office,examination may be conducted with priority;and

(3)for divisional applications of which the original dates of filing are retained,examination may be conducted together with that of the original application.

4.Substantive Examination

4.1 Text of Examination

Usually,the text of examination used by the examiner for the first time is the initial application documents submitted by the applicant according to the Patent Law and its Implementing Regulations or the documents amended upon the request of the preliminary examination department of the Patent Office.

Rule 51. 1

Where the applicant has made amendments to the invention application on his own initiative,when a request for substantive examination is made or within three months after the receipt of the Notification of Entering the Substantive Examination Stage of the Application issued by the Patent Office,the amended application documents submitted by the applicant shall be used as the text of examination no matter whether the content of amendments goes beyond the scope of disclosure contained in the initial description and claims.

Where the applicant has made amendments to the application documents several times on his own initiative within the above-mentioned time limit,the application documents last submitted shall be used as the text of examination.Generally,the amendment of the application documents made by the applicant on his own initiative in time period other than the above-mentioned prescribed time limit shall not be accepted.The amended application documents submitted by the applicant shall not be used as the text of examination.The examiner shall state the reasons thereof in the Office Action and use the previous acceptable documents as the text of examination.Where,though the amendments made by the applicant is not in conformity with the provisions of Rule 51.1,if the examiner thinks,after reading

them,that the amended documents have eliminated the defects existing in the initial application documents and meet the requirements of the provisions of Article 33,and taking the amended text as the basis for examination can help economize the examination procedure,such amended documents may be accepted as the text of examination.

4.2 Reading of Application Documents and Understanding of Invention

After the substantive examination is started,the examiner shall read the application documents carefully first,and try to understand the invention accurately.The examiner shall put emphasis on understanding the technical problem to be solved and the technical solution for solving said technical problem,figuring out all the essential technical features of the technical solution,especially those which are different from that of the background art,and understanding the technical effect produced by said technical solution.Necessary notes may be taken when reading and figuring out the invention so as to facilitate further examination.

4.3 Issuance of Office Action without Search

Where all the subject matters of an application obviously fall into the circumstances described in Chapter 7,Section 10 of this Part,the examiner may issue the first Office Action without making any search.

It shall be noted that,in cases where only some,and not all of the subject matters of an application belong to the above-mentioned circumstances,the first Office Action shall be issued after the search has been conducted to the subject matters which do not belong to said circumstances.

4.4 Handling of Application Lacking Unity

The defect of lacking unity is sometimes obvious for an application, and sometimes it can only be determined after the search and examination have been conducted.The defect of lacking unity may exist between the inter-parallel independent claims or between the inter-parallel dependent claims because the independent claim referred to by them does not possess novelty or involve an inventive step,or between the inter-parallel technical

solutions in one claim.

Art. 31. 1

The examiner may handle the application lacking unity by using

Rules 34 & 42. 2

one of following methods.

(1)To invite the applicant to make amendments before search

If the examiner,at the time of reading the application documents, can immediately come to the conclusion that there obviously lacks unity between the subject matters of the application, the search may be postponed (see Chapter 7,Section 9.2.1(1)of this Part).Notification to Make Divisional Application may be issued,in which the applicant is invited to make amendments to the application within the specified time limit of two months.

(2)To invite the applicant to make amendments after search

If the lack of unity for the subject matters of an application can be decided only after search,the examiner may,according to circumstances,decide either to put off further search and examination, or to continue further search and examination (see Chapter 7,Section 9.2.2 of this Part).

If after search and examination,it is believed that the first independent claim or its dependent claim has prospect of being granted the patent right,and there lacks unity between other independent claims and the claim having prospect of being granted the patent right,the examiner may put off the search and examination for the other independent claims and only make observations of examination with regard to the first independent claim or its dependent claim,and invite the applicant to delete or amend other claims which lack unity in order to eliminate the defect of lacking unity of the application.

If after search and examination,it is believed that the first independent claim and its dependent claim do not have prospect of being granted the patent right,and there lacks unity between other independent claims,the examiner may put off the search and examination for the other independent claims,indicate in the first Office Action that the first independent claim and its dependent claim do not have prospect of being granted the patent right,and at the same time,indicate the defect of lacking unity in the application,or the examiner may continue to conduct the search and examination to other independent claims especially

when the search fields are very close or overlap to a great extent, and in the meanwhile point out the defect of lacking unity and other defects in the first Office Action (see Chapter 7,Section 9.2.2 (1)or (2)of this Part).

If,according to the requirements of the first Office Action, the applicant has made amendments which are in conformity with the provisions of Section 5.2 of this Chapter to the application, and there is no longer the defect of lacking unity in the claims,the examiner shall continue the examination to the claims.

For situations where there is no unity between the inter-parallel dependent claims because the independent claim to which they refer does not possess novelty or involve an inventive step, the above-mentioned provisions (1)or (2)shall apply mutatis mutandis.

It shall be noted that,although sometimes there is no unity between the subject matters of the application,especially when the lack of unity between the inter-parallel dependent claims results from the fact that the corresponding independent claim does not possess novelty or involve an inventive step,however,the relevant search fields of them are very close or even overlap to a great extent.Under such circumstances,it is preferred that the examiner searches and examines these claims together and indicates in the Office Action the defects in these claims that are not in conformity with the other provisions of the Patent Law and its Implementing Regulations,and at the same time,the defect of lacking unity in the application,so as to economize the examination procedure [see Chapter 7,Section 9.2.1(2)of this Part] .

Rule 42.2

No matter the application is under situation (1)or (2)as described above,the applicant shall,within the specified time limit, amend his application,such as to restrict the claims to eliminate the defect of lack of unity.If no response has been made by the applicant within the time limit,the application shall be deemed to be withdrawn.

Where the applicant has opposite opinion in his response to the Office Action of the examiner on the defect of lacking unity of the application,and the examiner thinks that the opinion of the applicant is tenable,or said defect is eliminated after the claims have been amended by the applicant,the examination pro-

cedure of the application shall be continued. Where the opposite opinion is untenable or the defect of lack of unity has not been eliminated, the examiner may reject the application according to provisions of Article 38.

4.5 Search

Search shall be conducted for every invention application before it is granted the patent right. For how to determine the technical field of search and how to proceed the search, see Chapter 7 of this Part.

4.6 Verification of Right of Priority

4.6.1 Circumstances Where Verification of Right of Priority is Needed

Whether it is necessary to verify the right of priority shall be decided by the examiner after searching. Where the dates of publication of all the reference documents are earlier than the priority date, no verification of right of priority is necessary. Such verification is needed when one of following events occurs:

(1) the disclosure of a reference document is identical with or closely related to the subject matter of the application, and the date of the publication of the reference document is between the date of filing and the priority date. That is, the reference document constitutes the document of category "PX" or "PY";

(2) the disclosure of an application filed by any entity or individual with the Patent Office is identical with some or all of the subject matters of the application. Moreover, the date of filing of the former application is between the date of filing and the priority date of the latter, and the date of publication or announcement of the former is on or later than the date of filing of the latter. That is, the application filed by any entity or individual with the Patent Office constitutes the document of category "PE"; or

(3) the disclosure of an application filed by any entity or individual with the Patent Office is identical with some or all of the subject matters of the application. Moreover, the priority date of the former application is between the date of filing of the latter and the priority date of the latter, and the date of publication

or announcement of the former is on or later than the date of filing of the latter. That is, the application filed by any entity or individual with the Patent Office constitutes the document of category "PE".

As for the circumstances described in item (3), the verification of right of priority of the application under examination shall be conducted first. If its claim of right of priority is invalid, the claim of right of priority of the application which is filed by any entity or individual with the Patent Office and used as the reference document shall also be verified.

4.6.2 General Principle on Verification of Right of Priority

Generally speaking, verification of right of priority refers to the verification of whether the right of priority claimed by the applicant is valid according to the provisions of Article 29. To this end, the examiner shall, on the basis of the examination performed by the preliminary examination department (see Chapter

1, Section 6.2 of Part I of these Guidelines), verify the following:

(1) whether the earlier application, which is used as the basis of the right of priority, involves the same subject matter as that of the later application for which the priority is claimed;

(2) whether this earlier application is the first application in which the same subject matter is described; and

(3) whether the date of filing of the later application is within twelve months from the date of filing of the earlier application.

The verification mentioned in item (1) is to judge whether the technical solutions contained in the claims of the later application are clearly described in the documents (the description and claims, not including the abstract) of said earlier application.

For this purpose, the examiner shall analyze and study the earlier application in its entirety. If the technical solution described in

the claim of the later application is clearly described in the documents of the earlier application, it shall be assured that the earlier application has the same subject matter as the later application.

The examiner cannot refuse to accept the claim of priority right based on the view that such technical solution is not contained in the claims of the earlier application.

By the phrase “clearly described”, it does not mean the way of illustration is completely identical. It is sufficient if the technical solutions described in the claims of the application have been set forth. However, where one or more technical features of said technical solutions are just generally or ambiguously described in the earlier application, or where there is only a hint in the earlier application, if the detailed description of such technical features is described in the application claiming for the priority right, and a person skilled in the art cannot directly and unambiguously derive it from the earlier application, the earlier application cannot serve as the basis for claiming the right of priority.

Under certain circumstances, the content described in item (2) shall be checked. For example, the right of priority for an application A is claimed on the basis of another earlier application B of the applicant. In the course of searching for application A, the examiner finds another patent application document or patent document C of the same applicant which is published or announced between the date of filing and the priority date of application A. The subject matter of application A has been disclosed in document C and the date of filing of document C is earlier than the priority date of application A, i.e., earlier than the date of filing of application B. Thus, it may be assured that the earlier application B is not the first application of that applicant which described the identical subject matter as that of the application A. As a result, application A shall not claim the date of filing of the earlier application B as its priority date.

4.6.2.1 Verification of Partial Priority

When improvement or perfection is made to the invention of the earlier application, the applicant may introduce into the later application the technical solution which is not included in the earlier application. Under such circumstances, in verifying the right of priority, the examiner shall not come to the conclusion that the claim of right of priority is not valid because new contents are added into the later application. The priority right shall be granted to the identical subject matter of the later application that is clearly described in the earlier application, i.e., partial priority shall be granted. Speaking in detail, for the claims of

the later application, the claim of right of the priority of an earlier application is valid when the technical solutions of them have been clearly described in the earlier application; however, the claim of priority of an earlier application is not valid when the technical solutions of them have not been described in the earlier application, and these claims shall be deemed to be put forward on the date of filing of the later application. So far as the whole application is concerned, this is called partial priority, i.e., parts of the subject matters of the application have valid right of priority. In other words, the technical solutions defined by part of the claims have valid right of priority.

Rule 32.1

4.6.2.2 Verification of Multiple Priorities

Where multiple priorities are claimed by an application which meets the requirement of unity, in verifying the right of priority, the examiner shall check whether the various technical solutions included in the claims of the application have been clearly described respectively in the foreign or domestic applications serving as the basis for claiming the priority. Moreover, it is also necessary for the examiner to verify whether all the dates of filing of the earlier applications are within the time limit of the priority of the later application. If these two requirements are satisfied, the claim of multiple priorities is valid. The various claims in which the various technical solutions are described will possess different dates of priority. If some of the claims do not satisfy the above-mentioned requirements, but the other claims do, the claim to the right of priority of the former shall not be valid, while the claim to the right of priority of the latter shall be valid.

Where different technical features are described respectively in different foreign or domestic applications which serve as the basis for claiming the right of priority and the claims of the later application are the combination of these features, the claim to multiple priorities is not valid.

4.6.3 Handling Procedure after Verification of Right of Priority

Where the right of priority of an application is not valid after the verification, the examiner shall state the reasons for the invalidity of right of priority in the Office Action, and continue

forward examination on the basis of the newly determined priority date (or the date of filing where there are no other rights of priority). When the application is granted the patent right, the examiner shall change the right of priority thereof in Notification of Change in Bibliographic Data.

4.7 Comprehensive Examination

So far as procedure are concerned, reasons of economy dictate that the examiner makes a comprehensive examination of the application before the first Office Action is issued, i.e., to examine whether the application is in conformity with all the provisions of the Patent Law and its Implementing Regulations relating to the formalities and substance of the application.

The emphasis of the examination shall be whether there is any situation as described in Rule 53 in the description and the whole of the claims. In general, first of all, the examiner shall examine whether the subject matter of the application falls into the

circumstances mentioned in Article 5 or 25 according to which no patent right shall be granted for the application; whether the subject matter of the application is in conformity with the provisions of Article 2.2; whether it possesses the practical applicability as required in Article 22.4; and whether the description has sufficiently disclosed the claimed subject matter of the application, which is required by Article 26.3. Then, the examiner shall examine whether the technical solutions defined by the claims possess novelty and involve inventive step as required in the provisions of Article 22.2 and Article 22.3; whether the claims are supported by the description and define the extent of the patent protection sought for in a clear and concise manner as

Rule 20.2

required in the provisions of Article 26.4; whether a complete technical solution to solve the technical problem has been described

Art. 31.1

in the independent claim. In the course of the above-mentioned examination, the examination shall be carried out to decide whether there is defect of lacking unity in the claims; whether the amendments of the application are in conformity with the provisions of Article 33 and Rule 51; whether the divisional applications are in conformity with the provisions of Rule 43.1; and whether the application document is in conformity with the provisions of Article 26.5 for the invention-creation

which is developed relying on the genetic resources.

If the examiner can reasonably doubt that the invention contained in the application has been developed in China, and the applicant does not request the Patent Office for confidentiality examination before filing the application for patent abroad, the examiner shall examine whether the application is in conformity with the provisions of Article 20.

Rules 17-19
& 21-23

Where no situations described in Rule 53 exist in the application; or although there are substantive defects falling into the situations described in Rule 53, the application still has the prospect of being granted the patent right after some amendments, for the sake of economy in procedure, the examination of whether all the other provisions of the Patent Law and its Implementing Regulations are complied with shall be conducted by the examiner as well.

For examiners who have already clearly understood the claimed subject matter of the application as well as its contributions to the prior art after search, the main job at this stage is to make a positive or negative judgment to the above-mentioned emphases of examination according to search results.

4.7.1 Examination of the Claims

In accordance with the provisions of Article 26.4, the claims shall be supported by the description and shall define the extent of the patent protection sought for in a clear and concise manner. In accordance with the provisions of Article 59.1, the extent of protection of the patent right shall be determined by the terms of the claims. To this end, the substantive examination shall be focused on the claims, especially on the independent claim(s).

In general, after it is determined that the subject matter of the application does not fall into the circumstances mentioned in Article 5 or 25 according to which no patent right shall be granted for the application, is in conformity with the provisions of Article 2.2, and possesses the practical applicability provided in Article 22.4, and the claimed subject matter of the application has been sufficiently disclosed in the description, the following examination shall be conducted to the claims.

Art. 22. 2 & . 3

(1) To examine whether the independent claim possesses

novelty and involves an inventive step in accordance with the provisions of Chapter 3 and Chapter 4 of this Part.

If the independent claim is believed to lack novelty or inventive step upon examination, further examination shall be carried out to determine whether the dependent claims possess novelty and involve inventive step. If it is found after examination that none of the independent claims and dependent claims possesses novelty or involves an inventive step, it is not necessary to continue examination for claims.

If it is found upon examination that the independent claim possesses novelty and involves an inventive step, or although the independent claim lacks novelty or inventive step, the dependent claims possess novelty and involve inventive step, and the application has the prospect of being granted the patent right, the examiner shall, according to the principle of procedural economy, carry out the examination of (2) to (7) in the following to the claims.

- Art. 26. 4** (2) To examine whether all the claims are supported by the description (and the drawings), and whether the claims define the extent of the patent protection sought for in a clear and concise manner.
- Rule 20. 2** (3) To examine whether the independent claim indicates a complete technical solution to solve the technical problem the invention aims to settle. The crux of determining whether the technical solution is complete lies in checking whether all the essential technical features for solving said technical problem have been described in the independent claim.
- (4) To examine whether the dependent claims are in conformity with the provisions of Rules 20.3 and 22.
- Rule 21. 3** (5) To examine whether one invention has only one independent claim and whether the claim precedes all the dependent claims relating to the same invention.
- Rule 19. 3** (6) To examine whether the standard scientific and technical terms (scientific and technological terms) used in the claims are in conformity with the provisions of Rule 3.1 and consistent with those used in the description.
- Art 9. 1** (7) If a reference document belonging to identical invention creation has been found through search, which is submitted by any entity or individual on the same date of filing, double patent-

ting of identical claims shall be avoided. The provisions of Chapter 3, Section 6 of this Part shall apply to the handling of identical invention-creation. Where there are two or more invention applications concerning identical invention-creation, these applications shall be examined by the same examiner. In principle, the examination shall be conducted by the examiner who first puts forward a request to transfer one of these applications.

It shall be noted that, for some applications, there may exist such defects as ambiguity of claims, which make the examiner unable to examine the novelty and inventive step of the claims first. In this case, the examiner shall first examine these defects, and at the same time, according to his understanding of the description, he may also make observations on the novelty and inventive step of the technical solutions in the description for the applicant's reference.

4.7.2 Examination of Description and Abstract

Art. 26. 3 & . 4 The description (and the drawings) shall set forth the invention
Art. 59. 1 in a manner sufficiently clear and complete so as to enable a person skilled in the art to carry it out. In the meanwhile, it, as the basis of the claims, shall be used to interpret the contents of claims when the extent of the protection of the patent right is determined.

The examiner shall conduct the following examination to the description and drawings:

Art. 26. 3 (1) whether the description (and the drawings) has set forth the invention in a manner sufficiently clear and complete so as to enable a person skilled in the art to carry it out; whether the technical solutions described in the description are able to solve the technical problem of the invention and achieve the expected advantageous effects (see Chapter 2, Section 2.1 of this Part);

Art. 26. 4; Rule (2) whether the extent of protection defined by the technical solution of each claim is supported by the description and whether the technical solutions contained in the part of "Contents of Invention" of the description are consistent with the corresponding technical solutions defined by the claims; and

(3) whether the relevant contents mentioned in Rule 17 are included in the description; and whether the description is drafted in the required manner and order by using standard terms and

clear wording(see Chapter 2,Section 2.2 of this Part).

If the drafting of the description in other manner or order can result in a more economical presentation and an accurate understanding of the invention by others due to the nature of the invention,such drafting manner or order may be allowed in accordance with the provisions of Rule 17.2.

Where one or more nucleotide or amino acid sequences are included in the application,the examiner shall examine whether the description contains a sequence listing in conformity with the provisions.

As for the application having drawings appended,the examiner shall examine whether the drawings meet the requirements of Rule 18(see Chapter 2,Section 2.3 of this Part). For applications of which drawings are not necessary,the description may not contain the contents as provided for in Rule 17.1(4).

Rule 3.1 Moreover,the examiner shall check whether the scientific and technological terms used in the description are the standard ones; and for the name of a foreigner or a foreign place,as well as for some scientific and technological terms,whether the original language are provided when no standard Chinese translations are available.

Rule 23 The examiner shall attach importance to the examination of the abstract.The provisions of Chapter 2,Section 2.4 of this Part shall apply to the examination of the abstract.

If,after the examination performed in accordance with Section 4.7.1(1)of this Chapter,the examiner believes that all the claims lack novelty or inventive step,attention shall be paid to whether there is any other technical solution included in the description, which belongs to a single general inventive concept with the original independent claim,and possesses novelty and involves an inventive step,so as to determine whether the application belongs to situation (3)or (4)as listed in Section 4.10.2.2 of this Chapter.

Art. 26. 5 4.7.3 Examination of Other Application Documents

Rule 26. 2 For the inventions-creations developed relying on the genetic resources,the examiner shall examine whether the applicant has submitted the Registration Form for Indicating Source of Ge-

netic Resources prepared by the Patent Office, and whether the direct and original source of genetic resources are indicated in said form; where no original source is indicated, the examiner shall examine whether the applicant has stated the reasons thereof.

4.8 Non-Comprehensive Examination

Usually, for the sake of procedural economy, the comprehensive examination shall be performed for an invention application in accordance with Section 4.7 of this Chapter.

However, where there exists a serious defect in the application documents which is not in conformity with the provisions of the Patent Law and its Implementing Regulations, i.e., when there exist defects falling into situations listed in Rule 53, and that it is impossible to grant the patent right to said application, the examiner may not conduct the comprehensive examination on said application. He just needs to indicate the substantive defects which lead to the conclusion of examination in the Office Action, at this time, there is no sense in pointing out the less important substantive defect and/or formal defect in the application.

4.9 Handling of Public Opinion

The observations submitted by anyone to the Patent Office on an invention application not in conformity with the provisions of the Patent Law shall be included in the application file, and the examiner shall take them into consideration in the course of substantive examination. It is not necessary for the examiner to consider the observations submitted after the issuance of Notification to Grant Patent Right. The handling of the observation submitted by the public does not need to be notified to the public concerned.

4.10 First Office Action

4.10.1 General Requirement

After substantive examination for an application, the observations and the tendentious conclusion of the examination shall be notified to the applicant in the form of Office Actions.

Rule 48

The examiner shall describe in detail the observations according to the Patent Law and its Implementing Regulations in the text of the Office Action. The observations shall be definite and detailed enough to enable the applicant to understand the problem of his application clearly.

Under any circumstances, observations shall be accompanied with reasons thereof, the conclusions shall be definite, and the relevant provisions of the Patent Law and its Implementing Regulations shall be cited. But the words with personal feelings shall not be introduced. In order to enable the applicant to make the amendment in conformity with the requirements as soon as possible, where necessary, the examiner may provide a suggestion of amendment for the applicant's reference. If the applicant accepts the suggestion from the examiner, he shall formally submit a revised document. The proposed amendment in the Office Action cannot be used as the text of the document for further examination.

In order to accelerate the examination procedure, the Office Actions shall be as few as possible. Therefore, the comprehensive observations of the examiner, either on substantive or formal matters, shall be described in the first Office Action unless the application under examination has no prospect of being granted the patent right due to serious substantive defects (such as those circumstances described in Section 4.3 or 4.8 of this Chapter) or the examiner intends to postpone the examination because the lack of unity in the application. Besides, where the text of examination is not in conformity with the provisions of Article 33, the examiner may provide the observations of examination for the applicant's references on the text other than the text of examination.

4.10.2 Composition and Requirements

The first Office Action shall consist of the standard Form and the text of the Office Action. Where reference documents are cited in the Office Action, a copy of the reference documents shall be included according to circumstances.

4.10.2.1 Standard Form

The examiner shall fill in all the items of the standard Form

according to relevant requirements, and shall especially check and fill in the text on which the examination is based. Said text shall be the text of examination determined in accordance with the provisions of Section 4.1 of this Chapter. The text concerning the reference observations described in the text of first Office Action shall not be filled in the Form. If there are two or more applicants, all the applicants or their representative(s) shall be indicated.

The examiner shall fill in the item of "cited reference documents" in the standard Form according to the following requirements.

(1) Where the reference documents are patent documents (the publication of patents, the publication of patent applications), the country code, document number and document type provided by the "Information Search International Cooperation Committee of the Patent Offices with Examination System of the Paris Union" (ICIREPAT) shall be indicated. Moreover, the date of publication of those documents shall be indicated. With regards to the conflicting applications, the date of filing shall also be indicated.

[Examples]

Title of Document	Date of Publication
CN1161293A	1997.10.8
US4243128A	1981.1.6
JP59-144825A	1984.8.20

(2) Where the reference documents are articles in the periodicals, it shall be indicated the title of the article, the name of the author, the name and number of the volume of the periodical, the starting and ending page numbers of the relevant article and the date of publication, etc.

[Example]

"Laser Two-coordinate Measuring Instrument", Laser Two-coordinate Measuring Instrument Development Group of China Academy of Measuring Sciences, Journal of Metrology, Vol. 1, No. 2, pages 84-85, April 1980.

(3) Where the reference documents are books, it shall be indicated the title of the book, the name of the author, the starting and ending page numbers of the relevant content, the name of the publishing house and the date of publication.

[Example]

“Gas Discharge”, Yang Jinji, pages 258-260, published on October 1983 by the Publishing House of Sciences.

4.10.2.2 Text of Office Action

The text of the Office Action may be drafted in the following ways according to circumstances and the result of the search of the application.

(1) Where the application belongs to one of the circumstances provided in Sections 4.3 of this Chapter under which the Office Action may be issued without the search, only main problem and its reason shall be indicated in the text of the Office Action, and it is not necessary to mention any other defect. At last, it shall be indicated that the application shall be rejected according to Article 38 because the application falls into some circumstances of rejection as listed in Rule 53.

(2) Where, although the patent right may be granted to an application, there still exist some minor defects, in order to accelerate the examination procedure, the examiner may provide specific suggestion in the Office Action, or directly make some suggestive amendments in the copy of the application documents which are used as the appendix of the Office Action, and state the reasons for such suggestion. Then it shall be pointed out that if the applicant agrees with the suggestive amendments of the examiner, he shall formally submit the amended document or the replacement sheet of the amendment.

(3) Where although the patent right may be granted to an application, there still exist some serious defects that involve both the claims and the description, the examiner shall draft his observations in the order of the importance of the related issues. Usually, the observations on the independent claim(s) shall be described at first; secondly the observations on dependent claims; then the observations on the description (and the drawings) and abstract. The observations on the description may be written in the order provided in Rule 17.

Where the independent claim has to be amended, the applicant shall be usually invited to make corresponding amendments on the relevant part of the description. Moreover, if the examiner finds, through search, that some reference documents are even

more related to the invention than the reference documents cited by the applicant in the description, the applicant shall be invited to make corresponding amendments in the part of "Background Art" and other relevant part of the description in the text of the Office Action.

Rule 21.1

As for the improvement invention, if the examiner finds,

Rule 17.1(2)

through search, that a reference document is considered most related to the application, while the original reference document, which is used as the basis of delimiting the claim, is obviously unsuitable, the applicant shall be invited to delimit the independent claim again. Under such circumstances, the examiner shall also describe in detail in the Office Action how to delimit the independent claim by the newly cited reference document. The applicant shall be invited to make corresponding amendments to the description, for example, to make objective comments on the contents disclosed in said reference document in the part of "Background Art" of the description.

Where the technical problem to be solved by the invention has not been clearly indicated, or has only been generally described in the description, but the examiner may understand that problem by studying the complete contents of the description and can proceed the search and substantive examination based on this understanding, the examiner shall, at the beginning of the text of the Office Action, indicate the technical problem which he believes the invention intends to solve according to his understanding.

(4) Where it is impossible to grant the patent right to an application because of the lack of novelty or inventive step, the examiner shall provide his objection on novelty and inventive step to each claim in the text of the Office Action, first to the independent claim, and then to the dependent claims one by one.

However, if there are too many claims or the reason of objection is the same, the dependent claims can be evaluated in group. It shall be pointed out in the end that there is no substantive content to be granted the patent right even in the description.

Under such circumstances, it is not necessary for the examiner to point out the minor defects or formal defects in the text of the Office Action. It is also not necessary to invite the applicant to make any amendment.

Where the examiner provides the observations of examination in accordance with certain parts of the reference documents cited in the Office Action, the relevant specific paragraphs, or the numbers of the relevant figures and the reference signs of the components or parts in the figures shall be indicated.

For how to make the observations of examination and state the reasons thereof on the contents of the claims and the description according to the provisions of Article 22 on novelty and inventive step, see the relevant contents in Chapter 3 and Chapter 4 of this Part.

The common knowledge of the art cited in the Office Action by the examiner shall be accurate. Where the applicant has objections to the common knowledge cited by the examiner, the examiner shall state the reasons or provide corresponding evidence for proof.

Rules 42.2 & .1 (5) Where the application belongs to those situations obviously lacking unity as described in Section 4.4(1) of this Chapter, the examiner may issue Notification to Make Divisional Application to invite the applicant to amend the application documents and clearly inform the applicant that the examination shall be continued only after the defect of lacking unity is eliminated. Where the application belongs to those situations described in Section 4.4(2) of this Chapter, at the time of providing specific observations of the examination, the examiner shall, in the text of the Office Action, point out that the several inventions included in the application are not in conformity with the provisions of Article 31.1 concerning requirement of unity. If, after search, it is found that the lack of novelty or inventive step of the independent claim has led to lack of unity of the invention application, the examiner shall, according to the provisions of Section 4.4 of this Chapter, decide whether to continue the examination.

4.10.2.3 Duplicate of Reference Documents

For the reference documents cited in the Office Action, a duplicate copy of the documents shall be included in the application file. If the cited reference document is too long, only the content relating to the text of the Office Action shall be copied. Besides, there shall be clear marks on the copy of the reference documents to indicate the source and the date of publication.

Where the cited reference documents derive from periodicals or books, it is more necessary to include such marks.

Art. 37

4.10.3 Time Limit of Response

The examiner shall specify the time limit for the applicant to submit the response in the Office Action. The time limit shall be decided by the examiner after taking the relevant factors of the application into consideration, including the quantity and nature of the observations, the workload and the degree of complexity of the possible amendments and so on. The specified time limit for replying the first Office Action is four months.

4.10.4 Signature

The Office Action shall be sealed by the examiner who is responsible for the examination of the application. Where the Office Action is drafted by a trainee examiner, the seals of both the trainee and his instructor shall be affixed to it.

4.11 Continuation of Examination

After the response of the first Office Action has been submitted by the applicant, the examiner shall continue the examination of that application and consider the observations and/or amendments made by the applicant. The same standard of examination shall be applied by the examiner at the various stages of the examination.

Before continuing the examination, the examiner shall verify the information in the response, such as the application number, the name of the applicant, the names of the patent agency and the patent agent, and the title of the invention, etc., to avoid mistakes.

If the examiner has conducted the comprehensive examination before the issuance of the first Office Action, the attention at the stage of continuation of the examination shall be focused on the response of the applicant to each observation mentioned in the text of the Office Action, especially on the reasons and evidences submitted by the applicant when he has objections against all or part of the comments of the examiner. Where the applicant submits the revised description and/or revised claims simultaneously, the examiner shall, according to the provisions of Arti-

cle 33 and Rule 51.3,examine respectively whether the amendments go beyond the scope of disclosure contained in the initial description and claims,and whether the amendments have been made based on the requirements of the Office Action (see Section 5.2 of this Chapter).Where the amendments meet said requirements, the examiner shall further examine whether the revised application has overcome the defect(s)indicated in the Office Action,whether there arise new defects not in conformity with the provisions of the Patent Law and its Implementing Regulations, and,what is even more important is to examine whether the newly revised independent claim meets the requirements of Article 22 so as to determine whether the revised application is patentable.

4.11.1 Handling of Application after Continuation of Examination

After the continuation of the examination,the examiner may handle the application in the following ways according to the circumstances:

(1)where the applicant has made amendments according to the observations of the examiner,eliminated the defect which may lead to rejection of the application so that the patent right may be granted to the revised application,if there are still some defects in the application,the examiner shall invite the applicant again to eliminate these defects.Where necessary,the examiner may accelerate the examination by an interview with the applicant (see Section 4.12 of this Chapter).If possible,the examiner may have discussion with the applicant by telephone in the way as described in Section 4.13 of this Chapter.However,no matter in what form the amendment is proposed,the basis for the examination shall be the written amendments formally submitted by the applicant except that the examiner makes amendments to the obvious mistakes ex officio (see Sections 5.2.4.2 and 6.2.2 of this Chapter);

Art. 38

(2)if,after the applicant has made the observations or amendments, the examiner finds that there still exist the defects falling into situations specified in Rule 53 which have been indicated in the original Office Action,he may make the decision of rejecting the application if the principle of hearing has been met; and

(3)where,after the applicant has made the amendment or observations,the application meets the requirements of the Patent Law and its Implementing Regulations,the examiner shall issue Notification to Grant Patent Right.

4.11.2 Supplementary Search

In the course of the continuation of examination (including the examination after reexamination),where necessary,the examiner shall proceed to supplementary search.For example,where,after reviewing the response of the applicant,the examiner realizes that his original understanding of the invention is not accurate,which has led to the incomprehensiveness of the search,or where the amendments submitted by the applicant require for further search,or where an international application document designating China as described in Chapter 7,Section 4.2(2)of this Part which may constitute a conflicting application has been found in the first search(see Chapter 7,Section 11 of this Part),and it is necessary to conduct supplementary search to decide whether the application has entered into the national phase of China and has been published in Chinese.

4.11.3 Further Office Action

4.11.3.1 Circumstances to Issue Further Office Action

The examiner shall issue the further Office Action under one of the following circumstances:

(1)where some reference documents which are more relevant to the application are found by the examiner,and it is necessary to re-evaluate the claims;

(2)where the examiner has not made observations on one or more claims in the earlier examination,and it is found through the continuation of the examination that there are among them cases which do not meet the requirements of the Patent Law and its Implementing Regulations;

(3)the examiner considers that it is necessary to give new observations after the applicant submits observations and/or amendments;

(4)where,though the patent right may be granted to the amended application,there still exist defects which are not in con-

formity with the provisions of the Patent Law and its Implementing Regulations. And these defects may be fresh defects that emerge after the amendments, defects newly found by the examiner, or defects that have been informed to the applicant by the examiner but have not been completely eliminated; or

(5) where, though the examiner intends to reject the application, he failed to indicate clearly in the earlier Office Action the facts, grounds or evidence upon which the rejection is based.

4.11.3.2 Contents and Requirements of Further Office Action

The drafting and requirements of the first Office Action shall also apply to that of the further Office Action.

Where the applicant submits a revised text in response to the Office Action, the examiner shall make his observations on the revised text, and indicate the problem existing in the newly revised claims and description.

Where, in the response, if the applicant just puts forward his observations and has made no amendment to the application documents, the examiner may usually insist on his previous observations in the text of the further Office Action. However, if the applicant puts forward sufficient reason or if certain circumstances described in Section 4.11.3.1 of this Chapter occur, the examiner shall take the drafting of new observations into consideration.

The examiner shall make necessary comments in the further Office Action on the arguments in observations filed by the applicant.

In order to accelerate the examination procedure, the conclusion of the examination of the application shall be indicated definitely in the further Office Action. The specified time limit of the response to the further Office Action is two months.

4.12 Interview

Under some circumstances, such as the circumstances described in Section 4.11.1(1) of this Chapter, the examiner may invite the applicant to have an interview so as to accelerate the examination procedure. The applicant may also request for an interview. In this situation, if the examiner believes that a useful purpose will be served by such an interview, the request shall be

granted; otherwise, the request may be refused.

4.12.1 Conditions of Holding Interview

The conditions for holding an interview are as follows:

(1) the examiner has issued the first Office Action; and

(2) at the time of or after submitting the response to the Office Action, the applicant files a request for interview; or when the examiner thinks it necessary to invite the applicant to have an interview.

No matter invited by the examiner or requested by the applicant, the interview shall be arranged in advance by issuing Notification of Interview or by telephone. The duplicate copy of the Notification of Interview or the Minutes of Telephone Communication Concerning Appointment of Interview shall be included in the application file. It shall be indicated clearly in said notification or the minutes the contents, time and place of the interview confirmed by the examiner. If a new document is to be put forward in the interview by the examiner or by the applicant, it shall be submitted to the other party before the interview.

Generally, the date of the interview shall not be changed once it is fixed. If it has to be changed, the other party shall be notified in advance. If, without any justified reason, the applicant

fails to take part in the interview, the examiner may refuse to arrange a new interview, and continue the examination by sending a further written action.

4.12.2 Venue of Interview and Participants

The interview shall be held in the place designated by the Patent Office. With regard to the application, the examiner shall not interview the applicant in any other place.

The interview shall be presided over by the examiner responsible for the examination of the application. Where necessary, other experienced examiners may be invited to provide assistance. Where an interview is presided over by a trainee examiner, the instructor examiner shall be present at the spot.

Where a patent agency is appointed by the applicant, the patent agent shall participate in the interview and shall produce his certificate of patent agent. Where the applicant changes the patent agent, the applicant shall go through the formality for a

change of the bibliographic data and the new patent agent shall participate in the interview after said formality is qualified. Where a patent agency is appointed by the applicant, the applicant may participate in the interview together with his patent agent.

Where no patent agency is appointed by the applicant, the applicant shall participate in the interview. Where the applicant is an entity, the person appointed by the entity shall participate in the interview. Said person shall produce their identifications and the letter of introduction issued by the entity.

The provisions mentioned above shall also apply to co-applicants unless there are other statements or other appointed patent agency. Each entity or individual of the co-applicants shall participate in the interview.

Where necessary, when designated or appointed by the applicant, the inventor may participate in the interview together with the patent agent; or where no patent agency is appointed by the applicant, the inventor entrusted by the applicant may participate in the interview on behalf of the applicant.

The total number of the applicants or patent agents present in the interview shall be usually no more than two. Where a patent application is owned by two or more entities or individuals and where no patent agency is appointed, the number of the participants in the interview may be decided according to the number of the co-applicants.

4.12.3 Record of Interview

When an interview is over, the examiner shall fill in the Record of Interview. The Record of Interview shall take the standard form uniformly formulated by the Patent Office. The record shall be copied in duplicate, signed or sealed by the examiner and the applicant (or his patent agent) who participate in the interview, one copy shall be given to the applicant and the other shall be kept in the application file.

Usually, the matters discussed, the conclusions reached or amendments agreed shall be indicated in the Record of Interview.

If the interview is concerned with solving many matters, such as questions of novelty, inventive step, or whether the amendment introduces new contents, the examiner shall make a fuller note of

the matters discussed and any agreement reached.

The Record of Interview shall not replace the formal response to the Office Action or the amendment of the applicant.

Even though the agreement on how to make the amendment has been reached by both parties in the interview, the applicant still has to submit the formal amended documents and the examiner cannot make any amendment on the applicant's behalf.

Where no agreement on the amendment of the application documents is reached in the interview, the examination shall be continued by sending a further written action.

Art. 37

When the interview is over and the applicant is required to re-submit the amended documents or written observations, if the watch on the initial specified time limit still exists, the time limit may not need to change because of the interview, or the time limit may extend one month depending upon the situation. If the watch on the initial specified time limit exists no more, the examiner shall specify another time limit for submitting the amendments or observations in the Record of Interview. The amendments or observations submitted within this time limit shall be deemed as the response to the Office Action. If the applicant fails to make response in due time, the application shall be deemed to be withdrawn.

If the new documents submitted by the applicant in the interview are not received by the examiner before the interview, the examiner may decide to suspend the interview.

4.13 Communication by Telephone

The examiner may discuss the problems in the application documents with the applicant by telephone. However, the communication by telephone shall apply only to minor issues and non-misleading issues concerning the formal defects. The examiner shall record the matters discussed and keep it in the application file. For the amendments agreed by the examiner in the telephone conversation, the applicant shall usually submit the formal revised documents in written form. The examiner shall make conclusion according to such written documents.

Rule 51.4

Where the contents of the amendments agreed by the examiner in the telephone conversation fall into the scope as described in Sections 5.2.4.2 and 6.2.2 of this Chapter, the examiner

may correct the obvious mistakes ex officio.

4.14 Taking of Evidence and On-Spot Investigation

Generally speaking, since the main responsibility of the examiner is to point out to the applicant the problems of the application which are not in conformity with provisions of the Patent

Law and its Implementing Regulations, it is not necessary for the examiner to request the applicant to provide evidence in the procedure for substantive examination. If the applicant does not accept the views of the examiner, then it is for the applicant to decide whether he wishes to produce evidence in support of his case. If so, he shall be given an appropriate opportunity to produce any evidence which is likely to be relevant, unless the examiner is convinced that no useful purpose will be served by it.

The evidence provided by the applicant may be either written documents or a model. For example, the applicant may provide materials concerning merits of the technology of the invention to prove the inventive step of the application. For another example, the applicant may make a demonstration of the model to prove the practical applicability of the application and so on.

Where an application involves problems that can be solved only by an on-spot investigation of the examiner, a request shall be made by the applicant. The on-spot investigation of the examiner shall be carried out only when the request is approved by the Director General of the relevant department of substantive examination. All the costs of the investigation shall be borne by the Patent Office.

5. Response and Amendment

5.1 Response

Art. 37

The applicant shall respond to the Office Action issued by the Patent Office within the specified time limit.

The response of the applicant may include the observations only, the revised application documents (replacement sheet and/or rectification) may be also included. Where the applicant states in his response the objection to the observations in the Office Action or makes amendments to his application, he shall state his opinions in detail in the observations, or explain whether the a-

mentments are in compliance with the corresponding provisions and how the defects existing in the initial application documents have been overcome. For example, where the applicant introduces a new technical feature into the amended claim to overcome the defect of lack of inventive step indicated in the Office Action, the applicant shall specifically indicate in his observations the part of the description from which the new technical feature is derivable, and state the reasons for which the amended claim involves an inventive step.

The applicant may request the Patent Office to extend the specified time limit of the response. However, the request shall be submitted before the expiration of the initial time limit. For handling of the request concerning the extension of time limit, the provisions of Chapter 7, Section 4 of Part V of these Guidelines shall apply. After the Patent Office receives the response of the applicant, the subsequent examination procedure may be initiated. After the notifications or decisions of the subsequent examination procedure are issued, the examiner shall not consider later responses submitted by the applicant within the initial time limit of response.

Art. 37
Rule 2

5.1.1 Form of Response

The applicant shall respond to the Office Action within the specified time limit in the form of observations or rectifications as required by the Patent Office (see Chapter 1, Section 4 of Part V of these Guidelines). The observations or rectifications without any specific content of response submitted by the applicant is also the formal response from the applicant, for which the examiner shall think that the applicant does not give any specific objections to the opinions given in the Office Action and does not overcome the defects existing in the application documents indicated in the Office Action.

The applicant shall submit his response to the Receiving Section of the Patent Office. The response or the correspondence asking for opinions addressed directly to the examiner shall not be deemed as the formal response and shall have no legal effect.

5.1.2 Signature of Response

Rule 119.1

Where no patent agency is appointed, the observations or

rectifications submitted by the applicant shall be signed or sealed by the applicant. Where the applicant is an entity, an official seal shall be affixed. Where there are two or more applicants, the observations or rectifications may be signed or sealed by their representative.

Where a patent agency is appointed by the applicant, the response shall be sealed by such agency, and signed or sealed by the patent agent designated in the Power of Attorney. Where there is a change in patent agent, the response shall be signed or sealed by the new patent agent.

Where no patent agency is appointed by the applicant, if the response is not signed or sealed by the applicant (where there are two or more applicants, it shall be signed or sealed by all the applicants, or at least by their representative), the examiner shall return the response to the department responsible for preliminary examination.

Where a patent agency is appointed by the applicant, if the seal of the patent agency is not affixed to the response, or if the response is made by the applicant himself, the examiner shall return the response to the department responsible for preliminary examination.

Rule 119.2

Where there is a change in the applicant or the appointed patent agent, the examiner shall check whether there is a corresponding Notification of Change in Bibliographic Data in the file. If such notification is not in the file, the examiner shall return the response to the department responsible for preliminary examination.

5.2 Amendments

In accordance with Article 33, the applicant may amend his application for a patent, but the amendment to the application for a patent for invention or utility model may not go beyond the scope of disclosure contained in the initial description and claims. The amendment to the international application submitted by the applicant in accordance with the provisions of PCT shall also be in conformity with the provisions of Article 33.

In accordance with Rule 51.1, when a request for substantive examination is made, and within the time limit of three months after the receipt of the Notification of Entering the Substan-

tive Examination Stage of the Application issued by the Patent Office,the applicant may amend the invention application on his own initiative.

In accordance with Rule 51.3,where the applicant amends the application after receiving the Office Action of the Patent Office,the amendment shall be made to the defects as indicated in the Office Action.

5.2.1 Requirement of Amendments

Article 33 provides for the content and scope of the amendment. Rule 51.1 provides for the time for the applicant to make amendment on his own initiative,and Rule 51.3 provides for the manner for the applicant to make amendment in response to the Office Action.

Art. 33

5.2.1.1 Content and Scope of Amendment

In the procedure for substantive examination,the amendment of the application documents may take place several times so that the application meets the requirements of the Patent Law and its Implementing Regulations.When examining the amended documents submitted by the applicant,the examiner must strictly abide by the provisions of Article 33.Whether the applicant amends the application documents on his own initiative or in answer to the defects as indicated in the Office Action,the amendment of the application documents shall not go beyond the scope of disclosure contained in the initial description and claims.The scope of disclosure contained in the initial description and claims includes the contents described in the initial description and claims,and the contents determined directly and unambiguously according to the contents described in the initial description and claims,and the drawings of the description.The contents described in the initial description and claims submitted by the applicant on the date of filing shall be taken as the basis of examining whether the above-mentioned amendment is in conformity with the provisions of Article 33.The contents of the application documents in foreign language and the priority documents submitted by the applicant to the Patent Office shall not be taken as the basis to judge whether the amendment to the application documents meet the requirements of Article 33,except

for the originally filed text in foreign language of an international application entering into the national phase. For the legal effect thereof, see Chapter 2, Section 3.3 of Part III of these Guidelines.

If the contents and scope of the amendment are not in conformity with the provisions of Article 33, the amendment shall not be allowed.

5.2.1.2 Time of Amendment on His Own Initiative

Rule 51.1

Only in the following two cases, the applicant may amend the application document for an invention patent on his own initiative.

(1) At the time when a request for examination as to substance is made; and

(2) When within the time limit of three months after the receipt of the notification of the Patent Office on the entry into examination as to substance of the application.

Rule 51.3

When replying the Office Action from the Patent Office, the amendment on his own initiative is not allowable.

5.2.1.3 Manner for Making Amendment When Replying the Office Action

In accordance with Rule 51.3, when replying the Office Action, the amendment, if there is, shall be made in answer to the defects as indicated in the Office Action. If the manner of the amendment is not in conformity with Rule 51.3, the text as so amended shall generally be unacceptable.

However, where the manner for making amendment does not meet the requirements of Rule 51.3, but the contents and scope of the amendment are in conformity with the provisions of

Article 33, the amendment may be deemed to be made in answer to the defects as indicated in the Office Action and the application documents amended in this way may be acceptable, provided that the defects existed in the initial application documents

are eliminated in the amended documents and there is prospect for the application to be granted the patent right. By doing so, it is beneficial to economize the examination procedure. Nevertheless, under the following circumstances, even though the contents of the amendment do not go beyond the scope of disclosure

contained in the initial description and claims,the amendment shall not be deemed to be made in answer to the defects as indicated in the Office Action,therefore the amendment shall be unacceptable.

(1)The applicant has removed one or more of the technical features from the independent claim on his own initiative,which leads to the expanding of the extent of protection claimed in the claim.

For example,the applicant has,on his own initiative,removed from the independent claim a technical feature,or a relevant technical term,or a technical feature which is used to define the specific application scope,even though the contents of the amendment do not go beyond the scope of disclosure contained in the initial description and claims,such amendment shall not be accepted as long as it leads to the expanding of the extent of protection claimed in the claim.

(2)The applicant has changed one or more of the technical features of the independent claim on his own initiative,which leads to the expanding of the extent of protection claimed in the claim.

For example,the applicant has,on his own initiative,replaced the technical feature "helical springs" by "resilient part". Although the technical feature of "resilient part" has been described in the initial description,it is not acceptable since such change will expand the extent of protection.

For another example,in Example 1 to Example 4 of Section 5.2.3.2(1)of this Chapter,although the contents of said four changes are described in the initial description,it is not acceptable since such changes may lead to the expanding of the extent of protection.

(3)The applicant has taken the technical content which is only described in the description and lacks unity with the initial claimed subject matter as the subject matter of the revised claim on his own initiative.

For example,the applicant has described not only a new handle but also other parts in the description of an invention application concerning the new handle of a bicycle,such as the saddle of the bicycle.It is found that the new handle defined by the claim does not involve an inventive step after substantive examination.

Then the applicant, on his own initiative, makes the saddle as the subject matter of the claim. As there is no unity between the revised subject matter and the initial claimed subject matter, such amendment is not acceptable.

(4) The applicant has added a new independent claim on his own initiative, and the technical solution defined by it is not present in the initial claims.

(5) The applicant has added a new dependent claim on his own initiative, and the technical solution defined by it is not present in the initial claims.

Where the amended text submitted by the applicant in response to the Office Action is not made in answer to the defects as indicated in the Office Action but belongs to the above-mentioned unacceptable situations, the examiner shall issue an Office Action, state the reason for not accepting the amendment, and invite the applicant to submit an amendment complying with the provisions of Rule 51.3 within the specified time limit. In the meanwhile, it shall be indicated that, when the specified time limit is expired, if the text of amendment submitted by the applicant is still not in conformity with the provisions of Rule 51.3 or the amendment has other contents which are not in conformity with the provisions of Rule 51.3, the examiner shall continue to examine the text submitted before the amendment is made, for example, to make a decision to grant or to reject.

If the examiner has new opinions on parts of the current amended text, which is in accordance with the requirements of Rule 51.3, the opinions can be stated in this Office Action.

5.2.2 Allowability of Amendments

Herein, the term "allowability of amendments" mainly refers to the amendments which are in conformity with the provisions of Article 33.

5.2.2.1 Amendments to the Claims

The amendments to the claims mainly involve the change in the extent of protection of the independent claim made through adding or altering the technical features of the independent claim, or altering the category or title of the subject matter of the independent claim and its corresponding technical features;

the addition or deletion of one or more claims; the amendment to the independent claim for re-delimiting it from its closest prior art; the amendment to the reference portion of the dependent claim to revise the relation of reference, or the amendment to the characterizing portion of the dependent claim to clearly define the extent of protection claimed by the claim. For all the above-mentioned amendments, provided that the technical solution of the revised claim has been clearly disclosed in the initial description and claims, the amendments shall be allowable.

Art. 22. 2 & . 3 Allowable amendments to the claims include the following:

Art. 26. 4 (1) One or more additional technical features are introduced into the independent claim to further define the claim so as to eliminate the defects of the initial claim, such as lacking novelty or inventive step, lacking essential technical feature for solving the technical problem, lacking support in the description, or not defining the extent of the patent protection sought for in a clear manner, etc., provided that the technical solution of the independent claim into which the additional technical features are introduced does not go beyond the scope of disclosure contained in the initial description and claims, the amendment shall be allowable.

Art. 22. 2 & . 3 (2) One or more technical features of the independent claim are changed to eliminate the defects of the initial claim, such as lacking support in the description, not defining the extent of the patent protection sought for in a clear manner, or lacking novelty or inventive step. So long as the technical solution described in the independent claim having the changed technical features does not go beyond the scope of disclosure contained in the initial description and claims, such amendment shall be allowable.

Art. 26. 4 As for the amendment to the numerical range of the claim which contains the technical feature defined by such range, it is allowable only when the two extreme values of the revised numerical range are really described in the initial description and/or claims and the revised numerical range is within the initial numerical range. For example, the range of temperature in the technical solution of the claim is 20°C-90°C. The difference between the technical contents disclosed in the reference documents and this technical solution is that the corresponding range of temperature disclosed in the reference documents is 0°C-100°C, and a

specific numerical value of 40°C is also disclosed in the reference documents. Therefore, the examiner shall indicate in the Office Action that said claim does not possess novelty. If the specific numerical values of 40°C, 60°C and 80°C in the range of 20°C-90°C are also mentioned in the description or claims of the invention application, it is allowable for the applicant to change the range of temperature in the claim to 60°C-80°C or 60°C-90°C.

Art. 22. 2 & . 3 (3) The category, title of the subject matter and the corresponding technical features of the independent claim are changed

to eliminate the defects of the initial claim, such as having wrong category or lacking novelty or inventive step. So long as the technical solution of the revised independent claim does not go beyond the scope of disclosure contained in the initial description and claims, such amendment shall be allowable.

Art. 31. 1 & 26. 4 (4) One or more claims are deleted to eliminate such defects as lacking unity between the initial first independent claim and the parallel independent claims, the claims being not concise as two claims have identical extent of protection, or the claims lacking support in the description. As such amendment does not go beyond the scope of disclosure contained in the initial claims and description, it is allowable.

Rule 21. 1 (5) The independent claim is correctly delimited from the closest prior art. As such amendment does not go beyond the scope of disclosure contained in the initial claims and description, it is allowable.

Rules 22. 1 & . 2 (6) The reference portion of the dependent claim is amended to correct the mistake of reference so as to accurately mirror the specific mode for carrying out the invention or embodiment described in the initial description. As such amendment does not go beyond the scope of disclosure contained in the initial claims and description, it is allowable.

Rules 20. 3 & 22. 1 (7) The characterizing portion of the dependent claim is amended to clearly define the extent of protection claimed by said dependent claim so as to accurately mirror the specific mode for carrying out the invention or embodiment described in the initial description. As such amendment does not go beyond the scope of disclosure contained in the initial claims and description, it is allowable.

Above is the explanation to the several allowable amend-

ments to the claims. Such amendments are allowable as they are in conformity with the provisions of Article 33. However, after the above-mentioned amendments, whether the claims meet other requirements of the Patent Law and its Implementing Regulations remains to be further examined by the examiner. For the amendments made in response to the Office Action, the examiner shall check whether the revised claims have overcome the defects indicated in the Office Action, whether the amendments have introduced any other defects. For the amendments made on the applicant's own initiative, the examiner shall judge whether, in the revised claims, there are any other defects which do not meet the requirements of the Patent Law and its Implementing Regulations.

5.2.2.2 Amendments to Description and Abstract Thereof

There are two kinds of amendments so far as the description is concerned: amendments to the defects of the description per se which do not meet the requirements of the Patent Law and its Implementing Regulations; and the amendments made to adapt to the revised claims. So long as the two kinds of amendments do not go beyond the scope of disclosure contained in the initial description and claims, they are allowable.

Rule 17

The allowable amendments to the description and its abstract include the following.

(1) The title of the invention is amended to enable it accurately and concisely reflect the title of the claimed subject matter. Where the categories of the independent claims cover product, process and use, all of the claimed subject matter shall be reflected in the title of the invention. The title of the invention shall be as brief as possible and it generally shall not exceed 25 Chinese characters. In special situations, for example, for some invention applications in the chemistry field, the title may be allowed to have up to 40 Chinese characters.

(2) The technical field to which the invention pertains is amended. Said field refers to the technical field reflected by the classification position of the International Patent Classification (IPC). In order to enable the public and the examiner to clearly understand the invention and the relevant prior art, the applicant is allowed to amend the technical field of the invention to

make it relevant to the corresponding field which is defined in the lowest classification position of the IPC.

(3)The part of "Background Art" is amended to make it consistent with the claimed subject matter of the invention. Where the independent claim is drafted according to the provisions of Rule 21,the relevant contents of the prior art described in the preamble portion of the claim shall be contained in the part of "Background Art" of the description,and the documents reflecting the background art shall be cited.If,through search, the examiner finds any reference documents which are even more related to the claimed subject matter of the invention than the prior art cited in the initial description by the applicant,the applicant shall be allowed to amend such part of the description by adding the contents of these documents and citing the documents. At the same time,the contents describing the unrelated prior art shall be deleted.It shall be noted that such amendment, in fact,has introduced the contents which are not contained in the initial claims and description.However,since the amendment relates just to the background art other than the invention per se,and the contents added are prior art already known to the public before the date of filing,it is allowable.

(4)The content in the part of "Contents of Invention" which relates to the technical problem to be solved by the invention is amended to make it more consistent with the claimed subject matter,i.e.,reflecting the technical problem to be solved by the technical solution of the invention with reference to the closest prior art.Of course,the amended contents shall not go beyond the scope of disclosure contained in the initial description and claims.

Rule 3.1

(5)The content in the part of "Contents of Invention" which relates to the technical solution of the invention is amended to make it adapted to the claimed subject matter of the independent claim.If amendments have been made to the independent claim which meet the requirements of the Patent Law and its Implementing Regulations,the corresponding amendments may be made in this part.If there is no amendment of the independent claim,such amendments as polishing of the language,standardization of the words and unifying the technical terms are allowable provided that the initial technical solution is not changed.

(6)The content in the part of "Contents of Invention" which relates to the advantageous effects of the invention is amended. Such amendment is allowable only when the technical feature(s) is clearly described in the initial application documents, but its advantageous effect is not mentioned clearly, and it can be deduced directly and unambiguously by a person skilled in the art from the initial documents.

(7)The description of the drawings is amended. Where the application documents contain the drawings, but there is no description of the drawings, it is allowable to add said description. Where the description of the drawing is not clear, the proper amendment according to the context of the application may be allowed.

(8)The best mode for carrying out the invention or embodiment is amended. Such amendment is generally limited to the addition of the source of the specific contents of the initial mode or embodiment and the standard measuring method of the described data reflecting the advantageous effects of the invention (including the standard equipment and/or appliance to be used). If it is found through search that part of the claimed subject matter of the initial application has become a part of the prior art, the applicant shall delete the contents reflecting such part of the subject matter or clearly indicate that such contents fall into the scope of prior art.

Rule 18

(9)One or more drawings are amended. This refers to the deletion of the unnecessary words and explanatory notes in the drawings, which may be then added into the text of the description; the amendment to the reference signs of the drawings to make it consistent with those in the text of the description; in order to make the structure of certain parts of the drawing sufficiently clear, the addition of the enlarged drawings of said parts is allowable so long as the description of the drawings is clear; amendment to the Arabic numbering of the drawings to make each drawing have a number.

Rule 23

(10)The abstract is amended. This refers to the amendment to the abstract to make it indicate the title of the invention and the technical field to which the invention pertains, clearly reflect the technical problems to be solved, the essential contents of the technical solution for solving said problems and the principal

Rule 18

uses; deletion of the commercial advertising; change of the drawing of the abstract to make it best reflect the main technical features of the invention.

(11) The obvious mistakes which can be discerned by a person skilled in the art, i.e., grammar, wording, or typing mistakes are corrected. The amendment to such mistakes shall be the only correct solution deduced by said person from the whole and the context of the description.

5.2.3 Disallowable Amendments

Art. 33

As a principle, any amendment to the description (and the drawings) and the claims that is not in conformity with the provisions of Article 33 is not allowable.

Specifically, if, after the addition, change and/or deletion of part of the contents of the application, the information as seen by a person skilled in the art is different from those described in the initial application and such information cannot be directly or unambiguously derived from those described in the initial application, such amendment shall not be allowable.

Here, the contents of the application refer to contents described in the initial description (and the drawings) and claims, not including the contents of any priority documents.

5.2.3.1 Disallowable Additions

The following additions are not allowable.

(1) The technical features which cannot be directly and definitely confirmed from the initial description (and the drawings) and/or claims are introduced into the claims and/or description.

(2) The information which cannot be directly and unambiguously determined from the initial description (and the drawings) and/or claims is added to make the disclosed invention clear or the claims complete.

(3) The contents added are the technical features relating to the parameter of size obtained by measuring the drawings.

(4) The additional component which has not been mentioned in the initial application documents is introduced, which leads to special effects which do not exist in the initial application.

(5) The useful effects which cannot be directly derived from the initial application by a person skilled in the art are added.

(6)The experimental data is added to illustrate the advantageous effects of the invention,and/or the specific mode for carrying out the invention or embodiment is added to prove that the invention can be carried out in the extent of protection claimed in the claims.

(7)The supplement of the drawings that are not mentioned in the initial application is generally not allowable.However,the supplement of drawing of the background art,or the replacement of the drawing of the well-known art contained in the initial drawings by the one of the closest prior art shall be allowable.

5.2.3.2 Disallowable Changes

The following changes are not allowable.

(1)The technical features of the claims are changed.Such amendment goes beyond the scope of disclosure contained in the initial claims and description.

[Example 1]

A kind of phonograph record case with the opening at one side is defined by the initial claim.A view of a case with opening at one side and the other three sides been glued is given in the drawings.If the applicant amends the claim as “a case with openings at least at one side”,while it has never been mentioned in any part of the description “there may be openings at more than one side”,such change has gone beyond the scope of disclosure contained in the initial claims and description.

[Example 2]

What is claimed in the initial claim is the component for manufacturing rubber.It cannot be replaced by the component for manufacturing elastic material,unless it is clearly indicated in the initial description.

[Example 3]

A kind of brake of bicycle is claimed in the initial claim,and the applicant amends it as a kind of brake of vehicle.This amended technical solution cannot be directly derived from the initial claims and description.Such amendment has also gone beyond the scope of disclosure contained in the initial claims and description.

[Example 4]

The component or part which has specific structure features

is replaced by "functional term+means" which cannot be directly derived from the initial application documents. Such amendment has gone beyond the scope of disclosure contained in the initial claims and description.

(2) New contents are introduced by changing indefinite contents into definite and specific contents.

For example, there is an invention application relating to the synthesis of a high molecular compound. It is just indicated in the initial application documents that the polymerization reaction

is carried out at "higher temperature". When the applicant knows that it is indicated in a reference document cited by the examiner that the same reaction is carried out at the temperature of 40°C, he changes the "higher temperature" to "temperature higher than 40°C". Although "temperature higher than 40°C" falls into the scope of "higher temperature", a person skilled in the art is unable to draw a conclusion that "higher temperature" refers to "temperature higher than 40°C" from the initial application documents. Therefore, such amendment has introduced new contents.

(3) Several separate features of the initial application documents are combined as a new feature while the interrelations of these separate features are not mentioned definitely in the initial application documents.

(4) Certain feature described in the description is changed to make the changed technical contents different from those described in the initial application documents. Such amendment goes beyond the scope of disclosure contained in the initial description and claims.

[Example 1]

Several embodiments of different layered arrangements are described in the initial application documents of an invention application relating to a multi-layer laminated panel, one of which has an outer layer of polyethylene. If the applicant makes the amendment of altering the polyethylene to polypropylene, it is not allowable because the laminated panel after amendment is totally different from the originally described one.

[Example 2]

The content of "such as helical springs supports" is described in the initial application documents, and after the amendment,

said content in the description is altered to “resilient supports”, which leads to the broadening of specific helical springs supports to all the possible resilient supports. Such amendment makes the technical contents go beyond the scope of disclosure contained in the initial description and claims.

[Example 3]

The temperature condition defined in the initial application documents is 10°C or 300°C, whereas said temperature condition in the description is amended to be 10°C-300°C later. If the range of temperature cannot be directly and unambiguously derived from the contents described in the initial application documents, the amendment goes beyond the scope of disclosure contained in the initial description and claims.

[Example 4]

The content of a certain component of a composition defined in the initial application documents is 5% or 45%-60%, whereas said content in the description is amended to be 5%-60% later. If the range of content cannot be directly and unambiguously derived from the contents described in the initial application documents, the amendment goes beyond the scope of disclosure contained in the initial description and claims.

5.2.3.3 Disallowable Deletions

The following deletions are not allowable.

(1) The technical features which are definitely determined as the essential technical features of the invention in the initial application are deleted from the independent claim, i.e., the technical features which are described as the essential technical features throughout the initial application are deleted; or a technical term which is related to the technical solution described in the description is deleted from the claims; or the technical feature which is affirmed clearly in the description as relating to the specific application scope is deleted from the claims.

For example, “a sidewall with rib” is changed into “a sidewall”. For another example, the initial claim is “a seal of rotative axis for use in a pump...”, while the amended claim is “a seal of rotative axis”. Such amendments are not allowable because the basis of the amendments cannot be found in the initial description.

(2) Some contents are deleted from the description, which makes the amended description go beyond the scope of disclosure contained in the initial description and claims.

For example, several embodiments of different layered arrangements are described in the description of an invention application relating to a multi-layer laminated panel, one of which has an outer layer of polyethylene. If the applicant makes amendment of deleting the outer layer of polyethylene, it is not allowable because the laminated panel after amendment is completely different from the originally described one.

(3) If no other numerical value within the initial numerical range of a certain technical feature is described in the initial description and claims, while novelty and inventive step are prejudiced by the contents disclosed in reference documents, or the invention cannot be carried out when said feature adopts certain parts of the initial numerical range, in view of these two situations, the applicant has to use a specific "disclaimer" to exclude said parts from the initial numerical range so that the numerical range of the claimed technical solution does not include said parts obviously as a whole, such amendment shall not be allowed because the amendment has gone beyond the scope of disclosure contained in the initial description and claims, with the exception that the applicant can prove, in accordance with the contents described in the initial application, that the invention cannot be carried out when said feature adopts the "disclaimed" numerical value, or the invention possesses novelty and involves an inventive step when said feature adopts the numerical value after the "disclaimer". For example, the numerical range in the claimed technical solution is $X_1=600-10000$, the only difference between the technical contents disclosed in the reference documents and said technical solution is that said numerical range in the former is $X_2=240-1500$. As X_1 and X_2 overlap partially, the claim does not possess novelty. The applicant uses the specific "disclaimer" to amend X_1 , excluding from X_1 the portion that X_1 and X_2 overlap, i.e., 600-1500, thus, said numerical range of the claimed technical solution is changed to be from $X_1 > 1500$ to $X_1=10000$. If the applicant can neither prove that the inventions within the numerical range from $X_1 > 1500$ to $X_1=10000$ involve inventive step with reference to those within the $X_2=240-1500$ range described

in the reference documents based upon the initially disclosed contents and the prior art, nor prove that the invention cannot be carried out when X is within 600-1500, such amendments shall not be allowed.

5.2.4 Specific Form of Amendment

5.2.4.1 Submission of Replacement Sheet

In accordance with the provisions of Rule 52, when an amendment to the description or the claims is made, a replacement sheet in prescribed form shall be submitted. There are two ways for the submission of the replacement sheet.

(1) The retyped replacement sheet is submitted with the table of comparison of the amendments.

This applies to the description and/or claims with many amendments, and all the amended drawings. At the time when the applicant submits the replacement sheet, he shall submit a detailed table of comparison between the amendments made and the initial documents.

(2) The retyped replacement sheet is submitted with the page of comparison of the amendments which are made on the duplicate of the original page.

This applies to the description and/or claims with few amendments. At the time when the applicant submits the retyped replacement sheet, he shall submit the page of comparison of the amendments made on the duplicate of the original page, which may enable the examiner to find out the amendments more easily.

Rules 52 & 51.4 5.2.4.2 Amendment by Examiner Ex Officio

Usually, the amendments to the application shall be submitted by the applicant in the form of formal documents. As for amendments for the alteration, addition or deletion of few words or marks, as well as the amendments to the obvious mistakes in the title of the invention or the abstract (see Sections 5.2.2.2 (11) and 6.2.2 of this Chapter), the examiner may carry out ex officio and inform the applicant. At this time, the examiner shall use a pen, signature pen or ball-pen, rather than a pencil, to make clear and distinct amendments.

6.Decision of Rejection and Notification to Grant Patent Right

The examiner shall finish the substantive examination of an application within the time as short as possible.Usually,the examiner may make the decision of rejection or issue Notification to Grant Patent Right after one or two Office Actions.Once said decision or notification is issued,any observations,response or amendment from the applicant shall be no more considered.

6.1 Decision of Rejection

6.1.1 Conditions of Rejection of Application

Art. 38

Before making the decision of rejection,the examiner shall notify the applicant the facts,grounds and evidence confirmed by substantive examination upon which the conclusion is based that the application is considered to fall into one of the circumstances where an application shall be rejected as specified in Rule

53,and provide at least one opportunity for the applicant to make the observations and/or amendments.

The decision of rejection shall usually be made after the second Office Action.However,If the applicant,within the time limit specified in the first Office Action,has not put forward any convincing observations and/or evidences for rejectable defects as indicated in the Office Action,or has not amended the application documents in answer to such defects,or the amendments have only corrected the wrongly written characters or altered the presentations without modifying the technical solution substantially,the examiner may make a decision of rejection directly.

If the applicant amends the application documents,another opportunity to make further observations and/or amendments to the application documents shall be provided to the applicant as long as the facts upon which the rejection is based have changed, even if the defects which can be rejected by the grounds and evidence previously notified to the applicant still exist in the amended application documents.However,where the later amendments concern the same kinds of defects,if the defects which can be rejected by grounds and evidence previously notified to the applicant still exist in the amended application documents,the

examiner may make a decision of rejection directly without issuing another Office Action so as to comply with both the principle of hearing and the principle of procedural economy.

6.1.2 Circumstances of Rejection

Various circumstances where an invention application shall be rejected as provided for in Rule 53 are as follows:

- | | |
|------------------|---|
| Art. 5 & 25 | (1)the subject matter of the application is contrary to the laws or social morality or is detrimental to public interest,or it is developed relying on the genetic resources,the acquisition or use of which is not consistent with the provisions of the laws and administrative regulations,or it is one of the objects mentioned in Article 25 for which no patent right shall be granted; |
| Art. 2. 2 | (2)the application is not a new technical solution relating to a product,a process,nor improvement thereof; |
| | (3)the invention contained in the application has been developed in China,and the applicant does not request the Patent Office for confidentiality examination before filing the application for patent abroad; |
| Art. 22 | (4)the invention in the application lacks novelty,inventive step or practical applicability; |
| Art. 26. 3 & . 4 | (5)the application does not sufficiently disclose the claimed subject matter; or the claim is not supported by the description, or the claim does not define the extent of the patent protection sought for in a clear and concise manner; |
| Art. 26. 5 | (6)the application is for an invention-creation developed relying on the genetic resources,however,the applicant fails to indicate the direct or original source of such genetic resources in the patent application documents; where the original source can not be indicated,the reasons thereof is not stated either; |
| Art. 31. 1 | (7)the application does not meet the requirement of unity as provided for by the Patent Law; |
| Art. 9 | (8)the subject matter of the application shall not be granted according to Article 9; |
| Art. 20. 2 | (9)the independent claim lacks essential technical features for solving the technical problem;or |
| Art. 33 | (10)the amendment to the application or the divisional application |
| Rule 43. 1 | goes beyond the scope of disclosure contained in the initial description and the claims. |

6.1.3 Formation of Decision of Rejection

The decision of rejection consists of the following two parts.

(1) Standard Form

Each item of the standard form shall be filled in completely according to the requirements; where there are two or more applicants, all the names of the applicants shall be filled in (see Chapter 6, Section 1.2 of Part V of these Guidelines).

(2) Text of decision of rejection

The text of decision of rejection includes three parts: brief of the case, grounds for rejection and conclusion.

6.1.4 Drafting of Text of Decision of Rejection

6.1.4.1 Brief of the Case

In this part, the process of examination of the application shall be briefly stated, including especially the information relating to the decision of rejection, i.e., all of the observations (including the relevant evidence) and the summaries of the responses of the applicant, defects of the application which are the grounds for rejection, and the text of the application upon which the decision of rejection is based.

6.1.4.2 Grounds for Rejection

In this part, the examiner shall expound explicitly the facts, grounds and evidence upon which the decision of rejection is based, and special attention shall be paid to the following points.

(1) The provisions shall be applied correctly. Where different provisions may be applied simultaneously to reject the application, the most suitable, predominant provisions shall be selected to form the main legal basis of the rejection, in the meanwhile, other substantive defects existing in the application shall be indicated briefly.

(2) Convincing facts, grounds and evidence shall be taken to form the basis of rejection, and the hearing of these facts, grounds and evidence has satisfied the rejection requirements for an application mentioned in Section 6.1.1 of this Chapter.

(3) For applications which are not in conformity with the provisions of Article 22 and to which no patent right shall be

granted even after the amendment, analysis shall be made to each of the claims one by one.

The grounds for rejection shall be sufficient and convincing, rigorous in logic and appropriate in wording. The examiner shall not only cite the relevant Articles and/or Rules or only make a conclusion. Brief comments of the examiner shall be made in this part on the arguments of the applicant.

6.1.4.3 Conclusion

In this part, the examiner shall indicate in which case as listed in Rule 53 the grounds for rejection of the present application is, and reach the conclusion of rejecting the application in light of Article 38.

6.2 Notification to Grant Patent Right

6.2.1 Conditions for Issuing Notification to Grant Patent Right

Art. 39
Rule 54.1

Where it is found after substantive examination that there is no grounds for rejection, the Patent Office shall make a decision to grant the patent right. Before the decision to grant the patent right is made, a Notification to Grant Patent Right for Invention shall be issued. The text to which the right is granted must be the final text confirmed by the applicant in written form.

6.2.2 Work Involved in Issuing Notification to Grant Patent Right

The examiner is allowed to make the following amendments or rectifications to the text to which the patent right shall be granted ex officio before the Notification to Grant Patent Right is issued (see Section 5.2.4.2 of this Chapter):

Rule 54.1

(1) the description: amendment of the obviously inappropriate title of the invention and/or technical fields to which the invention pertains; rectification of wrongly written characters and errors in symbols, marks, etc.; amendment of the terms that are obviously non-standard; addition of the missing titles of the various part of the description; and the deletion of the unnecessary explanatory notes in the drawings;

(2) the claims: rectification of wrongly written characters and errors in punctuation marks or in the reference signs of the drawings; the enclosing of the reference signs of the drawings

with brackets, etc. However, any amendment that may lead to the change of the scope of protection does not fall into the range of amendments ex officio;

(3) the abstract: rectification of the inappropriate contents and obvious mistakes in the abstract.

The above-mentioned amendments or rectifications made by the examiner shall be notified to the applicant.

The following work shall also be conducted sequentially by the examiner: filling in the IPC symbols of the patent identified by himself on the cover of the file and submitting the file to the person of his Division who is responsible for the verification of the IPC symbols; putting the text to which the patent right is going to be granted in the gazette pouch; filling in the prescribed items on the punch and affixing his seal to it; filling in the Notification to Grant Patent Right (standard Form) in duplicate, after affixing the seal to them, binding one in the file and putting the other in the folder of the inner cover of the application file; preparing a complete set of the file and filling in on the front and the back cover of the file the record of handing-over of the file and the record of outgoing the documents at the time of granting the patent right. Where the title of the invention has been amended by the applicant, the right of priority has been changed after verification, or after verification the IPC symbols has been rectified, it is also necessary to fill in the Notification of Change in Bibliographic Data in duplicate, one is bound before the front page of the first binding strip of the file, and the other is put in the folder of the inner cover.

7. Termination, Suspension and Resumption of Procedure for Substantive Examination

7.1 Termination of Procedure

The procedure for substantive examination shall be terminated if the examiner makes a decision of rejection and the decision has entered into force, or the Notification to Grant Patent Right has been issued, or the applicant withdraws the application on his own initiative, or the application is deemed to be withdrawn.

As for the rejected or granted application, the examiner shall

indicate "rejection" or "grant" in the item of "substantive examination" on the cover of the file, and affix seal to it.

The examiner shall establish a personal examination file for each application for further consultation or for statistics purposes (see Section 3.3 of this Chapter).

7.2 Suspension of Procedure

The procedure for substantive examination may be suspended upon the request of the interested party concerned to a dispute relating to the ownership of the right to apply for a patent in accordance with Rule 86.1, or may be suspended due to assets preservation. Once the examiner receives the Notification of Suspension of Procedure and Recalling of File, he shall return the file to the proceeding administration department within the prescribed time limit.

7.3 Resumption of Procedure

When termination of the procedure of an application results from that the application is deemed to be withdrawn because the time limit as prescribed in the Patent law and its Implementing Regulations or specified by the Patent Office is not observed due to force majeure or any justified reason, according to the provisions of Rule 6.1-6.2, the applicant may request the Patent Office to resume the terminated procedure for substantive examination. Where the right is resumed, the Patent Office shall resume the procedure for substantive examination.

Rule 86.3

For the procedure suspended upon the request of the interested party concerned to a dispute relating to the ownership of the right to apply for a patent, after the Patent Office receives the mediation agreement or written judgment which has entered into force, the procedure shall be resumed immediately if no change in the right owner is involved. Where there is a change in the right owner, the procedure shall be resumed after the formalities of amendment of bibliographic data have been gone through. If, within one year from the date when the request for suspension is filed, no decision is made on the dispute relating to the ownership of the right to apply for a patent, and the person who requested for the suspension does not request for an extension of the suspension, the Patent Office shall resume the proce-

dures for substantive examination on its own initiative.

After receiving the written notice to resume the examination procedure and the patent application file from the proceeding administration department, the examiner shall re-start the procedure for substantive examination.

8. Interlocutory Examination and Continuation of Examination after Reexamination

In accordance with Rule 62, the examiner shall perform interlocutory examination on the request for reexamination transferred by the Patent Reexamination Board, and an Office Action shall be made within one month from the date of receiving the file, which will be transferred to the Patent Reexamination Board with the file. The Board shall make a reexamination decision. For the requirements of interlocutory examination, the provisions of Chapter 2, Section 3 of Part IV of these Guidelines shall apply.

Rule 63.2

After the Board makes a decision of withdrawing the decision of rejection of the Patent Office, the examiner shall continue the examination of the application. For the requirements of continuation of the examination, the provisions of this Chapter shall apply. However, in the continuation of the examination, the examiner shall not make a decision of rejection which is opposite to the decision of reexamination based on the same facts, grounds and evidence (see Chapter 2, Section 7 of Part IV of these Guidelines).

Rule 63.2

Chapter 9 Some Provisions on Examination of Invention Applications Relating to Computer Programs

1.Introduction

Examination of invention applications relating to computer programs has certain characteristics. This Chapter is to present the specific provisions for the examination characteristics of invention applications relating to computer programs based on the provisions of the Patent Law and its Implementing Regulations.

Invention applications relating to computer programs also share common general characteristics with invention applications in other fields. The general proceedings of examination not mentioned in this Chapter shall comply with the provisions set forth in other chapters of these Guidelines when invention applications relating to computer programs are examined.

Computer programs per se said in this Chapter mean a coded instruction sequence which can be executed by a device capable of information processing, e.g., a computer, so that certain results can be obtained, or a symbolized instruction sequence, or a symbolized statement sequence, which can be transformed automatically into a coded instruction sequence. Computer programs per se include source programs and object programs.

The invention relating to computer programs said in this Chapter refers to solutions for solving the problems of the invention which are wholly or partly based on the process of computer programs and control or process external or internal objects of a computer by the computer executing the programs according to the above mentioned process. The said control or process of external objects includes control of certain external operating process or external operating device, and process or exchange of external data, etc.; the said control or process of internal objects includes improvement of internal performance of computer systems, management of internal resources of computer systems, and improvement of data transmission, etc. Solutions relating to computer programs do not necessarily include changes to computer hardware.

2.Examination Criteria of Invention Applications Relating to Computer Programs

Examination shall focus on solutions for which protection is sought for,i.e.,solutions defined by each claim.

In accordance with Article 25.1(2),no patent rights shall be granted for the rules and methods for mental activities.Invention applications relating to computer programs fall under the situations described in Chapter 1,Section 4.2 of this part shall be examined under principles thereof.

(1)If a claim merely relates to an algorithm,or mathematical computing rules,or computer programs per se,or computer programs recorded in mediums(such as tapes,discs,optical discs,magnetic optical discs,ROM,PROM,VCD,DVD,or other computer-readable mediums),or rules or methods for games,etc.,it falls into the scope of the rules and methods for mental activities and does not constitute the subject matter for which patent protection may be sought.

If all the contents of a claim,except its title of the subject matter,merely relate to an algorithm,or mathematical computing rules,or programs per se,or rules or methods for games,etc.,the claim essentially merely relates to rules and methods for mental activities,and does not constitute the subject matter of patent protection.

For example,computer-readable storage medium or a product of computer program that is merely defined by recorded program, or devices for computer games,etc.,which are merely defined by game rules and does not include any technical features,e.g.,those do not include any physical entity,does not constitute the subject matter of patent protection because it essentially merely relates to rules and methods for mental activities.However,the claimed medium in a patent application relating to physical characteristics improvement thereof,for example,layer composition,magic channel spacing,materials,etc.,does not fall into the cases mentioned above.

(2)Besides cases said in (1),if all the contents of a claim include not only rules and methods for mental activities but also technical features,for example,the contents defining the above mentioned devices for computer games include rules for games

and technical features as well, then the claim as a whole is not rules and methods for mental activities, and shall not be excluded from patentability in accordance with Article 25.

In accordance with Article 2.2, "invention" in the Patent Law means any new technical solution relating to a product, a process or improvement thereof. An invention application relating to computer programs is the subject matter of patent protection only if it constitutes a technical solution.

If the solution of an invention application relating to computer programs involves the execution of computer programs in order to solve technical problems, and reflects technical means in conformity with the laws of nature by computers running programs to control and process external or internal objects, and thus technical effects in conformity with the laws of nature are obtained, the solution is a technical solution as provided for in Article 2.2 and is the subject matter of patent protection.

If the solution of an invention application relating to computer programs involves the execution of computer programs not in order to solve technical problems, or does not reflect technical means in conformity with the laws of nature by computers running programs to control and process external or internal objects, or the effect obtained is not restrained by the laws of nature, the solution is not a technical solution as provided for in Article 2.2, and is not the subject matter of patent protection.

For example, if the solution of an invention application relating to computer programs involves the execution of computer programs in order to perform control of an industrial process, a measurement or test process, completes a series of control during various stages of industrial process in accordance with the laws of nature through execution of a kind of industrial process control program by a computer, and thus industrial process control effects in conformity with the laws of nature are obtained, the solution is a solution as provided for in Article 2.2 and is the subject matter of patent protection.

If the solution of an invention application relating to computer programs involves execution of computer programs in order to process a kind of external technical data, completes a series of technical process on the technical data in accordance with the laws of nature through execution of a kind of technical data

process program by a computer, and thus technical data process effects in conformity with the laws of nature are obtained, the solution is a solution as provided for in Article 2.2 and is the subject matter of patent protection.

If the solution of an invention application relating to computer programs involves execution of computer programs in order to improve the internal performance of a computer system, completes a series of setting or configuration to parts of a computer system in accordance with the laws of nature through execution of a kind of system internal performance improvement program by a computer, and thus internal performance improvement effects of the computer system in conformity with the laws of nature are obtained, the solution is a solution as provided for in Article 2.2 and is the subject matter of patent protection.

3.Examination Examples for Invention Applications Relating to Computer Programs

The following are examination examples for invention applications relating to computer programs based on the above examination criteria.

(1) Invention applications relating to computer programs that fall into the scope of Article 25.1(2) are not subject matters of patent protection.

[Example 1]

A method to solve the ratio of the circumference of a circle to its diameter using computer programs

Application summary

The solution of the invention application is a method to solve the ratio of the circumference of a circle to its diameter by computer program. According to this method, a square is first divided by evenly distributed "dots" which are sufficiently accurate; next an inner circle of the square is drawn; then the ratio of the circumference of a circle to its diameter π is solved by a computer program. The computer program first carries out a pulse counting of the "dots" which are evenly distributed throughout the said square, and then calculates and obtains the ratio of the circumference of a circle to its diameter π according to the following formula:

$$\pi = \frac{\sum \text{count value of the "dots" in the circle}}{\sum \text{count value of the "dots" in the square}} \times 4$$

In the calculation, the closer the "dots" are located, the more accurate the ratio of the circumference of a circle to its diameter π is.

Claims of the application

A method to solve the ratio of the circumference of a circle to its diameter using computer programs, characterized in that it includes the following steps:

calculating the number of "dots" in a square;

calculating the number of "dots" in the inner circle of the said square;

solve the ratio of the circumference of a circle to its diameter using formula

$$\pi = \frac{\sum \text{count value of the "dots" in the circle}}{\sum \text{count value of the "dots" in the square}} \times 4$$

Analysis and conclusion

This solution merely relates to a pure mathematical computing method or rule executed by computer programs, and is essentially an abstract thinking method of human, therefore, this invention application belongs to rules and methods for mental activities as provided for in Article 25.1(2) and is not the subject matter of patent protection.

[Example 2]

A method of automatically computing the coefficient of kinetic friction μ

Application Summary

The solution of the invention application relates to a method of computing the coefficient of kinetic friction μ using computer programs. The traditional method to measure the coefficient of kinetic friction is to draw the restiform body to be measured at a fixed speed by a device so as to obtain the position variables of the friction plate S1 and S2 respectively, and then to calculate the coefficient of kinetic friction μ of the restiform body according to the following formula:

$$\mu = (\log S_2 - \log S_1) / e$$

Claims in the application

A method of automatically computing the coefficient of kinetic

friction μ using computer programs, characterized in that it

includes the following steps:

calculating the ratio of the position variables, S_1 and S_2 , of the friction plate;

calculating the logarithm, $\log S_2/S_1$, of the ratio S_2/S_1 ;

solving the ratio of the logarithm $\log S_2/S_1$ to e .

Analysis and conclusion

The solution is not an improvement of the measurement method but a numerical computing method executed by a computer program, although what to be solved relates to physical quantity, the solving process is a kind of numerical computing, and the solution on the whole is a mathematical computing method. Therefore, this invention application belongs to rules and methods for mental activities as provided for in Article 25.1(2) and is not the subject matter of patent protection.

[Example 3]

A general transition method for global language characters

Application summary

Existing automatic translation systems are merely one-to-one, one-to-multiple, or multiple-to-multiple language processing systems, which have the problems of complicated programs, and different, complex and a large number of notation methods for various parts of speech. To overcome the problems, the invention application presents a unified translation method for any global language realizing unification of grammar, syntax of different languages by means of "global language character input method" which is the same as the Esperanto auxiliary language notation method, and Esperanto and Esperanto auxiliary language are used as the inter-language of machine translation during language transition.

Claims in the application

A general transition method for global language characters by computers, which includes the following steps:
forming corresponding auxiliary language of the input language by first using consonant word-notation, then consonant sentence-notation uniformly after words;
completing language transition using the corresponding relationship between inter-language and auxiliary language of the input language, and the said inter-language are Esperanto and Esperanto

auxiliary language;

characterized in that the said methods for word-notation and sentence-notation of input language are the same as those of forming Esperanto auxiliary language, the said word-notation method is: -m means noun, -x means adjective, -y means plural, -s means quantifier, -f means adverb; the said sentence-notation method is: -z means subject, -w means predicate, -d means attribute, -n means object, -b means complement including predicative, and -k means adverbial modifier.

Analysis and conclusion

Although the title of the subject matter of this solution includes computer, all the contents thereof merely realize unified translation transition for global languages by unified translation inter-language and regulating the input rules for global language characters artificially. The solution is not an improvement of the machine translation, and does not embody the improvement of the combination between intrinsic objective language characteristics of different languages and the computer technology in the machine translation, but relates to the re-regulation and re-definition of the transition rules for language characters based on the inventor's own subjective understanding, and merely embodies the unifying of the corresponding relationship between the auxiliary language of the input language and the inter-language into the word-notation and sentence-notation rules of the Esperanto auxiliary language, thus is essentially rules and methods for mental activities as provided for in Article 25.1(2), and is not the subject matter of patent protection.

(2) Invention applications relating to computer programs that use technical means in order to solve technical problems and obtain technical effects are technical solutions as provided for in Article 2.2, and therefore are subject matters of patent protection.

[Example 4]

A method for controlling a die forming process of rubber

Application summary

The invention application relates to a method for controlling a die forming process of rubber using computer programs. The said computer program accurately controls, in real time, the time of vulcanization of the rubber in the forming process, thus can

rectify the defects of over-vulcanization and under-vulcanization, which often occur in the existing process, and can greatly improve the quality of the rubber products.

Claims in the application

A method for controlling a die forming process of rubber by using computer programs, characterized in that it includes the following steps:

sampling rubber vulcanization temperature through temperature sensor;

computing positive vulcanization period in the vulcanization process for rubber product in response to the vulcanization temperature;

determining whether the said positive vulcanization time reaches required positive vulcanization time;

sending vulcanization halt signal if the said positive vulcanization time reaches required positive vulcanization time.

Analysis and conclusion

This solution is a method for controlling a die forming process of rubber by using computer programs in order to solve the problem of over-vulcanization and under-vulcanization of rubber, which is a technical problem. The solution is a method by which a die forming process of rubber is controlled through execution of computer programs. Therefore what it reflects is the accurate and real-time control over rubber vulcanization time based on rubber vulcanization principles, and what it utilizes is the technical means in conformity with the laws of nature. Because of the accurate and real-time control over vulcanization time, the quality of rubber product is improved greatly. Therefore, what are obtained by the method are technical effects. Thus, this invention application is a solution performing industrial process control through execution of computer programs, which belongs to technical solutions as provided for in Article 2.2 and is the subject matter of patent protection.

[Example 5]

A method for enlarging storage capacity of mobile computing devices

Application summary

Existing mobile computing devices, e.g., portable computer, mobile telephone, etc., usually use small-storage-capacity flash

memory card as storage medium due to its size and the requirement of portability,hence,the mobile computing devices cannot process multimedia data which need large storage capacity due to storage capacity limits,and multimedia technology cannot be applied in mobile computing devices.The invention application provides a method of enlarging storage capacity of mobile computing devices using virtual device file systems,so that mobile computing devices can use large storage space on servers for local applications.

Claims in the application

A method for enlarging storage capacity of mobile computing devices using virtual device file systems characterized in that

it includes the following steps:

building up a virtual device file system module on a mobile computing device,and hanging it on the operating systems of the mobile device;

providing virtual storage space to applications on the mobile computing device through the virtual device file system module, and sending read/write request on the virtual storage space to the remote server through network;

converting read/write request from the mobile computing device to read/write request on local storage devices on the remote server,and sending read/write result back to the mobile computing device through network.

Analysis and conclusion

This solution is a method for improving storage capacity of mobile computing device,therefore what it solves is a technical problem on how to increase effective storage capacity of mobile computing devices,e.g.,portable computers.This solution is a method by which internal operating performance of mobile computing devices is improved through execution of computer programs. Therefore,what it reflects is to build up virtual storage space on local computers through virtual device file system module and convert access to local storage devices into access to storage devices on servers.What it utilizes is technical means in conformity with the laws of nature,and what is obtained is the technical effect that data storage is not restrained by storage capacity of mobile computing devices.Thus,this invention application is a solution realizing internal performance improvement of computer

systems through execution of computer programs, which belongs to the solutions as provided for in Article 2.2, and is the subject matter of patent protection.

[Example 6]

A method of removing image noise

Application summary

Prior art usually adopts the approach of mean filter, i.e., replacing pixel value of the noise with the mean value of pixels surrounding the noise, to remove image noise, however, it will decrease the grey difference of neighboring pixels, and render the image to blur. The invention application proposes a method of removing image noise, in which, based on 3 σ principle in probability statistical theory, the pixel whose grey value is greater or less than the mean value with more than 3 times variance are regarded as noise and is removed, while whose grey value is within 3 times variance above or below the mean value will not be modified. Thus, according to the invention, not only image noises are removed effectively, but image blur phenomena caused by removing image noise can be reduced as well.

Claims in the application

A method for removing image noises characterized in that it includes the following steps:

- obtaining every pixel data of the image to be processed in a computer;

- computing the grey mean value and the grey variance of the said image from the grey values of all the image pixels;

- reading the grey values of all the image pixels, and determining whether the grey value of every pixel is within 3 times variance above or below the mean value, if yes, then not modifying the said pixel grey value, otherwise, regarding the pixel as a noise, removing it by modifying its grey value.

Analysis and conclusion

What this solution solves is a technical problem on how to remove the image noise effectively and meanwhile reduce the image blur phenomena due to image noise processing. This solution is a method by which noises of image data are removed through execution of computer programs. Therefore, what it reflects is the approach of taking pixels whose grey value are greater or less than mean value with more than 3 times variance as noises and

removing them, and taking pixels whose grey value are within 3 times variance above or below the mean value as image signal and not modifying their gray value, thus avoiding the drawback of replacing all the pixels with mean value in the prior art. What it utilizes is technical means in conformity with the laws of nature. According to the invention, the effect of the effective removal of image noise and the decrease of image blur phenomena due to image noise removal can be obtained. In the meantime, the computing amount of the system is reduced due to obvious decrease of replaced pixels, and the speed and quality of image process are increased. Thus, what is obtained by the method of the invention is technical effect. Therefore, the invention application is a solution realizing external technical data processing through execution of computer programs, which belongs to technical solutions as provided for in Article 2.2 and is the subject matter of patent protection.

[Example 7]

A method of measuring liquid viscosity by using computer programs

Application summary

Liquid viscosity is a frequently used and important technical parameter in liquid producing and applying process. Common liquid viscosity measuring method is performed manually by use of rotational measuring device. According to the common method, first, an engine drives the rotor to rotate in the liquid, the rotating angle of the rotor is reflected through the rotating angle of the pointer on the dial, then the rotating angle on the dial is read, and the liquid viscosity is obtained. Ensuing problems are the measurement process is done manually, measuring speed is slow, accuracy is low, and therefore the method does not suit for real-time live measurement. The invention application proposes a

liquid viscosity measuring method controlled by computer programs, by which the process of data collecting, data processing and data presentation for liquid viscosity measurement are controlled automatically through execution of computer programs, thus the real-time liquid viscosity measurement on site can be realized.

Claims in the application

A method of measuring liquid viscosity using computer programs characterized in that it includes the following steps:

determining suitable rotating speed for sensor rotor through preset parameter signal processing program in terms of liquid type;

starting the sensor rotor and making it shear rotate in the liquid at the said rotating speed by the sensor rotor control program, and converting liquid sticky resistance value detected by the sensor rotor into circuit signal;

calculating the liquid viscosity basing on the said circuit signal by sensor rotor signal processing program, and sending the calculated viscosity value to the LCD for display, or sending it to the production control center through communication ports.

Analysis and conclusion

This solution is a method for measuring liquid viscosity. What it solves is the technical problem on how to improve the speed and accuracy of liquid viscosity measurement. The solution is a method by which liquid viscosity measuring process is controlled through execution of computer programs. What it reflects is the automatic control over the sensor rotor working process, including selection of sensor rotor rotating speed, starting running status, etc., the process of collected technical data processing, and the process of displaying measuring result. What it utilizes is the technical means in conformity with the laws of nature, and what is obtained is the technical effect of the real-time measurement of liquid viscosity on site, and the improvement of speed and accuracy of liquid viscosity measurement. Therefore, this invention application is a solution realizing measurement or testing process control through execution of computer programs, which belongs to the technical solutions as provided for in Article 2.2 and is the subject matter of patent protection.

(3) Invention applications relating to computer programs which do not solve technical problems, or do not utilize technical means, or do not obtain technical effects, are not technical solutions as provided for in Article 2.2, and therefore are not subject matter of patent protection.

[Example 8]

A method for computer game

Application summary

In terms of existing computer game types, one type is to achieve learning while playing through the question and answer

approach, the other is the grown-up type game, realizing the change of game roles and game environment based on the grownup of game roles. The invention application combines the merits of the said two types of games into one single computer game, realizing the change of game roles and game environment through the question and answer approach in the game. This game method provides one game interface to users, and displays corresponding questions according to game progress; when users input answers to the questions, determines whether the said answers are right or not in order to determine whether or not to change the level, equipment or environment of the game role run by users.

Claims in the application

A computer game method featured with both grown-up type and question-and-answer type for users, characterized in that it includes:

questioning step, selecting question materials corresponding to the game progress from stored question materials, answer materials corresponding to the said question materials and game progress materials when users enter the game environment through computer game devices, and displaying the question materials to users;

score determining step, determining whether or not answers input by users are the same as the stored answer materials corresponding to the said questions based on presented question materials, if yes, then go to the next step, if no, then go back to the questioning step;

changing game status step, determining the level, equipment, or environment of game roles run by users based on the result in the score determining step and stored score recording materials for question and answer. If the number of right answers reaches certain level, then the level, equipment or environment thereof will be upgraded or increased accordingly; if the number of right answers does not meet certain requirements, the level, equipment or environment thereof will not be changed.

Analysis and conclusion

This solution is to combine question-and-answer type and grown-up type game together into one computer game method through computer executing the well-known programs for processing control over question-and-answer type game. This method

makes game roles and environment change correspondingly in the question and answer process by means of question-and-answer and game role status change. Although, according to this solution, users access into computer gaming environment by gaming devices and game process is controlled through execution of computer programs, the said gaming devices are well-known gaming devices, control over the said game process neither improves the internal performance of game devices, e.g., data transmission, internal resource management, etc., nor causes any technical change to the composition or function of the said game devices. The aim of said solution is to combine characteristics of two types of games based on human will, and thus does not constitute a technical problem. What it utilizes is not technical means but to combine both question-and-answer and grown-up type games based on man-made activity rules. What is obtained is not technical effect but merely the effect of management and control of combining process of question-and-answer type game and grownup type game, which is merely management and control of game process or game rules. Therefore, this invention application is not the technical solution as provided for in Article 2.2 and is not the subject matter of patent protection.

[Example 9]

A system for learning foreign language with active selection of learning contents

Application summary

For existing systems for learning foreign language with computers as assisting tools, learning contents are preset, and users must learn these preset contents instead of determining learning contents according to their language proficiency. According to the invention application, which enables user to select learning materials based on his needs, first, the user inputs the said materials into the system; second, the system divides sentences of the materials into multiple sentence units through execution of programs; third, the user reorders divided sentence units into sentences and inputs the reordered sentences into the system; finally, the system compares the reordered sentences with the original ones through execution of programs, scores based on preset scoring criteria, and outputs the scores to the user.

Claims in the application

A system for learning foreign language with active selection of learning contents characterized in that it includes:

learning machine, into which a user input selected learning materials;

file receiving module, receiving language files input by the user;

file dividing module, dividing the said language file into at least one independent sentence;

sentence dividing module, dividing the said independent sentences into multiple divided units;

sentence-making language learning module, outputting the said divided units to the user, receiving reordered sentences from the user, comparing the said independent sentences with reordered sentences input by the user, scoring based on preset scoring criteria, and outputting the score to the user.

Analysis and conclusion

This solution is to form a learning system by a set of computer program function modules, which can receive language files determined and input by users, compare sentences thereof with reordered sentences by users, and output comparing results to users.

Although the learning system realizes the aim of control over

learning process by the learning machine executing computer programs, the said learning machine is well-known electronic equipment, the division, reordering, comparison, and scoring of sentences neither improve the internal performance of the learning machine, nor cause any technical change to the composition or function of the learning machine. What the system aims to solve is how to determine learning contents based on users' objective will, and thus does not constitute a technical problem.

What it utilizes is making learning rules artificially and following

these rules without restriction of the laws of nature, and thus is not technical means. The system enables users to actively select learning contents according to their needs, and further improve learning efficiency. What is obtained is not technical effect in conformity with the laws of nature. Therefore, this invention application is not the technical solution as provided for in Article 2.2 and is not the subject matter of patent protection.

4. Chinese Character Encoding Method and Chinese Character Inputting

Method for Computers

Chinese character encoding method is an information presentation method, like presentation methods of voice signal, language signal, visual display signal or traffic signal, etc. What it solves is merely determined by human expressing will, what it adopts is merely man-made coding rules, and what is obtained by implementing the said coding method is merely a symbol/alphanumeric string. The solved problems, the utilized means, and the obtained effects do not comply with the laws of nature. Therefore, invention applications merely relating to Chinese character coding method belong to rules and methods for mental activities as provided for in Article 25.1(2) and are not the subject matter of patent protection.

For example, the solution of an invention application merely relates to a method for encoding the radicals of Chinese characters, which is used to compile dictionaries and to search the Chinese characters in the said dictionaries. According to the method for encoding the Chinese characters of the invention application, rules for encoding the Chinese characters are made artificially merely based on knowledge and understanding of the inventor, that is to select, designate and combine the code elements

for encoding the Chinese characters so as to form the code/alphanumeric strings to express the Chinese characters. The said Chinese character encoding method neither solves any technical problems, nor utilizes any technical means, or produces any technical effects. Therefore, the said method for encoding the Chinese characters of the invention application belongs to rules and methods for mental activity as provided for in Article 25.1(2) and is not the subject matter of patent protection.

However, if the method for encoding the Chinese characters is combined with a special keyboard so that it works as a method for inputting the Chinese characters into a computer system which processes the Chinese characters or as a method for a computer to process the Chinese character information, enables the known computer system to use the information in the form of the

Chinese characters as instruction, execute programs, and thus control or process external objects or internal objects, the Chinese

character inputting method for computers or Chinese character information processing method for computers belongs to technical solutions as provided for in Article 2.2 instead of rules and methods for mental activity, and is the subject matter of patent protection.

For such an invention application relating to a method for inputting the Chinese characters into a computer, which combines the method of encoding the Chinese characters with a special keyboard used for this encoding method, the technical features of the Chinese character inputting method shall be described in the description and the claims. When necessary, the technical features of the keyboard used for this method, including the definition of every key on the keyboard and the location of every key on the keyboard, etc., shall also be illustrated.

For example, the subject matter of an invention application relates to a method for inputting the Chinese characters into a computer, comprising the steps of selecting a determined number of specific radicals from all the radicals of the Chinese characters as the code elements for encoding, assigning the said code elements for encoding to the corresponding keys on the keyboard and inputting the Chinese characters according to the rules of encoding and inputting the Chinese characters by using the specific keys on the keyboard.

This invention application is a method for inputting the Chinese characters into a computer that combines the method for encoding the Chinese characters with the special keyboard. This inputting method enables the known computer system to run according to information in the Chinese characters, and therefore increases the processing function of the computer system. What the said invention application aims to solve is a technical problem, what it utilizes is technical means, and it can produce technical effects. Therefore, the said invention application constitutes a technical solution and is the subject matter of patent protection.

5. Drafting of Description and Claims of Invention Applications Relating to Computer Programs

In principle, the requirements for drafting the description and the claims of an invention application relating to computer

programs are the same as those for drafting the description and the claims of invention applications in other technical fields. Following are the specific requirements for drafting the description and the claims of an invention application relating to computer programs.

Art. 26. 3

5.1 Drafting of Description

The description of an invention application relating to computer programs shall, in addition to outlining the technical solution of the invention as a whole, illustrate the concept of design and the technical features of the computer program concerned and the mode of exploitation to produce the technical effect in a clear and complete manner. In order to outline the main technical features of the computer program clearly and completely, the principal flow chart of the computer program shall be presented in the drawings of the description. An explanation of every step of the computer program shall be made in the description in natural language based on the said flow chart in chronological order. The main technical features of the computer program shall be described in the description to such extent that a person skilled in the art can, on the basis of the flow chart presented in the description and explanation thereof, produce the computer program capable of producing the technical effect as described in the description. In order to describe clearly, where necessary, the applicant may briefly extract some important parts from the computer source program, in marked program language that is customarily used, to serve as a reference, but it is not necessary to provide the whole source program.

If an invention application relating to computer programs includes contents concerning changing the hardware structure of computer devices, the hardware entity structure graph of the said computer devices shall be presented in the drawings of the description, and the component parts of the hardware of the said

computer devices and the mutual relationships thereof shall be described in the description, based on the said hardware entity structure graph, in clear and complete manner so as to enable a person skilled in the art to carry out the invention.

Art. 26. 3

Art. 26. 4

5.2 Drafting of Claims

The claims of an invention application relating to computer programs may be drafted as process claim or product claim, i.e., the apparatus for executing the process. No matter what kind of claim it is drafted as, the claim shall be supported by the description, represent the technical solution of the invention in its entirety and outline the essential technical features for resolving the

technical problems, and do not describe resumptively the functions of the computer program and the effects those functions can produce only. If it is drafted as a process claim, the various functions to be performed by the computer program and the way to perform the functions shall be described in detail according to the steps of the process. If it is drafted as an apparatus claim, the various component parts and the connections among them shall be specified, and a detailed account shall also be given on the component parts by which the various functions of the computer program are performed, and on how these functions are performed.

If an apparatus claim is drafted on the basis of computer program flow completely and according to the way completely identical with and corresponding to each step in the said computer program flow, or according to the way completely identical with and corresponding to the process claim reflecting the said computer program flow, i.e., each component in the apparatus claim completely corresponds to each step in the said computer program flow or each step in the said process claim, then each component in the apparatus claim shall be regarded as function modules which are required to be built to realize each step in the said computer program flow or each step in the said method. The apparatus claim defined by such a group of function modules shall be regarded as the function module architecture to realize the said solution mainly through the computer program described in the description rather than entity devices to realize the said solution mainly through hardware.

As references, the following are examples of inventions relating to computer programs, which are drafted as process claim and apparatus claim respectively.

[Example 1]

The independent claim of a patent application for invention, entitled "the cursor control of the characters on the CRT screen", may be drafted as the following process claim:

A method for controlling the characters on the CRT screen by a cursor, comprising:

- the inputting step for inputting information;
- the step of storing the starting position addresses of the horizontal movement and vertical movement of the cursor into a H/V starting position memory unit;
- the step of storing the designation addresses of the horizontal movement and vertical movement of the cursor into a H/V designation memory unit;
- the step of storing the horizontal and vertical addresses of the current position of the cursor into a cursor position memory unit; and characterized by further including:
 - the step of comparing the current horizontal and vertical addresses of the cursor stored in the said cursor position memory unit with the corresponding horizontal and vertical designation addresses stored in the H/V designation memory unit respectively;
 - the step of transformation of the cursor position controlled by the output signal from the said inputting keyboard and output signal of the said comparator, which may select the following performances:
 - increment as a single character position to the horizontal and vertical addresses stored in the cursor position memory unit;
 - decrement as a single character position from the horizontal and vertical addresses stored in the cursor position memory unit;
 - or
 - setting the horizontal and vertical starting position addresses stored in H/V starting position memory unit to cursor position memory unit;
 - the step of cursor display, in which the current position of the cursor on the screen is displayed according to the memory state of the cursor position memory unit.

[Example 2]

The claim of the patent application for invention described in example 1, which relates to a computer program, is drafted as an apparatus claim.

A cursor controller for CRT screen, comprising:

- an inputting means for inputting information;
- the H/V starting point memory means for storing the starting position addresses of the horizontal movement and vertical movement of the cursor;
- the H/V designation memory means for storing the designation addresses of the horizontal movement and vertical movement of the cursor;
- a cursor position memory means for storing the horizontal and vertical addresses of the current position of the cursor; and

characterized by further including:

- a comparator for respectively comparing the current horizontal and vertical addresses of the cursor stored in the said cursor position memory means with corresponding horizontal and vertical designation addresses stored in the H/V designation memory means;
- a cursor position transformation means controlled by the output signal from the said inputting keyboard and the output signal from the comparator, which includes:
 - means for increasing as a single character position the horizontal and vertical addresses stored in the cursor position memory means;
 - or means for decreasing as a single character position from the horizontal and vertical addresses stored in the cursor position memory means;
 - or means for setting the horizontal and vertical starting position addresses stored in the H/V starting position memory means to the cursor position memory means;
- a cursor display means which displays the current position of the cursor on the screen according to the memory state of the cursor position memory means.

[Example 3]

An invention application relating to "a computer system suitable for sequence control and servo control" uses parallel processing to conduct sequence control and servo control by taking the instructions of opening, closing, and pausing as the parallel processing instructions between the first and second programs. The independent process claim of this invention may be drafted as the following:

A process to conduct sequence control and servo control by taking the instructions of opening, closing, and pausing as the parallel processing instructions is characterized by adopting the following steps:

- storing the sequence control program or servo control program which is going to execute the task into the program memory of the computer system;

- starting the computer system, and the CPU fetching instructions, executing operation according to the program counter unit, and updating the program counter unit according to the executive instructions;

- if the executing instructions are program instructions, the updating of the program counter unit is identical with that of the general computer;

- if the executing instructions are opening instructions, the program counter unit is updated as the address of instructions following this opening instruction, i.e., the first address of the parallel processing program which is going to be opened so as to start the operation of the sub-process of controlling;

- if the executing instructions are closing instructions, the program counter unit is updated by the address selected from the address list or the address of the instruction following this closing instruction, so that the program per se which issues the said closing instruction or another parallel program stops its execution and other parallel programs start into operation at the same time;

- if the executing instructions are pausing instructions, the program counter unit is updated by the address of the instruction following this pausing instruction so that the execution of the program shall be suspended for a certain period of time according to the requirements, and another parallel program is started simultaneously in the period.

Chapter 10 Some Provisions on Examination of Invention Applications in the Field of Chemistry

1.Introduction

Many special issues exist in the examination of invention applications in the field of chemistry. For example, under most circumstances, whether a chemical invention can be carried out is difficult to be predicted and needs to be verified and confirmed by virtue of test result; some chemical products whose structures are not clear yet have to be defined by virtue of their property parameters and/or methods of preparation; the discovery of the new property or use of a known chemical product does not mean the change of its structure or composition. Therefore, the product cannot be regarded as possessing novelty; some inventions relating to biological material cannot be carried out merely according to the written disclosure of the description, and the deposit of the biological material shall be used as a supplementary means. This Chapter is meant to set forth some provisions on how to handle issues that are particular to the examination of invention applications in the field of chemistry according to the principles of the Patent Law and its Implementing Regulations, provided that the general provisions of these Guidelines are satisfied.

2.Applications for Chemical Invention for Which No Patent Right Shall Be Granted

2.1 Natural Substances

A substance, found in the nature and existing in its natural state, is merely an object of discovery in the sense of the "scientific discoveries" as provided for in Article 25.1(1), and no patent right shall be granted for it. However, if a substance is isolated or extracted from the nature for the first time, of which the structure, the morphology or other physical/chemical parameters are unknown in the prior art and can be precisely characterized, and if it can be exploited industrially, the substance per se and the process for obtaining it are all patentable under the Patent

2.2 Medical-use of Substances

As the medical-use of a substance is a use for the diagnosis or treatment of diseases, it falls into the situations provided for in Article 25.1(3); hence, it shall not be granted the patent right. However, if it is used for the manufacturing of a medicament, it may be patentable under the Patent Law (see Section 4.5.2 of this Chapter).

Art. 26. 3

3. Sufficient Disclosure of Chemical Invention

3.1 Sufficient Disclosure of Chemical Product Invention

Here, the word "chemical product" includes compound, composition, and chemical product which cannot be clearly described by its structure and/or composition. Where the claimed invention is a chemical product itself, the description shall describe the identification, preparation and use of the chemical product.

(1) Identification of a chemical product

As for the invention of a compound, the description shall indicate the chemical name and the structural formula (including various function groups, molecule steric-configuration and so on) or the molecular formula of said compound. The explanation of the chemical structure shall be clear enough to enable a person skilled in the art to identify the compound. In order to clearly identify the claimed compound, the description shall describe the chemical/physical property parameters (such as the various qualitative or quantitative data and spectrum, etc.) relating to the technical problem to be solved by the invention. Moreover, in the case of a high molecular compound, besides the name, the structural or molecular formula of its repeating units shall be described according to the same requirements as those of the abovementioned compound, the description shall properly state its molecular weight and the distribution thereof, the arrangement state of its repeating units (such as homopolymeric, copolymeric, block-polymeric or graft-polymeric state), etc. If the high molecular compound cannot be completely identified by these structural elements, the property parameters, such as crystallinity, density and second-order transition point, shall also be described.

As for the invention of a composition, besides the components of the composition, the description shall describe the chemical and/or physical state of each component, the range of selection of each component, the range of content of each component and its effect on the property of the composition.

As for a chemical product which cannot be clearly described merely by its structure and/or composition, the description shall further state the product by proper chemical/physical parameters and/or the manufacturing process, so that the claimed chemical product can be clearly identified.

(2) Preparation of chemical product

The description of a chemical product invention shall describe at least one preparation method and disclose the raw materials, procedures, conditions and specially adapted equipment used for carrying out the method so as to make it possible for a person skilled in the art to carry it out. In the case of a compound invention, the example of its preparation is usually required.

(3) Use and/or its technical effect of chemical product

As for a chemical product invention, the use and/or its technical effect of the product shall be completely disclosed. Even if the structure of the compound has been confirmed for the first time, at least one use of the compound shall be described.

If a person skilled in the art is unable, on the basis of the prior art, to predict that the use and/or its technical effect stated in the invention can be carried out, the description shall sufficiently provide qualitative or quantitative data of experimental tests for the person skilled in the art to be convinced that the technical solution of the invention enables the use to be carried out and/or the effect as expected to be achieved.

For a new pharmaceutical compound or pharmaceutical composition, not only its specific medical use or pharmacological action, but also its effective amount and the method of application shall be described. If a person skilled in the art is unable, on the basis of the prior art, to predict that said use or action stated

in the invention can be carried out, the qualitative or quantitative data of the laboratory test (including animal test) or clinical test shall be sufficiently provided for the person skilled in the art to be convinced that the technical solution of the invention can solve the technical problem or achieve the technical effect as

expected. The description shall describe effective amount, method of application or method of formulation to such an extent that the person skilled in the art can carry it out.

As for the property data showing the effect of the invention, the method used to measure it shall be specified when various measuring methods for it in the prior art yield different results. If it is a special method, it shall be explained in detail to enable a person skilled in the art to carry it out.

3.2 Sufficient Disclosure of Chemical Process Invention

(1) For a chemical process invention, regardless of a process for preparing a substance or any other process, the raw materials, procedures and processing conditions adopted in the process shall be described. If necessary, the effect of the process on the property of the title substance shall be described so as to enable a person skilled in the art, when carrying out the invention according to the process described in the description, to solve the problem which the invention is intended to solve.

(2) As for the raw materials used in the process, the components, property, manufacturing process or source of it shall be described in such a manner that a person skilled in the art can obtain it.

3.3 Sufficient Disclosure of Use Invention of Chemical Product

As for a use invention of a chemical product, the description shall describe the chemical product to be used, the method for using the product and the effect to be achieved to enable a person skilled in the art to carry it out. If the product to be used is a new chemical product, the statement of the product in the description shall comply with relevant requirements in Section 3.1 of this Chapter. If a person skilled in the art can not predict the use according to the prior art, the description shall sufficiently provide data of experimental tests for a person skilled in the art to be convinced that the product is useful for said use and can solve the technical problem or achieve the technical effect as expected.

3.4 Specific Mode for Carrying Out the Invention

Chemistry is an experimental science, and a number of inventions

in this field need to be verified by experimentation, therefore, the description generally shall include embodiments, in case of an invention of a product, for instance, those which specifically show how to make the product and how to use it.

(1) The number of embodiments needed in the description depends on the extent to which the technical features are generalized in the claim, such as the extent of generalization of parallel alternative elements and the range of selected values of data. The number of embodiments needed in a chemical invention varies depending on the nature and specific fields of technology of the invention. As a general rule, there shall be a sufficient number of embodiments for a person skilled in the art to understand how to carry out the invention and to assess that the invention can be carried out and achieve the effect as expected through the whole of the scope defined by the claims.

(2) Whether or not the description is sufficiently disclosed is judged on the basis of the disclosure contained in the initial description and claims, any embodiment and experimental data submitted after the date of filing shall not be taken into consideration.

4. Claim of Chemical Invention

Art. 26. 4

4.1 Claim of Compound

The claim of a compound shall be characterized by the name or the structural or molecular formula of the compound. The compound shall be named according to general nomenclature, rather than a trade name or code name. The structure of the compound shall be clear enough, and any ambiguous or vague wording is not permitted.

4.2 Claim of Composition

Art. 26. 4

4.2.1 Open-Ended Mode, Close-Ended Mode and Their Application Requirements

In accordance with the provisions of Rule 21.2, if it is not appropriate, according to the nature of the invention, to present the independent claim in the form of a preamble portion and characterizing portion, it may be presented in other form. Gener-

ally, the claim for composition is such an example.

The claim for a composition shall be characterized by the features of the composition, such as the components, or the components and the contents thereof. There are two modes of presentation for the claim of a composition: open-ended and close-ended. The open-ended mode means that the composition does not exclude those components that are not mentioned in the claim. The close-ended mode means that any of the other components that are not mentioned in the claim shall be excluded. The commonly used wording for open-ended mode and close-ended mode is as follows:

(1) open-ended mode: wording such as “comprising”, “including”, “containing”, “essentially comprising”, “substantially comprising”, “mainly consisting of”, “be mainly composed of”, “substantially consist of”, “be substantially composed of”, etc. All of them indicate that some components which are not indicated in the claim may be further included in the composition, though the indicated components may take quite a great proportion in content;

(2) close-ended mode: wording such as “consisting of...”, “be composed of...”, “be balanced with ...”, etc. All of them indicate that the composition claimed is composed of the indicated components only, without any other components to be included in. However, there may be impurities, and the impurities may take only normal proportion in content.

It shall be noted that, when the open-ended mode or close-ended mode expressions are used, they must be supported by the description. For example, the claim of a composition is A+B+C. If there is, in fact, no other component described in the description, it shall not be presented in an open-ended mode.

It shall also be pointed out that if the independent claim of a composition is A+B+C, where the claims following it is A+B+C+D, if the claim A+B+C is in open-ended mode, the claim involving component D shall be a dependent claim; if the claim A+B+C is in close-ended mode, the claim involving component D shall be an independent claim.

4.2.2 Definition of Component and Content in Claim of Composition

Rule 20.2

(1) If the substance or improvement of an invention lies in the components per se, the solution to the technical problem only depends on the selection of the components, and a person skilled in the art can determine the contents of the components according to the prior art or by simple experiment, it is permitted to only define the components in the independent claim. However, if the substance or improvement of an invention lies both in the components and relates to the contents thereof, the solution to the technical problem depends not only on the selection of the components, but also on the determination of the particular contents of said components. In this case, both the components and the contents shall be defined in the independent claim, otherwise the claim is not complete, and lacks essential technical features.

Rule 20.2

(2) In certain technical fields, such as the field of alloys, both the necessary components and the contents thereof usually shall be defined in the independent claim.

Art. 26.4

(3) No ambiguous or vague words such as "about", "or so", "approximately", etc., shall be used to define the content of a component. Usually, such words shall be deleted whenever they appear. The content of the component may be indicated by "0-X", "< X" or "less than X", etc. The component indicated by "0-X" is optional component. By "< X" or "less than X", etc., "X=0" is also included. It usually shall not be allowed to use "> X" to indicate the range of content.

Art. 26.4

(4) The total sum of the content in percentage of each component of a composition shall be equal to 100% and the ranges of the contents of the components shall meet the following requirements:

the maximum value of the content of one component + minimum values of the contents of all the other components ≤ 100 ;

the minimum value of the content of one component + maximum values of the contents of all the other components ≥ 100 .

Art. 26.4

(5) Where it is difficult to indicate the particular relations among the components of a composition by words or by numerical value, the claim may be defined by a formula showing the characteristic relation or amount relation or by the use of a diagram.

The specific meaning of the diagram shall be explained in the description.

(6) Qualitative written description instead of numeric quantitative expressions is acceptable if it is clear in meaning and known in the relevant field of technology, such as "the content is sufficient to make certain material moistened", "catalytic amount", etc.

4.2.3 Other Definition for Claim of Composition

Generally, there are three types of claims of a composition: non-defining, function-defining and use-defining. Examples are:

(1) "A hydrogel composition comprising polyvinyl alcohol of molecular formula (I), saponifier and water" (the molecular formula (I) is omitted here);

(2) "A magnetic alloy comprising 10%-60% by weight of A and 90%-40% by weight of B"; and

(3) "A butene dehydrogenation catalyst comprising Fe_3O_4 and K_2O ...".

Among the above, (1) is a non-defining type, (2) is a function-defining type and (3) is a use-defining type.

When the composition possesses two or more applicable properties or application fields, the use of a non-defining claim is permitted. For example, according to the description, the hydrogel composition in above-mentioned (1) possesses such properties as formability, hygroscopicity, film-formability, adhesivity and high calorificity; hence, it can be used in such fields as a food additive, a gluing agent, an adhesive, a coating material, a microorganism culture medium or a heat insulation medium.

If there is only one property or use of the composition disclosed in the description, the composition shall be drafted as the function-defining or use-defining type, such as (2) or (3) mentioned above. In certain fields, such as the field of alloys, the intrinsic property and/or use of the invented alloy usually shall be specified. Most pharmaceutical claims shall be drafted as the use-defining type.

4.3 Claim of Chemical Product Which Cannot Be Clearly Characterized Merely by Features of Structure and/or Composition

As for a claim of a chemical product which cannot be clearly

characterized merely by features of structure and/or composition, it is permitted to further use physical/chemical parameter (s) and/or the manufacturing process to characterize the claim.

(1) Circumstances where it is permitted to use physical/chemical parameter (s) to characterize the claim of a chemical product are: the chemical product has unclear structure and cannot be precisely characterized merely by using its chemical name, structural formula or composition. The said parameter (s) shall be clear enough.

(2) Circumstances where it is permitted to use the manufacturing process to characterize the claim of a chemical product are: the chemical product cannot be sufficiently characterized by the features other than the manufacturing process.

4.4 Claim of Chemical Process

The claim of the process invention in the field of chemistry, be it a process for preparing a substance or another process (e. g., method of application, process method or treatment method of a substance), may be defined by the features of the process relating to procedure, substance and apparatus.

The process features relating to procedure include process steps (it may also be reaction steps) and process conditions, such as temperature, pressure, time, catalysts or other auxiliaries used in process steps.

The process features relating to substance include the chemical component, chemical-structural formula, physical/chemical property parameters of the raw material used in the process and the product.

The process features relating to apparatus include the type of the apparatus specially adapted in said process and the property or function of the apparatus relating to said process invention. In the case of a specific process claim, one of the three types of technical features may be selected depending on the subject matter claimed, the technical problem to be solved and the substance or improvement of an invention.

4.5 Use Claim

4.5.1 Types of Use Claim

The invention relating to the use of a chemical product is made on the basis of discovery of a new property of the product and the use of such property. Regardless of a new or known product, its property is inherent in the product per se. The essence of the use invention does not lie in the product per se, but in the application of its property. Hence, a use invention is an invention of process, and its claim is a process claim.

If product B is invented by making use of product A, the application shall be based on product B per se, and its claim is a product claim rather than a use claim.

The examiner shall take notice of the wording to distinguish a use claim from a product claim. For example, "using compound X as an insecticide" or "the use of compound X as an insecticide" is a wording used in use claim, which is of type of process claim, while the wording "an insecticide made of compound X" or "the insecticide containing compound X" is not a use claim, but a product claim.

It shall also be clarified that "the use of compound X as an insecticide" shall not be construed as equivalent to "the compound X for an insecticide". As the latter is a product claim defining the use, it is not a use claim.

4.5.2 Claim of Medical Use of Substance

An application relating to the medical use of a substance shall not be granted if its claim is drafted in the wording "use of substance X for the treatment of diseases", "use of substance X for diagnosis of diseases" or "use of substance X as a medicament", because such claim is one for "method for the diagnosis or for the treatment of diseases" as referred to in Article 25.1 (3). However, since a medicament and a method for the manufacture thereof are patentable according to the Patent Law, it shall not be contrary to Article 25.1(3) if an application for the medical use of a substance adopts pharmaceutical claim or use claim in the form of method for preparing a pharmaceutical, such as "use of substance X for the manufacturing of a medicament", "use of substance X for the manufacturing of a medicament for the treatment of a disease" and so on.

The above-mentioned use claim in the form of method for manufacturing a medicament may be drafted as "use of compound X for manufacturing a medicament for the treatment of disease Y" or the like.

5. Novelty of Chemical Invention

Art. 22. 2

5.1 Novelty of Compound

(1) For a compound claimed in an application, if it has been referred to in a reference document, it is deduced that the compound does not possess novelty, unless the applicant can provide evidence to verify that the compound is not available before the date of filing. The word "refer to" mentioned above means to define clearly or explain the compound by the chemical name, the molecular formula (or structural formula), the physical/chemical parameter(s) or the manufacturing process (including the raw materials to be used).

For example, if the name and the molecular formula (or structure formula) of a compound disclosed in a reference document are difficult to be identified or unclear, but the document discloses the same physical/chemical parameter(s) or any other parameters used to identify the compound as those of the claimed compound of an application, it is deduced that the claimed compound does not possess novelty, unless the applicant can provide evidence to verify that the compound is not available before the date of filing.

If the name, molecular formula (or structure formula) and physical/chemical parameter(s) of a compound disclosed in a reference document are unclear, but the document discloses the same method of preparation as that of the claimed compound of an application, it is deduced that the claimed compound does not possess novelty.

(2) A general formula cannot destroy the novelty of a specific compound included in the general formula. However, the disclosure of a specific compound destroys the novelty of a claim for

said general formula containing said specific compound, but it does not affect the novelty of a compound other than the specific compounds contained in said general formula. A series of specific compounds may destroy the novelty of the corresponding

compounds in the series. The compounds in a range (such as C₁₋₄) destroy the novelty of the specific compounds at the two ends of that range (C₁ and C₄). However, if the compound C₄ has several isomers, the compounds C₁₋₄ cannot destroy the novelty of each single isomer.

(3) The existence of a natural substance per se does not destroy the novelty of the invented substance. A natural substance destroys the novelty of said invented substance only when it is disclosed in a reference document and is identical with or directly equivalent to the invented substance in structure and morphology.

Art. 22. 2

5.2 Novelty of Composition

(1) Judgment of novelty on a composition merely defined by its components

Composition X consisting of components (A+B+C) is disclosed in a reference document,

(i) if the subject matter of an invention application relates to composition Y (components: A+B), and the claim for composition Y is presented in the close-ended mode, for example, it is described as "consisting of A+B", the claim possesses novelty even if the technical problem solved by the invention is the same as that of composition X;

(ii) if the claim for composition Y is presented in the open-ended mode as "containing A+B", and the technical problem solved by the invention is the same as that of composition X, then the claim does not possess novelty;

(iii) if the exclusive method is used to present the claim of composition Y, i.e., when it is indicated that "C" is not contained in it, the claim possesses novelty.

(2) Judgment of novelty on a composition defined by its components and contents

For the judgment of novelty on a composition defined by its components and contents, the provisions of Chapter 3, Section 3.2.4 of this Part shall apply.

Art. 22. 2

5.3 Novelty of Chemical Product Characterized by Physical/ Chemical Parameter(s) or Manufacturing Process

(1) For the claim of a chemical product characterized by

physical/chemical parameter(s),if it is impossible to compare the product characterized by said parameter(s)with that disclosed in a reference document based on the parameter(s)described and to determine the difference between them,it is deduced the product claim characterized by said parameter(s)does not possess novelty as required in Article 22.2.

(2)For the claim of a chemical product characterized by manufacturing process,the novelty shall be determined on the product per se,rather than merely comparing the manufacturing process therein with the process disclosed in a reference document to find whether or not the two processes are identical.A different manufacturing process does not always result in the change of a product per se.

If,compared with a product disclosed in a reference document, the difference of said claimed product lies only in the manufacturing process,having neither parameters disclosed in the application, which may be used to prove its difference,nor indications of any change in its function and/or nature resulting from the difference of the process,then it is deduced that the product claim characterized by the process does not possess novelty as required in Article 22.2.

Art. 22. 2

5.4 Novelty of Use Invention of Chemical Product

Since a chemical product is novel,the use invention of the novel product will naturally possess novelty.

A known product is not rendered novel merely because a new application thereof has been put forward.For example,if product X is known as a detergent,then the product X used as a plasticizer does not possess novelty.However,a known product does not destroy the novelty of its new use if the new use per se is an invention.This is because such use invention is an invention

of method of application,and the substance of the invention lies in how to apply the product rather than the product per se. For example,said product X is originally used as a detergent. Then,someone discovers from research that it can be used as a plasticizer after adding to it certain additives.Then its preparation, the kind of additives selected and the proportion etc.,are the technical features of the method of application.Under such circumstances,the examiner shall assess whether the method per

se possesses novelty and shall not consider that the method of application does not possess novelty on the grounds that product X is known.

As for a medical-use invention relating to a chemical product, the following aspects shall be taken into consideration when the examination of novelty is carried out.

(1) Whether or not the new use is different in substance from the known use. The use invention does not possess novelty when the difference between the new use and the known use lies merely in the form of expression, but the substance of them is the same.

(2) Whether or not the new use is revealed directly by the mechanism of action or pharmacological action of the known use. The use does not possess novelty if it is directly equivalent to the mechanism of action or pharmacological action of the known use.

(3) Whether or not the new use belongs to generic (upper level) term of the known use. The known use defined by specific (lower level) term may destroy the novelty of the use defined by generic (upper level) term.

(4) Whether or not the features relating to use, such as the object, mode, route, usage amount, interval of administration can define the procedure of manufacture of a pharmaceutical. The distinguishing features merely present in the course of administration do not enable the use to possess novelty.

6. Inventive Step of Chemical Invention

6.1 Inventive Step of Compound

(1) When a compound is novel, not similar in structure to a known compound, and has a certain use or effect, the examiner may deem it to involve an inventive step without requiring that it shall have an unexpected use or effect.

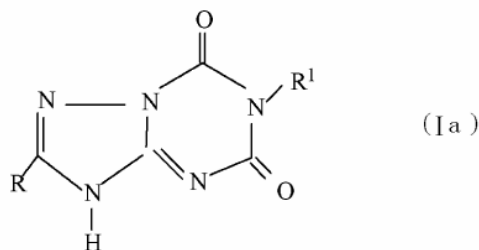
(2) For a compound that is similar in structure to a known compound, it must have unexpected use or effect. The said unexpected use or effect may be a use different from that of the known compound, the substantive progress or improvement of a known effect of a known compound, or a use or effect which is not clear in the common general knowledge or cannot be deduced

from the common general knowledge.

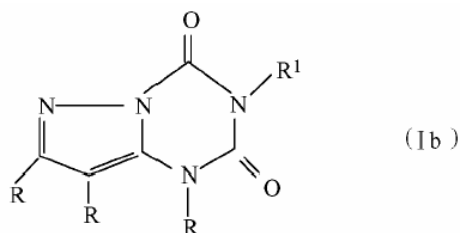
(3) Whether two compounds are similar in structure has relation to the technical field of the compounds, the examiner shall apply different criteria to different technical fields. The following are some examples:

[Example 1]

Prior art:



Application:



The compounds with similar structures must have the identical basic core structure or basic rings. As the structure of (I b) is not similar to that of (I a), when determining the inventive step of (I b), no evidence is necessary to show that (I b) has an unexpected use or effect compared with (I a).

[Example 2]

Prior art: $\text{N}_2\text{N}-\text{C}_6\text{H}_4-\text{SO}_2\text{NHR}_1$ (II a)

Application: $\text{H}_2\text{N}-\text{C}_6\text{H}_4-\text{SO}_2-\text{NHCONHR}_1$ (II b)

Sulfonamide (II a) is an antibiotic, and sulfonylurea (II b) is an antidiabetic. They are similar in structure but different in pharmaceutical effect. The (II b) involves an inventive step because it has unexpected use or effect.

[Example 3]

Prior art: $\text{H}_2\text{N}-\text{C}_6\text{H}_4-\text{SO}_2\text{NHCONHR}_1$ (III a)

Application: $\text{H}_3\text{C}-\text{C}_6\text{H}_4-\text{SO}_2\text{NHCONHR}_1$ (III b)

The structure of amino-sulfonylurea (III a) is similar to that of methyl-sulfonylurea (III b). The difference lies in NH_2 and CH_3 only. Being short of unexpected use or effect, (III b) does not

involve an inventive step.

(4) It shall be noted that the inventive step of a compound ought not to be denied simply on the grounds of structural similarity. It is necessary to further explain that its use or effect can be expected or is predictable, or that a person skilled in the art is able to produce or use that compound by logical analysis, inference or limited experiment on the basis of the prior art.

(5) If the effect of a technical solution is caused by something known and inevitable, the technical solution does not involve an inventive step. For example, an insecticide A-R is in the prior art, wherein, R is C₁₋₃alkyl. It has been pointed out in the prior art that the effectiveness of insecticide is improved with the increase of the number of atoms in the alkyl. If the insecticide in an application is A-C₄H₉, the effectiveness has been obviously improved compared with the prior art. The application does not involve an inventive step because it has been pointed out in the prior art that the improved effectiveness of the insecticide is inevitable.

Art. 22. 3

6.2 Inventive Step of Use Invention of Chemical Product

(1) Inventive step of use invention of new product

A use invention of a new chemical product is regarded as involving an inventive step if the use cannot be expected from the known product having a similar structure or composition.

(2) Inventive step of use invention of known product

A use invention of a known product is regarded as involving an inventive step if the new use cannot be derived or expected from the structure, composition, molecular weight, known physical/chemical property and existent use of the product, but utilizes a newly discovered property of the product, and produces unexpected technical effect.

Art. 22. 4

7. Practical Applicability of Chemical Invention

7.1 Dishes and Cooking Methods

A dish which cannot be made industrially and implemented repeatedly does not possess practical applicability, and thus shall not be granted a patent right. A cooking method which depends on such uncertain factors as skills and creativity of the cooker

cannot be implemented repeatedly and thus cannot be used industrially, and therefore it does not possess practical applicability and shall not be granted a patent right.

7.2 Medical Prescription

The prescriptions of a doctor refer to the prescriptions made by the doctor according to the concrete conditions of a particular patient. As the prescriptions of a doctor, the making up of a prescription by a doctor and the process of medicine dispensation merely according to the prescription of a doctor do not possess practical applicability, they shall not be granted the patent right.

8. Unity of Chemical Invention

8.1 Unity of Markush Claim

8.1.1 Basic Principle

Where a single claim of an application is defined by a number of alternative elements, the "Markush" claim is formed. The Markush claim shall also comply with the provisions on unity as provided for in Article 31.1 and Rule 34. If the alternative elements in a Markush claim possess similar nature, they shall be regarded as technical-related and having the same or corresponding special technical features, and the claim may be considered as meeting the requirements of unity. Such alternative elements are called Markush elements.

Where the Markush elements are for alternatives of compounds, they shall be regarded as being of a similar nature, and at the same time the Markush claim possesses unity if they meet the following standards:

(1) all alternative compounds possess a common property or activity; and

(2) all alternative compounds possess a common structure, which constitutes the distinguishing feature between the compounds and those in the prior art, and is essential to the common property or activity of the compounds of general formula, or under the circumstances that they do not have a common structure, all of the alternative elements belong to the same class of

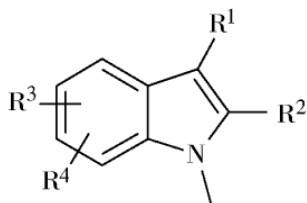
compounds recognized in the technical field to which the invention pertains.

A "recognized class of compounds" means there is an expectation from the knowledge in the art that members of the class belong to the same class of compounds with the same performance in the context of the claimed invention, i.e., each member may be substituted by another, with the expectation that the same intended result will be achieved.

8.1.2 Examples

[Example 1]

Claim 1: The compounds of the general formula:



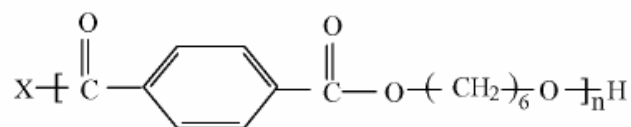
Wherein, R¹ is pyridyl; R²-R⁴ are methyl, tolyl or phenyl...
the compounds are used as a pharmaceutical for further enhancing the oxygen-intaking capacity of blood.

Explanation: in the general formula, indolyl moiety constitutes the common moiety to all of the Markush compounds, but the prior art has disclosed the compounds which possess a common structure, i.e., said indolyl moiety, and are capable of enhancing the oxygen-intaking capacity of blood, therefore, the indolyl moiety cannot constitute the distinguishing feature between the compounds of general formula claimed in claim 1 and those in the prior art, the unity of claim 1 cannot be determined on the basis of indolyl moiety.

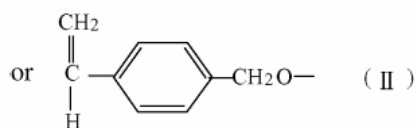
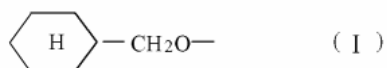
The compounds of general formula claimed in claim 1 change the R¹ group of the indolyl into 3-pyridyl, thereby possess the function of further enhancing the oxygen-intaking capacity of blood, therefore, the 3-pyridyl indolyl moiety may be regarded as an essential part to the function of the compounds of general formula, and the moiety is a common structure which is distinguished from the prior art, so the Markush claim possesses unity.

[Example 2]

Claim 1: The compounds of general formula:



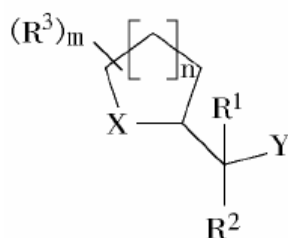
Wherein, $100 \geq n \geq 50$, X is:



Explanation: it is indicated in the description that said compound is prepared via esterifying the terminal group of known polyhexamethylene terephthalate. It possesses anti-pyrolysis property when it is esterized into (I). However, when it is esterized into (II), it does not possess the anti-pyrolysis property due to the existence of "CH₂=CH-". Therefore, (I) and (II) have no common property, and the Markush claim does not possess unity.

[Example 3]

Claim 1: A nematocide composition comprising a compound with the following general formula as an active component:



Wherein, $m, n = 1, 2$ or 3 ; $\text{X} = \text{O}, \text{S}$; $\text{R}_3 = \text{H}, \text{C}_1\text{-C}_8 \text{ alkyl}$; R_1 and $\text{R}_2 = \text{H}, \text{halogen}, \text{C}_1\text{-C}_3 \text{ alkyl}$; $\text{Y} = \text{H}, \text{halogen}, \text{amine}; \dots$

Explanation: although all of the compounds in this formula have the same function of killing nematode, but they are five-, six- or seven-member rings compound respectively, and they belong to heterocycle compounds in different classes; hence, they have no common structure; at the same time, there is not an expectation from the prior art in the relevant technical field of this invention that these compounds have same performance in the context of the claimed invention, i.e., each member may be substituted by another with the same result achieved. This Markush

claim does not possess unity.

[Example 4]

Claim 1: A herbicide composition including the mixture of compounds A and B in effective amount and a diluent or inert carrier, wherein, A is 2,4-dichlorophenoxyacetic acid and B is selected from the following compounds: cupric sulfate, sodium chloride, ammonium sulfamate, sodium trichloroacetate, dichloropropyl acid, 3-amino-2,5-dichlorobenzoic acid, diphenamide, ioxynil, 2-(1-methyl-n-propyl)-4,6-dinitrophenol, dinitroaniline and triazine.

Explanation: under such circumstances, the Markush elements B have no common structure, and there is not an expectation from the prior art in the relevant technical field of this invention that the compounds with these Markush elements B used as components of the herbicide composition may be substituted one for the other with the same result achieved; hence, they cannot be regarded as the compounds of the same class in the relevant technology of this invention, but compounds of the following different classes: (a) inorganic salt: cupric sulfate, sodium chloride, ammonium sulfamate; (b) organic salt or acid: sodium trichloroacetate, dichloropropyl acid, 3-amino-2,5-dichlorobenzoic acid; (c) amide: diphenamide; (d) nitrile: ioxynil; (e) phenol: 2-(1-methyl-n-propyl)-4,6-dinitrophenol; (f) amine: dinitroaniline; and (g) heterocycle: triazine. Accordingly, unity does not exist between the inventions claimed in claim 1.

[Example 5]

Claim 1: A hydrocarbon catalyst for gaseous oxidation comprises X or X+A.

Explanation: in the description, RCH_3 is oxidized to RCH_2OH with X; RCH_3 is oxidized to RCOOH with X+A. These two catalysts have the same function---for oxidation of RCH_3 . Although X+A makes the oxidation of RCH_3 more sufficient, the function is the same, and both of the two catalysts have common component X which is distinguished from the prior art and is essential to the common function, therefore claim 1 possesses unity.

8.2 Unity Between Intermediate and Final Product

An application relating to an intermediate shall also comply

with the provisions on unity as provided for in Article 31.1 and Rule 34.

8.2.1 Basic Principle

(1)Unity exists between an intermediate and a final product if the following two conditions are simultaneously met:

- (i)the intermediate and the final product have the same basic structure unit,or their chemical structures are technically closely related,and the basic structure unit of the intermediate is incorporated into the final product;
- (ii)the final product is prepared or separated directly from the intermediate.

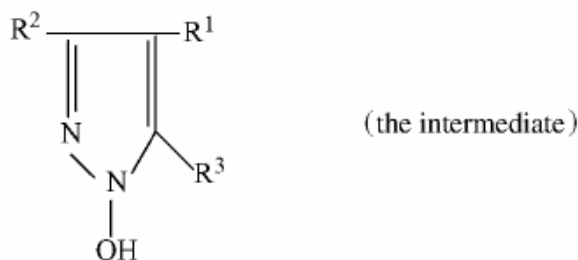
(2)For several processes for preparing the same final product from the different intermediates,if these different intermediates possess the same basic structure unit,these processes may be claimed for protection in one application.

(3)The different intermediates of different structural parts of the same final product shall not be claimed in one application.

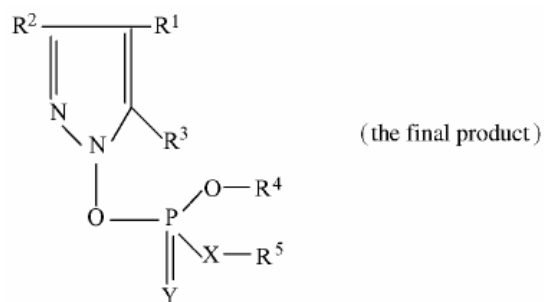
8.2.2 Examples

[Example 1]

Claim 1:



Claim 2:



Explanation: the chemical structures of the intermediate and

the final product mentioned above are technically closely related, the basic structure unit of the intermediate is incorporated into the final product, and the final product can be prepared directly from the intermediate. Therefore, unity exists between claim 1 and claim 2.

[Example 2]

Claim 1: An amorphous polyisoprene (the intermediate).

Claim 2: A crystalline polyisoprene (the final product).

Explanation: in this example, the crystalline polyisoprene is obtained directly by way of stretching the amorphous polyisoprene. As their chemical structures are identical, unity exists between claim 1 and claim 2.

9.Examination of Invention Application in the Field of Biotechnology

In this section, the term “biological material” means any material containing genetic information and capable of reproducing itself or being reproduced in a biological system, such as gene, plasmid, microorganism, animal, plant, and so on.

For the definition of the term “animal” and “plant”, the provisions of Chapter 1, Section 4.4 of this Part shall apply. The said animal and plant therein may be a taxon of any rank of animal and plant, such as kingdom, phylum, classis, order, family, genus, species, and so on.

9.1 Examination of Claimed Subject Matters

9.1.1 Examination of Claimed Subject Matters According to Article 5

Some inventions concerning biotechnology are exemplified in Chapter 1, Section 3.1.2 of this Part which cannot be granted the patent right in accordance with the provisions of Article 5. Furthermore, the following inventions shall not be granted the patent right in accordance with the provisions of Article 5.

9.1.1.1 Embryonic Stem Cell of Human Beings

Both an embryonic stem cell of human beings and a preparing method thereof shall not be granted the patent right in accordance with the provisions of Article 5.1.

9.1.1.2 Human Body at the Various Stages of Its Formation and Development

The human body, at the various stages of its formation and development, including a germ cell, an oosperm, an embryo and an entire human body shall not be granted the patent right in accordance with the provisions of Article 5.1.

9.1.1.3 Inventions-Creations Mentioned in Article 5.2

Where an invention-creation is developed relying on the genetic resources, the acquisition or use of which is not consistent with the provisions of the laws and administrative regulations, it belongs to the inventions-creations excluded from patent protection under Article 5.2. For examination of such invention-creation, the provisions of Chapter 1, Section 3.2 of this Part shall apply.

9.1.2 Examination of Claimed Subject Matters According to Article 25

9.1.2.1 Microorganism

The term "microorganism" includes bacteria, actinomycetes, fungi, viruses, protozoa and algae, etc. Because a microorganism is neither an animal nor a plant, it is not listed in Article 25.1 (4).

Art. 25. 1 (1)

A microorganism existing in the nature without the involvement of any artificially induced technical treatment is, however, a scientific discovery. Hence, it is unpatentable. Microorganism per se constitutes a subject matter of patent protection only when it is isolated into pure culture and has particular industrial use.

9.1.2.2 Gene or DNA Fragment

No matter it is a gene or a DNA fragment, it is, in substance, a chemical substance. The said gene or DNA fragment includes those isolated from microorganism, plant, animal or human body, as well as those obtained by other means.

As stated in Section 2.1 of this Chapter, a gene or DNA fragment found in the nature and existing in its natural state is merely a discovery. It falls into "scientific discoveries" as provided-

ed for in Article 25.1 and is unpatentable. However, a gene or a DNA fragment per se and the process to obtain it are subject matters of patent protection if it is isolated or extracted for the first time from the nature, its base sequence is unknown in the prior art and can be definitely characterized, and it can be exploited industrially.

9.1.2.3 An Animal, a Plant and a Constitutive Part Thereof

An embryonic stem cell of an animal, an animal at the various stages of its formation and development, such as a germ cell, an oosperm, an embryo and so on, belong to the category of the "animal variety" said in Chapter 1, Section 4.4 of this Part, they are unpatentable in accordance with the provisions of Article 25.1(4).

A somatic cell of an animal as well as a tissue and an organ of an animal (except an embryo) are not in conformity with the definition of "animal" said in Chapter 1, Section 4.4 of this Part, so they do not belong to the subject matters excluded according to the provisions of Article 25.1(4).

A single plant and its reproductive material (such as seed, etc.), which maintains its life by synthesizing carbohydrate and protein from the inorganic substances, such as water, carbon dioxide and mineral salt and so on through photosynthesis, belong to the category of the "plant variety" said in Chapter 1, Section 4.4 of this Part, and they are unpatentable in accordance with the provisions of Article 25.1(4).

If a cell, a tissue and an organ of a plant do not possess the above-mentioned characteristic, they cannot be regarded as "plant varieties", therefore, they do not belong to the subject matters excluded according to the provisions of Article 25.1(4).

9.1.2.4 Transgenic Animal and Plant

Transgenic animal or plant is those obtained by biological method, such as DNA recombination technology of the genetic engineering. The animal or plant per se still belongs to the category of the "animal variety" or "plant variety" defined in Chapter 1, Section 4.4 of this Part. In accordance with the provisions of Article 25.1(4), no patent right shall be granted to them Art. 26.3 .

9.2 Sufficient Disclosure of the Description

9.2.1 Deposit of Biological Material

(1) It is stipulated in Article 26.3 that the description shall set forth the invention or utility model in a manner sufficiently clear and complete so as to enable a person skilled in the art to carry it out.

In general, the description shall sufficiently disclose in writing the invention for which the patent protection is sought. In the particular field of biotechnology, it is sometimes difficult to describe the specific feature of a biological material in writing, and the biological material per se cannot be made available even if there is such a description, hence, a person skilled in the art may remain unable to carry out the invention. Under this circumstance, in order to meet the requirements as set forth in Article 26.3, the biological material shall be deposited with a depositary institution designated by the State Intellectual Property Office according to relevant provisions.

Where a biological material, which is involved in the application and indispensable for the invention to be completed, is not available to the public and has not been deposited according to Rule 24 by the applicant, or although it has been deposited according to the relevant provisions, the certificate of deposit and the certificate of viability provided by the depositary institution have not been submitted at the date of filing, or, at the latest, within four months from the date of filing, the examiner shall reject the application for its non-compliance with the provisions of Article 26.3.

Rule 24(3)

Where an application relates to a biological material which is not available to the public, it shall indicate, in the request and the description, the taxonomic denomination and Latin scientific name of the biological material, the name and address of the depositary institution, the date on which the sample of the biological material was deposited and the accession number of the deposit. In addition to the taxonomic denomination and Latin scientific name of the biological material, the date on which the sample of the biological material was deposited, the whole name and its abbreviation of the depositary institution in which the bi-

ological material is deposited and the accession number of the deposit shall be indicated when the biological material is mentioned

for the first time in the description. Moreover, such information shall be presented as part of the description in the position corresponding to the description of the drawings. If the applicant submitted on time, the request, certificate of deposit and certificate of viability which complied with the provisions of Rule 24, but failed to indicate the information about the deposit in the description, it is permitted for the applicant to add the relevant information in the request to the description in the stage of substantive examination.

(2) "Biological material which is not available to the public" mentioned in Rule 24 includes the biological material held by an individual or entity, deposited with a depositary institution not for the purpose of patent procedures and not released to the public; or although the process for producing the biological material is described in the description, a person skilled in the art still cannot repeat the process so as to obtain said biological material, e.g., new microorganisms created by means of screening, mutation, etc., which cannot be repeated. All these biological materials shall be deposited according to relevant provisions.

The following are the circumstances in which a biological material shall be regarded as available to the public and the deposit thereof is not required:

(i) as for the biological material commercially available to the public at home and abroad, the commercial supplier of it shall be indicated in the description, and if necessary, the evidence shall be submitted to show that the biological material is commercially available to the public before the date of filing (or the priority date where priority is claimed);

(ii) biological materials which have been deposited with a depositary institution recognized by the patent offices of various countries or by international patent organizations for the purposes of patent procedures, and have been published in the patent Gazette or have been granted the patent right before the date of filing (or the priority date where priority is claimed) of the application filed in China; and

(iii) the biological material that must be used in an application has been disclosed in a non-patent document before the date

of filing(or the priority date where priority is claimed),with the source of the document indicated in the description,the public access to the biological material described,and the proof of guaranteeing the biological material accessible to the public for twenty years from the filing date provided by the applicant of the application.

(3)For the biological materials deposited with the depositary institution designated by the State Intellectual Property Office, the institution shall confirm its viability.If the biological material is confirmed dead,polluted,inactive,or variant,the applicant shall deposit the biological material identical with that initially deposited together with the original sample,and notify the Patent Office.The latter deposit is then deemed as the continuation of the original deposit.

(4)The depositary institutions designated by the State Intellectual Property Office refer to the international depository institutions for biological material samples acknowledged by the Budapest Treaty,including the Center for General Microorganism of the Administration Committee of the China Microbiological Culture Collection (CGMCC)based in Beijing and the China Center for Type Culture Collection (CCTCC)based in Wuhan.

9.2.2 Inventions Relating to Genetic Engineering

The term "genetic engineering" here means the technology which manipulates genes artificially by gene recombination,cell fusion,etc.Inventions relating to genetic engineering include those of a gene(or a DNA fragment),a vector,a recombinant vector,a transformant,a polypeptide or a protein,a fused cell,a monoclonal antibody,etc.

9.2.2.1 Inventions of Product

As for the inventions relating to a gene,a vector,a recombinant vector,a transformant,a polypeptide or a protein,a fused cell,a monoclonal antibody per se,the description shall disclose the identification,preparation and use and/or technical effect of the product.

(1)Identification of product

For an invention of a gene,a vector,a recombinant vector,a transformant,a polypeptide or a protein,a fused cell,a monoclonal

antibody, etc., the description shall indicate the structure of the product, such as base sequence of a gene, amino acid sequence of a polypeptide or protein, etc. When the structure of the product cannot be clearly described, the description shall describe the physical/chemical parameters, biological property and/or preparation method of the product, etc.

(2) Preparation of product

The way of making the product shall be described in the description except where the product can be made by a person skilled in the art without such description when taking into account the overall description of the initial description, claims, drawings and the prior art.

For an invention of a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc., when it is not possible to describe a process for producing said product in the description in such a manner that a person skilled in the art can reproduce it, the obtained transformant (including a transformant which produces a recombinant polypeptide or protein) or fused cell, etc., into which the gene, the vector, the recombinant vector has been introduced, shall be deposited in accordance with the provisions of Rule 24. The provisions of Section 9.2.1 of this Chapter shall apply to the details of the deposit.

For an invention of a process for producing a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc., if the process involves the use of a biological material which is not available to the public before the date of filing (or the priority date where priority is claimed), the biological material shall be deposited in accordance with the provisions of Rule 24. The provisions of Section 9.2.1 of this Chapter shall apply to the details of the deposit.

Specifically, the invention may be described as follows:

(i) Gene, vector or recombinant vector

A process for producing a gene, a vector or a recombinant vector shall be described by respective origin or source, means for obtaining said gene, vector or recombinant vector, an enzyme to be used, treatment conditions, steps for collecting and purifying it, and means for identification, etc.

(ii) Transformant

A process for producing a transformant shall be described by a gene or a recombinant vector introduced, a host (a microorganism, a plant or an animal), a method for introducing the gene or the recombinant vector into the host, a method for selectively collecting the transformant, or means for identification, etc.

(iii) Polypeptide or protein

A process for producing a polypeptide or a protein by gene recombination shall be described by stating means for obtaining a gene encoding the polypeptide or the protein, means for obtaining an expression vector used, means for obtaining a host, a method for introducing the gene into the host, a method for selectively collecting the transformant, steps for collecting and purifying the polypeptide or the protein from the transformant into which the gene has been introduced, or means for identification of the polypeptide or the protein, etc.

(iv) Fused cell

A process for producing a fused cell (such as a hybridoma) shall be described by stating source of the parent cells, pretreatment of the parent cells, fusion condition, a method for selectively collecting the fused cell, or means for identification, etc.

(v) Monoclonal antibody

A process for producing a monoclonal antibody shall be described by stating means for obtaining or producing immunogen, a method for immunization, a method for selectively obtaining antibody producing cells, or means for identification of the monoclonal antibody, etc.

When the invention relates to a monoclonal antibody which satisfies specific conditions, (e.g., a monoclonal antibody whose affinity to the antigen A is specified by the specific coupling constant), even if a process for preparing a hybridoma which is capable of producing said monoclonal antibody is described according to above-mentioned disclosure in "(iv) Fused cell", it is random and unable to be reproduced to carry out said process for obtaining a specific result. Therefore, said hybridoma shall be deposited in accordance with the provisions of Rule 24, except where the applicant can submit sufficient evidence to show that the hybridoma can be created repeatedly by a person skilled in

the art on the basis of the disclosure in the description.

(3) Use and/or technical effect of a product

For an invention of a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc., the description shall describe the use and/or technical effect of the product, and specify the technical means, condition, etc., which is needed to obtain said effect.

For instance, the applicant shall submit evidence in the description to show that the gene has the special function, in case of a structural gene, the polypeptide or the protein encoded by said gene has the specific function.

9.2.2.2 Inventions of Process for Producing Product

For an invention of a process for producing a gene, a vector, a recombinant vector, a transformant, a polypeptide or a protein, a fused cell, a monoclonal antibody, etc., the description shall describe said process in a manner sufficiently clear and complete so as to enable a person skilled in the art to prepare the product by using said process, and at least one use of said product shall be described in the description when said product is novel. For the specific requirement of the description, the provisions of Section 9.2.2.1 of this Chapter shall apply.

9.2.3 Nucleotide or Amino Acid Sequence Listing

Rule 17.4 (1) When an invention relates to a nucleotide sequence consisting of 10 or more nucleotides, or an amino acid sequence of a protein or peptide consisting of 4 or more L-amino acids, a "Sequence Listing" prepared in accordance with "Standard for the presentation of nucleotide and/or amino acid sequence listing and its electronic file" issued by the State Intellectual Property Office shall be submitted.

Rule 17.4 (2) The "Sequence Listing" shall be arranged at the end of the description as a separate part of it. Furthermore, the applicant shall submit computer-readable copy recording the nucleotide or amino acid sequence listing. For submission of sequence listing, see Chapter 1, Section 4.2 of Part I.

If the nucleotide or amino acid sequence listing recorded in computer-readable copy submitted by applicant is not consistent with that written sequence listing disclosed in the description and

claims,the written sequence listing shall prevail.

Rule 24

9.2.4 Inventions Relating to Microorganism

(1)The deposited microorganism shall be described by the strain denomination,the species denomination and genus denomination in accordance with microbiological nomenclature. Where it is not identified with a species denomination,a genus denomination shall be provided.The Latin scientific denomination of a microorganism involved in the invention shall be provided in brackets when it is referred to for the first time in the description. Where that microorganism has been deposited with the depositary institution designated by the State Intellectual Property Office according to Rule 24,the date of deposit,the whole name and its abbreviation of the depositary institution and the access number of the deposit shall be indicated in the description according to Section 9.2.1 of this Chapter.In other parts of the description, the microorganism deposited may be represented by the abbreviation of the depositary institution and the access number of the microorganism,such as *Staphylococcus Aureus* CCTCC8605.

(2)Where the microorganism involved is a new species,its taxonomic characteristics shall be described in detail,the reason to classify it as a new species shall be clarified,and the relevant document on which the classification is based shall be indicated.

9.3 Claims of Inventions in the Field of Biotechnology

The claims shall comply with the provisions of Article 26.4and Rule 20.2.

9.3.1 Inventions Relating to Genetic Engineering

For an invention of a gene,a vector,a recombinant vector,a transformant,a polypeptide or a protein,a fused cell,a monoclonal antibody,etc.,the claim of the invention may be described as indicated below.

9.3.1.1 Gene

(1)A gene may be defined directly by specifying its base sequence.

(2)A structural gene may be defined by specifying an amino

acid sequence of the polypeptide or protein encoded by said gene.

(3) Where the base sequence of the gene or the amino acid sequence of the polypeptide or protein encoded by said gene is set forth in the "Sequence Listing" or drawing of the description, reference may be made to the sequence by use of the sequence identifier in the "Sequence Listing" or the number of the drawing.

[Example]

A DNA molecule whose base sequence is represented by SEQ ID NO:1 (or Fig. 1).

(4) Where a gene has a special function, for example, the protein encoded by it has the activity of enzyme A, the gene may be defined by a combination of the terms "substitution, deletion or addition" and functions of the gene.

[Example]

A gene encoding a protein of (a) or (b) as follows:

(a) a protein whose amino acid sequence is represented by Met-Tyr-...-Cys-Leu,

(b) a protein derived from the protein of (a) by substitution, deletion or addition of one or several amino acids in the amino acid sequence defined in (a) and having the activity of enzyme A. The above-mentioned expression of the gene is permissible only if:

I. the said derived protein of (b) is exemplified in the description, for instance in the examples; and

II. the description states the technical means used for producing the derived protein of (b) and verifying its function (otherwise, the description does not sufficiently disclose the gene).

(5) Where a gene has a special function, for example, the protein encoded by it has the activity of enzyme A, the gene may be defined by a combination of the terms "hybridize under stringent conditions" and functions of the gene.

[Example]

A gene selected from the group consisting of:

(a) a DNA molecule whose nucleotide sequence is represented by ATGTATCGG...TGCCT,

(b) a DNA molecule which hybridizes under stringent conditions to the DNA sequence defined in (a) and encodes the protein

having the activity of enzyme A.

The above-mentioned expression of the gene is permissible only if:

I. "stringent conditions" are described in detail in the description; and

II. the said DNA molecule defined in (b) is exemplified in the description, for instance in the examples.

(6) When the above-mentioned expressions of (1)-(5) cannot be used, a gene may be described by specifying functions, physiochemical properties, origin or source of said gene, a process for producing said gene, etc.

9.3.1.2 Vector

(1) A vector may be defined by specifying a base sequence of its DNA.

(2) A vector may be described by specifying a cleavage map of DNA, molecular weight, number of base pairs, source of the vector, process for producing the vector, function or characteristics of the vector, etc.

9.3.1.3 Recombinant Vector

A recombinant vector may be described by specifying at least one of the gene and the vector.

9.3.1.4 Transformant

A transformant may be described by specifying its host and the gene (or the recombinant vector) which is introduced.

9.3.1.5 Polypeptide or Protein

(1) A polypeptide or protein may be defined by specifying an amino acid sequence or a base sequence of structural gene encoding said amino acid sequence.

(2) Where the amino acid sequence of the polypeptide or protein is set forth in the "Sequence Listing" or drawing of the description, reference may be made to the sequence by use of the sequence identifier in the "Sequence Listing" or the number of the drawing.

[Example]

A protein whose amino acid sequence is represented by SEQ

ID NO:2 (or Fig.2).

(3)Where a protein has a special function,for example,it has the activity of enzyme A,the protein may be defined by a combination of the terms "substitution,deletion or addition" and functions of the protein.

[Example]

A protein of (a)or (b) as follows:

(a)a protein whose amino acid sequence is represented by Met-Tyr-...-Cys-Leu,

(b)a protein derived from the protein of (a) by substitution, deletion or addition of one or several amino acids in the amino acid sequence in (a) and having the activity of enzyme A.

The above-mentioned expression of the protein is permissible only if:

I.the said derived protein of (b) is exemplified in the description, for instance in the examples; and

II.the description states the technical means used for producing the derived protein of (b) and verifying its function(otherwise, the description does not sufficiently disclose the protein).

(4)When the above-mentioned expressions of (1)-(3)cannot be used,a polypeptide or protein may be described by specifying functions,physiochemical properties,origin or source of said polypeptide or protein,a process for producing said polypeptide or protein,etc.

9.3.1.6 Fused Cell

A fused cell may be described by specifying parent cells, function and characteristics of the fused cell,or a process for producing the fused cell,etc.

9.3.1.7 Monoclonal Antibody

A claim directed to a monoclonal antibody may be defined by specifying hybridoma which produces it.

[Example]

A monoclonal antibody against antigen A,produced by a hybridoma having CGMCC Deposit No.xxx.

9.3.2 Inventions Relating to Microorganism

Art. 26. 4

(1)A microorganism involved in a claim shall be describeArt.26.4 d

according to the microbiological taxonomic denomination. It shall be described by its Chinese denomination if it has a specific Chinese name, and its Latin scientific name shall also be provided in brackets where it is first mentioned. Where the microorganism has been deposited with a depositary institution designated by the State Intellectual Property Office, the abbreviation of that institution and the access number shall also be indicated in the description of the microorganism.

Art. 26. 4 (2) If a specific mutant strain of a microorganism is not mentioned in the description, alternatively, the specific mutant strain is mentioned rather than a corresponding mode for it to be carried out being provided by the description, any claim for that mutant strain shall not be permissible.

Art. 26. 4 As for a claim for "derivative" of a microorganism, the meanings of "derivative" may refer to not only a new strain derived from the microorganism, but also the metabolites produced by the microorganism, so the meanings of it are indefinite, which makes the protection extent of such claim unclear.

9.4 Examination of Novelty, Inventive Step and Practical Applicability

9.4.1 Novelty of Inventions Relating to Genetic Engineering

(1) Genes

If a protein per se possesses novelty, the invention of the gene encoding the protein also possesses novelty.

(2) Recombinant protein

If a protein as an isolated and purified single substance is known, an invention concerning a recombinant protein defined by a different preparation process and having an identical amino acid sequence does not possess novelty.

(3) Monoclonal antibody

If antigen A is novel, a monoclonal antibody of antigen A is considered novel. However, if a monoclonal antibody of a known antigen A' is known and that the antigen A involved in the invention has the same epitope as that of antigen A', it is deduced that the monoclonal antibody of the known antigen A' is capable of binding to antigen A. In such a case, the invention of the monoclonal antibody of antigen A does not possess novelty ex-

cept where the applicant can verify, according to the disclosure of the application or the prior art, that the monoclonal antibody defined by the claim of the application is different from those disclosed in reference documents.

Art. 22.3

9.4.2 Inventive Step

9.4.2.1 Inventions Relating to Genetic Engineering

(1) Gene

Where a protein is known, but its amino acid sequence is not, an invention of a gene encoding the protein does not involve an inventive step if a person skilled in the art can readily determine the amino acid sequence at the time of filing. However, when the gene has a specific base sequence and has technical effects compared with other genes having a different base sequence encoding said protein, which a person skilled in the art cannot expect, the invention of said gene involves an inventive step.

If the amino acid sequence of a protein is known, an invention of a gene encoding the protein does not involve an inventive step. However, if the gene has a particular base sequence and has technical effects compared with other genes having a different base sequence encoding said protein, which a person skilled in the art cannot expect, the invention of said gene involves an inventive step.

If the claimed structural gene of an invention is the naturally obtainable mutant of a known structural gene and that the claimed gene is derived from the same species as that of the known structural gene and has the same properties and functions as those of the known structural gene, then the invention does not involve an inventive step.

(2) Recombinant vector

If both a vector and an inserted gene are known, an invention of a recombinant vector obtained by a combination of the two usually does not involve an inventive step. However, if an invention of a recombinant vector with a specific combination of them can produce unexpected technical effects compared with the prior art, the invention involves an inventive step.

(3) Transformant

If both a host and an inserted gene are known, an invention of a transformant obtained by a combination of them generally does not involve an inventive step. However, if an invention of a transformant obtained from a specific combination of them can produce unexpected technical effects compared with the prior art, it involves an inventive step.

(4) Fused cell

If parent cells are known, an invention of a fused cell produced by fusing the parent cells does not involve an inventive step. However, if the fused cell has an unexpected technical effect compared with the prior art, the invention of the fused cell involves an inventive step.

(5) Monoclonal antibody

If an antigen is known and it is clearly known that the antigen has immunogenicity (for example, said antigen clearly has immunogenicity because a polyclonal antibody of the antigen is known or the antigen is a polypeptide with a large molecular weight), the invention of a monoclonal antibody of the antigen does not involve an inventive step. However, if the invention is further defined by other features, and hence has unexpected technical effects, the invention of that monoclonal antibody involves an inventive step.

9.4.2.2 Inventions Relating to Microorganism

(1) Microorganism per se

For a microorganism, if its taxonomic characteristics are remarkably different from those of the known species (i.e., a new species), it involves an inventive step. If for an invention of a microorganism, though there is no substantive difference between the taxonomic characteristics of the microorganism involved in the invention and those of the known species, so long as the microorganism produces technical effects that cannot be expected by a person skilled in the art, it involves an inventive step.

(2) Invention relating to the use of microorganism

An invention relating to the use of a microorganism does not involve an inventive step if the microorganism used in the invention is known and that said microorganism belongs to the same genus as that of another known microorganism of the same use. However, if said invention produces unexpected technical

effects compared with the latter microorganism, it involves an inventive step.

An invention relating to the use of a microorganism shall involve an inventive step if the microorganism used in the invention is remarkably different from a microorganism of known species with taxonomic characteristics (i.e., the microorganism used in the invention is a new species), even if the use is the same.

Art. 22. 4

9.4.3 Practical Applicability

In the field of biotechnology, since some inventions cannot be repeated, they do not possess practical applicability, and shall not be granted the patent right.

9.4.3.1 Processes for Screening Particular Microorganisms from Natural Environment

Under most circumstances, the process to screen a particular microorganism from the natural environment is not repeatable because it is limited by the objective condition and is very random. For example, a particular microorganism has been isolated and screened from the soil in some place of some county of some province. The indeterminate geographic position, constant change of the natural and artificial environment and the contingency of the existence of such microorganism even in the same piece of soil may render it impossible to repeatedly screen out the microorganism with the exact same biochemical hereditary feature in the same species of the same genus within the valid term of twenty years of the patent right. Therefore, the process for screening a particular microorganism from natural environment generally does not possess practical applicability. Unless the applicant can provide sufficient evidence to prove the repeatability of the process, no patent right shall be granted to it.

9.4.3.2 Processes for Producing New Microorganism through Artificial Mutagenesis by Physical/Chemical Process

This type of process mainly depends on the random mutation of the microorganism occurring under the condition of mutagenesis. This mutation is in fact a change of one or more bases during DNA replication, and a bacterial strain with certain characteristics is then screened out. Because the base changes at ran-

dom,even if the condition of mutagenesis has been clearly disclosed, it is difficult to achieve exactly the same result by repeating the condition of mutagenesis.Under most circumstances,such process does not comply with the provisions of Article 22.4. Unless the applicant provides sufficient evidence to prove that the microorganism with desired characteristics can be definitely produced by mutagenesis under certain mutagenic conditions,no patent right shall be granted to this type of processes.

Art. 26. 5

Rule 26. 2

9.5 Source Indication of Genetic Resources

9.5.1 Interpretation of Terms

Direct source of the genetic resources referred to in the Patent Law means the direct channel to obtain the genetic resources. When indicating the direct source of the genetic resources, the applicant shall provide such information as the time, place,means and provider,etc.,on acquisition of the genetic resources.

Original source of the genetic resources referred to in the Patent Law means the place in the in-situ conditions where the organism to which the genetic resources belong is collected. Where the organism naturally occurs,the in-situ conditions refer to the natural habitats where this organism grows.Where the organism is a cultivated or domesticated species,the in-situ conditions refer to the surroundings where this organism has developed its distinctive traits or characteristics.When indicating the original source of the genetic resources,the applicant shall provide such information as the time,place and collector,etc.,on the collection of the organism to which the genetic resources belong.

9.5.2 Specific Requirements for the Source Indication

Where an application for patent is filed for an invention-creation the development of which relies on the use of genetic resources, the applicant shall state that fact in the request,and fill in the specific information of the direct and original source of the genetic resources in the Registration Form for Indicating Source of Genetic Resources(hereafter referred to as registration form)prepared by the Patent Office.

The applicant's indication of the direct and original source

shall be in conformity with the requirements for filling in the registration form, and gives relevant information clearly and completely.

Where the genetic resources are directly obtained from a certain institution, such as depository institution, seed bank (germ plasm bank), gene library etc., if the institution knows and can provide the original source, the applicant shall provide the information of the original source of the genetic resources. Where the applicant fails to indicate the original source, he shall state the reasons thereof, and provide relevant evidence if necessary, for example, state "the seed bank does not make a record of the original source of the genetic resources", or "the seed bank can not provide the original source of the genetic resources", and provide relevant written certificate issued by the seed bank.

9.5.3 Examination of the Source Indication of Genetic Resources

When examining according to Article 26.5 and Rule 26.2, the examiner shall, at first, read the description and claims carefully to understand the invention-creation accurately. On this basis, the examiner shall determine whether the development of the invention-creation relies on the genetic resources, as well as on which genetic resources the invention-creation relies.

For invention-creation developed relying on the genetic resources, the examiner shall examine whether the applicant has submitted the registration form.

If the applicant fails to submit any registration form, the examiner shall notify him in the Office Action to make a supplementary submission, and also specify which genetic resources shall be indicated regarding its source and explain the reasons thereof.

If the registration forms submitted by the applicant only indicate sources of part of the genetic resources, the examiner shall notify him in the Office Action to additionally submit the registration form(s) for the other genetic resources, and also specify the genetic resources the source of which shall be additionally indicated and explain the reasons thereof.

If the applicant has submitted the registration form, the examiner shall examine whether the direct and original source of the genetic resources are indicated in the registration form.

Where no original source is indicated, the examiner shall examine whether the reason thereof is stated. If the registration form completed by the applicant is not in conformity with the relevant provisions, the examiner shall point out the defects existing in the registration form in the Office Action. Where the patent application is still not in conformity with the provision of Article 26.5 after the applicant has made observations or amendments, the examiner shall reject it.

It should be noted that the contents in the registration form do not belong to the disclosure contained in the initial description and claims. Therefore, it can neither be used as the basis to judge whether the description has sufficiently disclosed the claimed invention, nor as the basis to amend the description and claims.