Comparative Study on Hypothetical/Real Cases: Novelty

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State Intellectual Property Office of the P.R.C

Japan Patent Office

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1 Summary

There are 6 hypothetical/real cases selected for novelty comparative study. For a meaningful study, it should find out the differences existed among the three Offices. By comparing the laws, the regulations and the guidelines regarding novelty, we come to a conclusion that novelty assessing is quite similar among the three Offices. So we turn to case study to find out the differences.

For the above purpose, firstly we need to identify what are the difficult examination issues while assessing novelty. For example, some matters in the claims are not explicitly disclosed in the prior art, a product or process defined by its use, prior art expressed by numerical value or numerical range etc. It is more possible to find out the differences if assessing the cases containing those difficult issues.

Then the next step is to choose or even design cases containing such difficult issues, and covering them as many as possible in the 6 cases. To meet this requirement, the three Offices amend the claims or specifications by adding, deleting or modifying one or more technical features based on real cases to “create” difficult novelty examination issues. As a result, we find out the differences in all 6 cases, no matter it is a big or minor one.

Though the “comparative study on hypothetical/real cases” focuses on and discloses the differences which is also the purpose of the case study, to great extent, the general process to judge novelty is quite similar, especially when taking the inventive step into account, the results of patentability of most cases would be the same among the three offices.

2 Introduction

In order for applicants to deeply understand patent examination standards, which will promote the quality of applications and examination, JPO、KIPO and SIPO have conducted comparative study on inventive step in 2010 and 2011. In 2012, for the first time, the three Offices combine the comparative study on laws and cases as to novelty together.

For a meaningful comparative study, we should find out the differences (if existed) among the offices as many as possible. By comparing the laws、the regulations and the guidelines, some literal differences can be found out. But more importantly, we need to dig out the differences in examination practice. For example, though the law is the same, but comes to examination results, we get a different conclusion. The case study is designed to find out the underlying reasons for this phenomenon. While after the case study, it is interesting for us to find that even the examination results differ, but the offices actually adopt the same approach to address some examination issues.

As a result, all the 6 cases reach the designed purpose, the differences have been illustrated. Though some examination conclusions are the same, but the reasoning varied. The further information from this report describes the “Comparative Study on Hypothetical/Real Cases”, please refer to the sections 3 and 4.

3 Comparative Study on Hypothetical/Real Cases

3.1 Case 1

(1) Outline of the Application (JP 4-176643 A)

[Claim]

A rubber hose having an inner face rubber and an exterior casing rubber, and a pressure-resistant reinforcement layer therebetween, wherein a polyethylene resin layer having a molecular weight of 100,000 to 5,000,000 is formed on the surface of the exterior casing rubber, wherein the polyethylene resin layer has a thickness of 0.05 to 0.3 mm.

[Description]

The present invention relates to a rubber hose with mainly improved oil resistance and wear resistance under the external environment where a rubber hose is used and having a polyethylene resin layer formed on the outermost layer.

In order to employ the above-described structure of the rubber hose, the present invention is configured such that a polyethylene resin layer supports the external environment of the hose.

A polymer polyethylene resin is excellent in wear resistance and oil resistance and also excellent in corrosion resistance, and even if such rubber hose is used, for example, in oil, or in waters, etc. or frequently contacts a roller, etc., the rubber hose itself will not show an abnormality.

In addition, a polyethylene resin layer forming the outermost surface of the rubber hose has a molecular weight of 100,000 to 5,000,000, and preferably 1,000,000 to 4,000,000, and has a thickness of 0.05 to 0.3 mm, and preferably about 0.1 to 0.2 mm.

When the thickness of such polyethylene resin layer is 0.05 mm or less, performing sheeting is made difficult at first, and the workability of winding it on the external surface of the rubber hose is deteriorated. Moreover, even if winding it on the external surface of the rubber hose, flow can easily occur during rubber vulcanization, which makes the film thickness uneven.

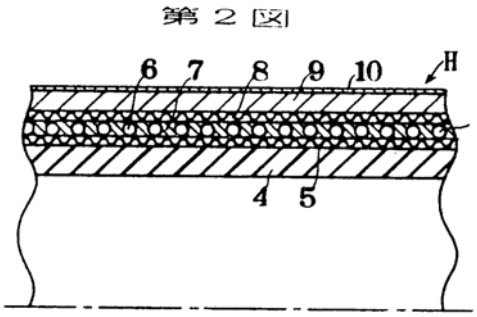
Additionally, what is especially a problem is that expectations for oil resistance and wear resistance cannot be so high and a thin layer of 0.05 mm or less is not employed.

On the other hand, in the case of a polyethylene resin layer having a thickness of 0.3 mm or more, air intrusion, etc. occurs when performing sheeting, which deteriorates the workability of winding it on the external surface of the rubber hose, and cannot thus be employed.

Moreover, in the case of a polyethylene resin layer having a thickness of 0.3 mm or more does not increase the oil resistance and wear resistance, so conversely, this is a useless thickness.

In this way, comprehensively reviewing sheeting of the polyethylene resin itself,

winding thereof on the external surface of the rubber hose, oil resistance and wear resistance, retaining flexibility of the rubber hose, etc., it has been revealed that the thickness of the polyethylene resin layer is most preferably about 0.1 to 0.2 mm.



Brief Explanation of Drawings

Fig. 2 is a partially enlarged view of a rubber hose of the present invention.

4 inner face rubber
6 reinforcement wire
9 exterior casing rubber
10 polyethylene resin sheet

(2) Outline of the Prior Art (JP 3-28386 U)

The document discloses a composite rubber hose configured such that a covering layer made of ultrahigh molecular weight polyethylene is affixed to and integrated with an inner face and/or an outer face of a hose main layer made of rubber.

The ultrahigh molecular weight polyethylene used in the present device is preferably that which is affixed to a rubber layer by vulcanization and does not melt or deform during formation by vulcanization, and that having an average molecular weight of 1 to 6 million is employed.

The composite rubber hose of the present device is configured such that a covering layer of the ultrahigh molecular weight polyethylene is covered with inner and/or external surfaces of the hose main layer of rubber, and exerts a remarkably excellent property compared to other plastics having ultrahigh molecular weight polyethylene.

Namely, it has an extremely low coefficient of friction and an excellent self-lubricant property, and thus makes the buildup of static charge difficult even if the hose inner and external wall faces contact other objects or slide, and exerts an antistatic property.

In this case, in order to make the antistatic property more complete, a conductive carbon, etc. may be mixed in the ultrahigh molecular weight polyethylene layer.

Moreover, the wear resistance of the inner and external surfaces of the hose is remarkably improved due to the excellent wear resistance of the covering layer itself, and its endurance is also excellent.

Moreover, as its chemical resistance, impact resistance, low-temperature characteristics, and nontoxicity, etc. are also excellent, its usage may be expanded while its advantages such as flexibility and pressure resistance of the rubber hose may be retained.

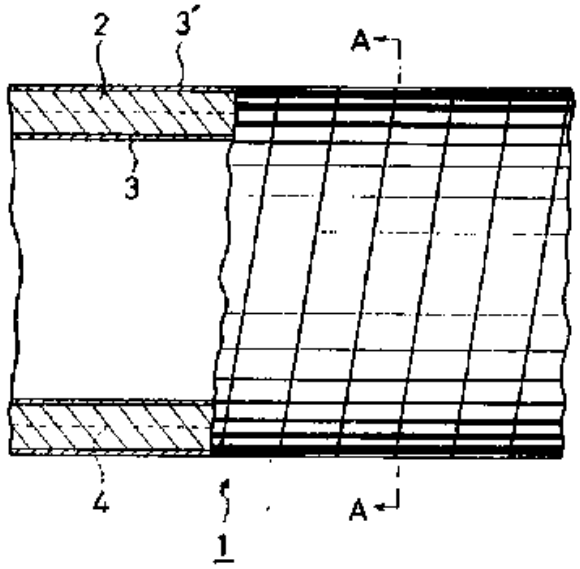
Fig. 1 and Fig. 2 show one example of a composite rubber hose according to the present device, and the composite rubber hose 1 is formed by affixing thin ultrahigh molecular weight polyethylene covering layers 3, 3’ to the inner and external surfaces

of the rubber hose main layer 2 and integrating them. The fabric layer for reinforcement 4 is embedded in the layer of the hose main layer 2.

The composite rubber hose 1 is formed by means of, for example, the following forming method.

Namely, the ultrahigh molecular weight polyethylene tape or film is wound on a mandrel to form the covering layer 3 on the hose inner surface side and a non-vulcanized rubber layer containing sulfur as a vulcanizing agent, a fabric layer and the non-vulcanized rubber layer are laminated sequentially on the outer side thereof to form the hose main layer 2 and the tape or film is wound helically again on the outer side thereof to form the covering layer 3' on the hose external surface side. Thereafter, this is pressurized and heated to vulcanize the non-vulcanized rubber layer and simultaneously the rubber layer and the ultrahigh molecular weight polyethylene layer are affixed by vulcanization and extracted from the mandrel to obtain the composite rubber hose.

第 1 図



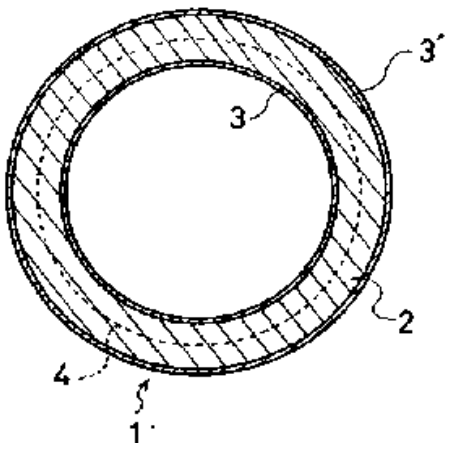
Brief Explanation of Drawings

Fig. 1 is a partial sectional side view showing one example of a composite rubber hose according to the present device.

Fig. 2 is a sectional view taken along line A-A of Fig. 1

1 composite rubber hose
2 hose main layer
3, 3' covering layer
4, fabric layer

第 2 図



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(3) Assessments of Novelty by each Office

[JPO]

The claimed invention and the cited invention are identical, to the extent that both are an invention of "a rubber hose having an inner face rubber and an exterior casing rubber, and a pressure-resistant reinforcement layer therebetween, wherein a polyethylene resin layer having a molecular weight of 100,000 to 5,000,000 is formed on the surface of the exterior casing rubber." In regards to the above mentioned polyethylene resin layer, these inventions are different in "the point that while the claimed invention describes "the polyethylene resin layer has a thickness of 0.05 to 0.3 mm", the cited invention does not provide specific description about the thickness.

The claimed invention is not considered to be identical to the cited invention, and the claimed invention is novel.

In the technical field of rubber hoses, the matter that a polyethylene resin layer being 0.05 mm to 0.3 mm is formed on the periphery of the exterior casing rubber cannot be considered as common general knowledge in the art at the time of filing the claimed invention. Consequently, the above thickness of the polyethylene resin layer cannot be certified as a matter used to specify the cited invention, so there is a difference between the matter used to specify the claimed invention and the matter used to specify the cited invention.

Therefore, the claimed invention and the cited invention cannot be considered to be identical, and the claimed invention is novel.

Reference:

In the comparative study, JPO uses guidelines and practices of "novelty" in Article 29(1), not identicalness in Article 29-2 and 39. However, as additional information, JPO describes assessment of identicalness including "substantially identical" in Article 29-2 and 39 only in case 1.

In case the cited invention is described in the secret prior art (conflicting application) in Article 29-2 of the Japan Patent Act, the claimed invention is substantially identical to the invention stated in the earlier application description.

In regards to the above difference, operational effects of the claimed invention, which is the invention of "a rubber hose," is then evaluated from the perspectives of oil or grease resistance and abrasion resistance, which the mentioned rubber hose has.

First, when considering the 0.3 mm upper limit for the thickness, the only reason for this upper thickness limit described in the specification of the claimed invention suggests that a thickness of more than the 0.3mm limit is ineffective from the perspectives of oil or grease resistance and abrasion resistance. On the other hand, as there is no reason for an interpretation that the cited invention was assumed to have a

polyethylene resin layer being “the ineffective thickness,” it is clear and obvious from the description of the specification of the claimed invention that the upper limit is only a matter of design which a person skilled in the art could appropriately select at the time of implementation.

In regards to checking for the lower limit of 0.05 mm, the description clearly indicates that the earlier application invention has abrasion resistance, chemical resistance (oil and grease resistance), etc., as well as antistatic properties. Also, for a polyethylene resin layer, when considering that the outer periphery of the main hose layer is spirally wrapped with an ultrahigh molecular weight polyethylene tape or film in order to make a “thin-walled” polyethylene resin layer, it is confirmed that the earlier application invention, as is the case with the claimed invention, is also assumed that all oil or grease resistance, namely chemical resistance and abrasion resistance are main the operational effects of the invention. And it is also confirmed that in terms of forming the polyethylene resin layer on the outer periphery of the hose, the earlier application invention has disclosed a technical idea to make a polyethylene resin layer as thin as possible, without losing these operational effects. Furthermore, also if we consider a description of a preferred embodiment in the earlier application invention that the ultrahigh molecular weight polyethylene would be neither melted nor transformed at the time its is being firmly bonded to the vulcanized rubber layer and at the time it is being vulcanized into form, it is clearly confirmed that a person skilled in the art, who came to know the earlier application invention without a clear description of the lower thickness limit for the polyethylene resin layer, may understand at the time of implementing the earlier application invention that the thickness is a matter to be automatically determined, namely a matter of design to be appropriately selected, while taking into account the preferred vulcanized form and other elements, based on the above mentioned technical idea.

As mentioned above, in regards to the above difference, both upper and lower thickness limits of the polyethylene resin layer in the claimed invention are only an appropriately defined number that represents a matter of design in the earlier application invention to be appropriately selected by a person skilled in the art. And, as any specific technical meaning or critical importance cannot be found in the definition of the thickness, the claimed invention is substantially identical with the invention stated in the earlier application description.

Consequently, the claimed invention and the invention stated in the earlier application description can be considered to be substantially identical.

[KIPO]

A general criterion for assessing novelty of the claimed invention is as follows:

Novelty of the claimed invention is assessed by comparing the matters specifying the claimed invention and the matters disclosed in the cited invention, and extracting the

difference between them. Where there is no difference between the matters specifying the claimed invention and the matters disclosed in the cited invention, the claimed invention is not novel. Where there is a difference, the claimed invention is novel. In addition, the claimed invention is not novel when it is substantially or exactly identical to the cited invention.

"The substantially identical invention" means that there is no newly produced effect, since the difference in the concrete means for solving problems is caused by mere addition, conversion or deletion of well-known or commonly used arts and the difference between the claimed invention and the cited invention does not practically affect the technical idea of the claimed invention.

According to the criterion, when compared to the cited invention for extracting the difference, the claimed invention further defines the thickness range of the polyethylene resin layer. Namely, the claimed invention is identical to the cited invention except for numerical limitation about the thickness of the polyethylene resin layer.

In a case where the technical feature of the claimed invention lies only in the numerical limitation to the feature of the cited invention, the cited invention is regarded as new at first glance. However, if the numerical limitation is in the range of those being arbitrarily chosen by a person skilled in the art or it is implied in the cited invention in view of the common technical knowledge at the time of filing, novelty of the invention is denied in general.

Turning back to this case, as shown in the description of the claimed invention, the numerical limitation may merely suggest the upper and lower thicknesses of the polyethylene resin layer, for the person skilled in the art to readily implement the claimed invention with effective resistance and workability which are the common objectives in both inventions.

Moreover, it is so clear that the person skilled in the art, within his technical common sense, would appropriately select a thickness in the suggested range in the claimed invention, when implementing the cited invention which does not specify the thicknesses of the polyethylene resin layer, that is to say, it can be considered that the cited invention implicitly includes the technical feature related with the thickness of the polyethylene resin layer.

Therefore, there is no doubt that the difference between the claimed invention and the cited invention does not practically affect the technical idea of the claimed invention, and the numerical limitation of the claimed invention can be arbitrarily chosen by the person skilled in the art.

Consequently, based on the above elaboration, the claimed invention and the cited

invention can be considered to be substantially identical, rendering the claimed invention not-novel.

[SIPO]
The cited invention (see the example and figures 1 and 2) discloses: the composite rubber hose 1 is formed by affixing thin ultrahigh molecular weight polyethylene cover layers 3 and 3' to the inner and external surfaces of the rubber hose main layer 2 and integrating them. The fabric reinforcement layer 4 is embedded in the layer of the main layer 2. The ultrahigh molecular weight polyethylene tape or film is wound on a mandrel to form the cover layer 3 on the inner side of the hose, and a non-vulcanized rubber layer(inner face rubber) containing sulfur as a vulcanizing agent, a fabric layer 4 (a pressure-resistant reinforcement layer) and the non-vulcanized rubber layer (exterior casing rubber) are laminated sequentially on the outer side thereof to form the main layer 2，and the tape or film is wound helically on the outer side thereof to form the covering layer 3' (a polyethylene resin layer) on the external surface side of the hose.

The claim includes a limitation of polyethylene resin layer's thickness of 0.05 to 0.3 mm, which has not been disclosed in the cited invention. In any sense, the thickness may not contribute the invention inventive step, but they do render the claim novel.

Thus the claim is novel

Reference:
In the comparative study, SIPO uses practices of novelty for publicly known document, not for conflicting application. However, as additional information, SIPO describes assessment of novelty for conflicting applications including "direct substitution of customary means" (See Part II Chapter 3 Section 3.2.3).

"Direct Substitution of Customary Means" provides, "If the difference between the claimed invention 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 Case 2

(1) Outline of the Application (JP 4058072 B)

[Claim]
Superoxide anion decomposing agent composed of platinum fine powder having a particle size of 6 nm or less as observed under a microscope which is prepared under a metal salt reduction method.

[Description]

The present invention relates to a superoxide anion, which is one of the reactive oxygen species, decomposing agent. The superoxide anion decomposing agent of the present invention can be used as reduced water or medicaments.

Examples of diseases in which reactive oxygen species is involved include cancer, diabetes mellitus, atopic dermatitis, Alzheimer's disease, retinitis pigmentosa and the like, and it is considered that excessive state of reactive oxygen species is involved in 90% of human diseases in their certain progression stages.

The inventors of the present invention conducted various researches to provide a means for efficient quenching of superoxide anion among the reactive oxygen species generated in a living body and thereby canceling an excessive state of these reactive oxygen species in vivo. The inventors of the present invention focused on transition metal finepowder, especially finepowder of platinum which is one of noble metals, and found that the finepowder successfully invaded into cells, and that the finepowder had the ability to decompose superoxide anion.

According to preferred embodiments of these inventions, provided are the aforementioned decomposing agent, wherein the finepowder is finepowders of platinum or finepowders of a platinum alloy; the aforementioned decomposing agent, which are in an aqueous form containing transition metal colloid; and the aforementioned decomposing agent, which is in an aqueous form containing the transition metal colloid at a ratio of 1 mM or less in 1000 ml.

As fineparticles of noble metal, fineparticles that have a large specific surface area and can form a colloidal state that achieves superior surface reactivity are preferred. The sizes of the fineparticles are not particularly limited. Fineparticles having a mean particle size of 50 nm or smaller can be used, and fineparticles having a mean particle size of, preferably 20 nm or smaller, further preferably 10 nm or smaller, most preferably about 1 to 6 nm, can be used. The superoxide anion decomposing agent which contain such fineparticles in a stable suspended state in an aqueous medium are also preferred. As the aqueous medium, water may be preferably used.

Various methods for producing noble metal fineparticles are known, and those skilled in the art can easily prepare the fineparticles by referring to these methods. For example, as the method for producing noble metal fineparticles, a chemical method called metal salt reduction method and the like can be used. It is preferable to use fineparticles prepared by the metal salt reduction method from viewpoints of convenience of the production and quality of the fineparticles.

According to preferred embodiments of the decomposing agent of the present invention, the decomposing agent contain metal finepowders having a particle size of a nanometer (nm) order, and after the metal finepowder is administered into a living body, the finepowder is taken up by cells and invade into mitochondria to eliminate

superoxide anions generated in the mitochondria. Therefore, it is expected that the decomposing agent of the present invention are effective for prophylactic or therapeutic treatment of the aforementioned diseases which are considered to be caused by active oxygen, especially familial amyotrophic lateral sclerosis (FALS), and the like. Moreover, the decomposing agent of the present invention provided in the form of reduced water can be used as water for drinking or isotonic drink as healthy food, and the decomposing agent themselves can be used as a medicament or cosmetic, or can also be used for manufacture of healthy food, medicaments, cosmetics and the like.

(2) Outline of the Prior Art (JP 2002-212102 A)

The invention in the cited document is an electrochemically bioactive fine particle which supplies a negative charge to vital bodies and produces bioactivity in the bodies.

In the Claim 5, it is disclosed that:
Electrochemically bioactive fine particles forming a field abundant in anions in vital bodies and maintaining the bioactivity of receptors by continuously supplying electric negative charges to receptors in tissues of the vital bodies during passing through the vital bodies, wherein said electrochemically fine particles are platinum colloids, and a single particle of platinum particles in colloids is 10nm (100Å) or less, and agglomerated particles consisting of chain-like single particles are dispersed at the order of 150nm (1500Å) or less.

The electrochemically bioactive fine particles of the present invention may be produced using a production process of nanosized fine particles. Metal salt reduction method is one of the typical production processes of nanozised fine particles.

With respect to the electrochemically bioactive fine particles according to the present invention, improvement examples of various symptoms are shown. The electrochemically bioactive fine particles used here are in a platinum colloidal solution produced by means of a metal salt reduction method. The platinum colloidal solution has the following features and was approved by the Health and Welfare Ministry as a soft drink:
Particle size= 1 to 3nm;
Agglutinated particle size (chain-like) = 4 to 8nm;

The platinum colloidal solution having the above-described features was offered to recruited applicants. According to the narratives that the applicants told, symptoms including Atopy, Diabetes, Cancer,etc, improved by the solution.

(3) Assessments of Novelty by each Office

[JPO]

As mentioned below, the claimed invention is not novel.

When the claimed invention provides a limitation of use in the claims and is considered to be an invention based on the discovery of an unknown attribute of a product and finding of the product's adaptability for novel use derived from the attribute, the limitation of use may define the claimed invention. In this case, the invention could be novel even if the product per se is already known.
However, the novelty of the claimed invention is denied when a novel use of the product is not considered to be provided, based on the common general knowledge in the area as of the filing, even with a discovered unknown attribute.

In this example, both the claimed invention and the cited invention are identical in terms of their being related to platinum fine powder that is effective in the prevention or treatment of cancer, diabetes, atopic dermatitis, etc. when taken internally. On the other hand, while the use described in the claim of the claimed invention is a "superoxide anion decomposing agent," the cited document has no description in terms of the above mentioned platinum fine powder, which is stated in the cited invention, having any action for decomposing superoxide anion. In that regard, both inventions, to some extent, are different.
However, because both the claimed invention and the cited invention are used in the prevention or treatment of cancer, diabetes, atopic dermatitis, etc., the claimed invention is not considered to provide a novel use based on the discovery of unknown attribute as a "superoxide anion decomposing agent," and therefore, the novelty of the claimed invention is denied.

[KIPO]
Claim 1 of the present invention relates to use of a composition comprising platinum fine powder for decomposing superoxide anion radicals.

A general criterion for assessing novelty of the claim which includes an expression specifying a product by its use (limitation of use) is as follows:

When a claimed invention is related to a novel use of a known product and the claim includes an expression specifying the product by its use, the invention could be novel even though the product is already known from prior art documents.

Concerning the composition, there is no difference between the composition comprising platinum fine powder of the present invention and the composition comprising platinum fine particles of the cited document in a type, size, and manufacturing process of a component included in each composition.

On the other hand, concerning use of the composition, since the prior art document does not explicitly describe the use of the composition for decomposing superoxide anion radicals, outwardly, the subject matters of this instant invention and the prior art document are considered different.

However, considering the Description of the present invention, the composition for decomposing superoxide anion radicals can be used for cosmetics, medicaments for various diseases such as cancer, diabetes mellitus, atopic dermatitis, Alzheimer's disease, retinitis pigmentosa, etc., a filter of cigarette, and so on. Among these, pharmaceutical uses of the composition for ameliorating cancer, diabetes, atopic dermatitis, etc. are already disclosed in the prior art document.

Hence, the subject matter of the present invention is substantially identical to that of the cited document. Thus, claim 1 of this instant invention lacks novelty.

[SIPO]

The claimed invention is not novel.

Compared with the claimed invention, the matter that the cited document doesn't disclose is the effect of decomposition of superoxide. Guidelines (see part II chapter 3 3.2.5 (2)), state that "…product claims including feature of use… for this kind of claims… 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."

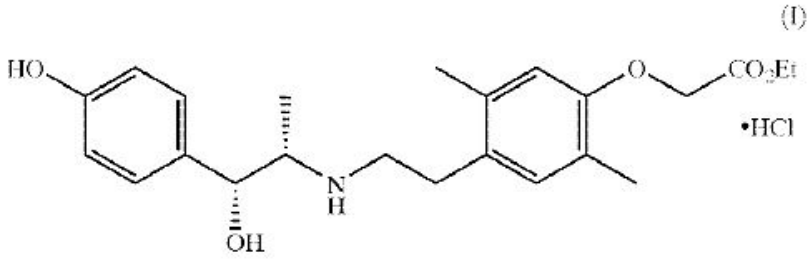
Since-superoxide anion decomposing agent does not change the structure or composition of the platinum fine powders. Compared with the prior art there are no essential technical features different from the claim.
Thus the claim is not novel.

3.3 Case 3

(1) Outline of the Application (KR 10-2008-0098691 A)

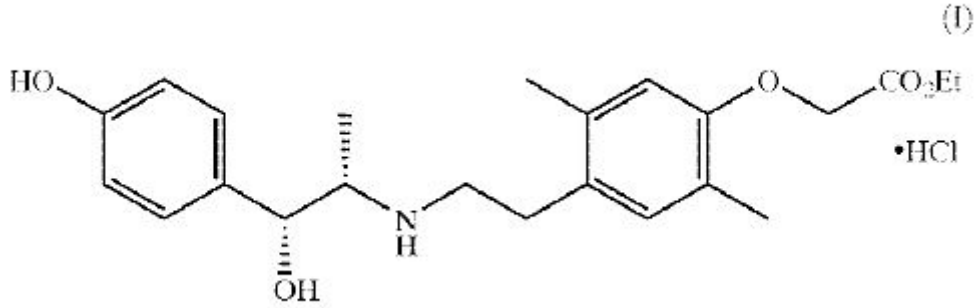
[Claim]

A compound represented by formula (I):



[Description]

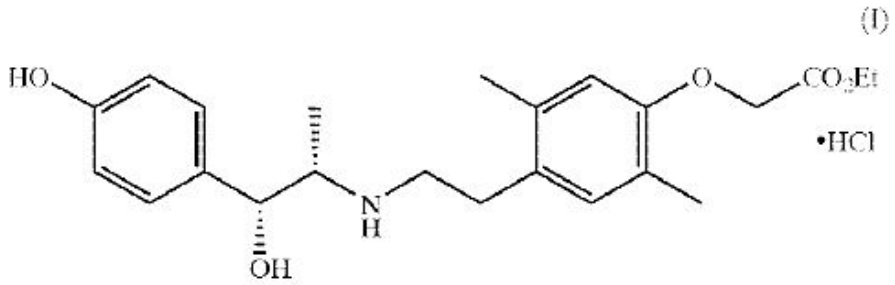
The present inventors had intensively investigated various acid addition salts of compound (II), and found unexpectedly that a hydrochloride salt of compound (II), that is ethyl(−)-2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-methyethyl]amino]ethyl]-2,5-dimethyl-phenoxy]acetate hydrochloride represented by formula (I):



can be obtained in the form of highly crystalline solid. Moreover, the present inventors had investigated crystals of compound (I), and found that crystals of the present invention have surprisingly excellent storage stabilities and are useful for a drug substance. Based on these findings, the present invention has been accomplished.

The present invention therefore provides:

(1) a compound represented by formula (I):



(2) a crystal of a compound according to the above (1);

(3) the crystal according to the above (2) which shows an X-ray powder diffraction pattern having characteristic peaks at a diffraction angle (2θ±0.1 degree) of 8.9, 10.2, 12.9, 14.2, 15.6, 18.4 and 20.6 degrees (hereinafter, referred to as "crystalline form A");

(4) the crystal according to the above (2) which shows an X-ray powder diffraction pattern having characteristic peaks at a diffraction angle (2θ±0.1 degree) of 7.3, 10.1, 12.2, 14.6, 15.9, 16.0, 18.7 and 21.8 degrees (hereinafter, referred to as "crystalline form B");

(5) a pharmaceutical composition which comprises, as an active ingredient, a compound according to any one of the above (1) to (4);

(6) the pharmaceutical composition according to the above (5), for the treatment of pollakiuria or urinary incontinence;

(7) a medicament for treating pollakiuria or urinary incontinence, which comprises, as an active ingredient, a compound according to any one of the above (1) to (4);

(8) a use of a compound according to any one of the above (1) to (4), for the manufacture of a medicament for treating pollakiuria or urinary incontinence; and
(9) a method for treating pollakiuria or urinary incontinence, which comprises administering a therapeutically effective amount of a compound according to any one of the above (1) to (4).

FIG. 1 is an X-ray powder diffraction pattern of crystalline form A of compound (I) obtained in Example 2 where the ordinate shows the X-ray intensity in cps and the abscissa shows the diffraction angle in 2θ.
FIG. 2 is an X-ray powder diffraction pattern of crystalline form B of compound (I) obtained in Example 3 where the ordinate shows the X-ray intensity in cps and the abscissa shows the diffraction angle in 2θ.
A compound represented by formula (I) of the present invention, and the particular crystalline forms A and B thereof can be produced as follows.
Compound (II), which is used as the starting material of the present invention, can be prepared in amorphous forms by the known procedure as described in WO00/02846.
Compound (I) can be obtained in crystalline forms by reacting a solution of compound (II) in an appropriate organic solvent, with hydrochloric acid or hydrogen chloride.
Examples of the organic solvent employed in the above reaction include ethanol, carboxylic acid esters such as ethyl acetate and the like, hydrocarbons such as toluene and the like, acetonitrile and the like. The organic solvents can be used either singly or as a mixture of two or more solvents.
The source of HCl can be used in the form of hydrochloric acid, or a solution of the above organic solvent into which gaseous hydrogen chloride is blown.
The reaction of compound (II) with hydrochloric acid or hydrogen chloride takes place immediately. The time required for crystallization varies depending upon crystallization conditions such as the amounts of organic solvents and HCl employed, as well as the crystallization temperature and the like, and it takes ordinarily about 1 to 24 hours. Preferably, the crystallization is carried out by stirring the reaction mixture at a temperature of about 0 to about 30° C. for 1 to 6 hours to provide compound (I).
Recrystallization of compound (I) thus obtained, from a suitable solvent provides crystalline forms A and B, which are the particular crystalline forms of compound (I) of the present invention.
For example, crystalline form A can be obtained as follows. Compound (I) is dissolved in ethanol under heating, and to the resulting solution is added, if necessary, t-butyl methyl ether, isopropanol or water at a temperature of about 40 to about 50° C. with stirring, then the mixture is stirred at a temperature of about 40 to about 50° C. for 1 to 6 hours. Thereafter, the mixture is stirred at a temperature of about 0 to about 30° C. for another 1 to 6 hours to provide crystalline form A.
Crystalline form B can be obtained as follows. Compound (I) is dissolved in ethanol and tetrahydrofuran under heating, and to the resulting mixture is added additional tetrahydrofuran at about 40° C. with stirring. The mixture is stirred at a temperature of about 0 to about 10° C. for 1 to 12 hours to provide crystalline form B.

The crystalline forms A and B of compound (I) thus obtained can be identified by their characteristic diffraction peaks as shown in the X-ray powder diffraction charts of FIGS. 1 and 2:

(1) crystalline form A has characteristic peaks at a diffraction angle (2θ±0.1 degree) of 8.9, 10.2, 12.9, 14.2, 15.6, 18.4 and 20.6 degrees as shown in FIG. 1; and

(2) crystalline form B has characteristic peaks at a diffraction angle (2θ±0.1 degree) of 7.3, 10.1, 12.2, 14.6, 15.9, 16.0, 18.7 and 21.8 degrees as shown in FIG. 2.

The crystalline forms A and B of compound (I) can be stored at ordinarily storage conditions such as 25° C., 60% relative humidity and the like for a long period without changing their crystalline forms, and are also chemically stable. The crystalline forms A and B have excellent flowabilities and good handling properties, and are suitable for formulation.

The compound represented by formula (I) of the present invention exhibits an excellent β_3-adrenoceptor stimulating effect and relaxes bladder detrusor muscle as well as increases the volume of bladder. Therefore, compound (I) of the present invention can be used for the treatment of dysuria such as pollakiuria, urinary incontinence in the case of nervous pollakiuria, neurogenic bladder dysfunction, nocturia, unstable bladder, cystospasm, chronic or acute cystitis, chronic or acute prostatitis, prostatic hypertrophy and the like, idiopathic pollakiuria, idiopathic urinary incontinence and the like.

The compound represented by formula (I) of the present invention can be used, if required, in combination with another medicament for the treatment of dysuria. Examples of such a medicament include anticholinergic agents such as oxybutynin hydrochloride, propiverine hydrochloride, tolterodine, darifenacin, fesoterodine, trospium chloride, KRP-197, YM-905 and the like; smooth muscle relaxants such as flavoxate hydrochloride and the like; β_2-adrenoceptor agonists such as clenbuterol hydrochloride, formoterol fumarate and the like; α_1-adrenoceptor agonists such as midodrine hydrochloride, R-450, GW-515524, ABT-866 and the like; estrogen preparations such as conjugated estrogen, estriol, estradiol and the like; central nervous system agents such as antiepileptic agents, antidepressants and the like such as imipramine, reserpine, diazepam, carbamazepine and the like; neurokinin receptor antagonists such as TAK-637, SB-223956, AZD-5106 and the like; potassium channel openers such as KW-7158, AZD-0947, NS-8, ABT-598, WAY-151616 and the like; vanilloid receptor agonists such as capsaicin, resiniferatoxin and the like; vasopressin 2 receptor agonists such as desmopressin, OPC-51803, WAY-141608 and the like; α_1-adrenoceptor antagonists such as tamsulosin, urapidil, naftopidil, silodsin, terazosin, prazosin, alfuzosin, fiduxosin, AIO-8507L and the like; GABA receptor agonists such as baclofen and the like; serotonin receptor antagonists such as REC-15-3079 and the like; dopamine receptor agonists such as L-dopa and the like, or dopamine receptor antagonists; antiallergic agents such as histamine receptor antagonists such as sulplatast tosilate, norastemizole and the like; NO synthase inhibitors such as nitroflurbiprofen and the like.

In the case of using a pharmaceutical composition comprising the compound represented by formula (I) or the crystalline forms thereof for a medical treatment, various dosage forms can be administered depending upon their usages. Exemplary dosage forms include powders, granules, fine granules, dry syrups, tablets, capsules, injections, liquids, ointments, suppositories, poultices

and the like, which are administered orally or parenterally.

Pharmaceutical compositions can be formulated by admixing, diluting or dissolving with appropriate pharmaceutical additives such as excipients, disintegrators, binders, lubricants, diluents, buffers, isotonic agents, preservatives, wetting agents, emulsifying agents, dispersing agents, stabilizing agents, solubilizing agents and the like, according to a conventional formulation procedure depending upon their dosage forms.

In the case of using a pharmaceutical composition of the present invention for a medical treatment, the dosage of the compound represented by formula (I) or the crystalline forms thereof is appropriately determined depending on the age, sex or body weight of the individual patient, the severity of the disease, the condition to be treated and the like. A typical dosage for oral administration is in the range of from about 0.01 mg to about 100 mg per day per adult human. A typical dosage for parenteral administration is in the range of from about 0.0003 mg to about 30 mg per day per adult human. The dosages may be administered in single or divided doses of one to several times daily.

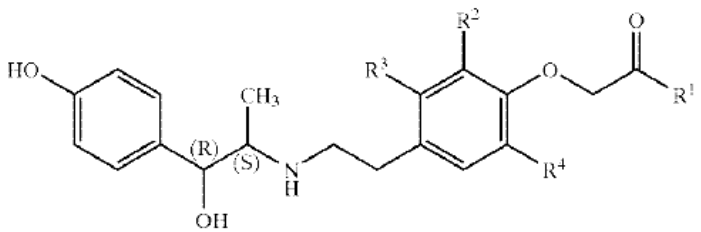
Where the compound represented by formula (I) or the crystalline forms thereof is used in combination with another medicament for the treatment of dysuria, pharmaceutical compositions can be formulated by admixing separately each of active ingredients, or admixing concurrently both of active ingredients, with pharmaceutically acceptable additives such as excipient, disintegrator, binder, lubricant, diluent, buffer, isotonic agent, preservative, wetting agent, emulsifying agent, dispersing agent, stabilizing agent, solubilizing agent and the like, and administered separately or concurrently in an oral or pareteral dosage form. Where separately formulated pharmaceutical compositions are used, the compositions may be mixed together with an appropriate diluent, and administered simultaneously. Alternatively, where separately formulated pharmaceutical compositions are used, the compositions may be administered separately, concurrently or at different intervals.

(2) Outline of the Prior Art (US 6538152 B1)

D1: US 6538152B1 Mar. 25, 2003

The general formula compounds including the same compound A is disclosed in the part of “disclosure of the invention” in the description:

The present invention relates to a phenoxyacetic acid derivative represented by the general formula:



or a pharmaceutically acceptable salt thereof.

…..

The phenoxyacetic acid derivatives represented by the above general formula (I) of the present invention can be converted into their pharmaceutically acceptable salts in the usual way. Examples of such salts include acid addition salts formed with mineral acids such as hydrochloric acid, hydrobromic acid, hydroiodic acid, sulfuric acid, nitric acid and phosphoric acid; acid addition salts formed with organic acids such as formic acid, acetic acid, methanesulfonic acid, benzenesulfonic acid, p-toluenesulfonic acid, propionic acid, citric acid, succinic acid, tartaric acid, fumalic acid, butyric acid, oxalic acid, malonic acid, maleic acid, lactic acid, malic acid, carbonic acid, glutamic acid and aspartic acid; inorganic base salts such as a sodium salt, a potassium salt and a calcium salt; and salts formed with organic bases such as triethylamine, piperidine, morpholine, pyridine and lysine.

In example 2 disclosed Compound 12, but did not disclose its HCl salt in the same example：

Ethyl

2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-methylethyl]amino]ethyl]-2,5-di methylphenoxy]acetate (Compound 12)

1 H-NMR(CDCl3) δ ppm: 0.98 (3H, d, J=6.4 Hz), 1.34 (3H, t, J=7.1 Hz), 2.18 (3H, s), 2.22 (3H, s), 2.60-3.00 (5H, m), 4.31 (2H, q, J=7.1 Hz), 4.49 (1H, d, J=5.6 Hz), 4.62 (2H, s), 6.41 (1H, s), 6.69 (2H, d, J=8.5 Hz), 6.78 (1H, s), 7.05 (2H, d, J=8.5 Hz)

(3) Assessments of Novelty by each Office

[JPO]

JPO considers that the invention claimed is novel due to the following reasons:

Hydrochloride of Ethyl (-)-2-[4-[2-[[(1S, 2R)-2-Hydroxy-2-(4-hydroxyphenyl) -1-methylethyl] amino] ethyl]-2, 5-dimethylphenox] acetate (hereinafter referred as “compound A”) is stated in the claim of the present invention.

On the other hand, a compound indicated by general formula which contain compound A within their scope or a list exemplifying 34 kinds of pharmaceutically acceptable salts of such compound is stated in the cited document. The working example of the cited document specifically states compound A of the present invention as a compound contained in the above-mentioned general formula, but hydrochloride of compound A isn’t specifically stated in the cited document.

The “invention stated in the cited document” serves as a basis to deny the novelty is identified based on the “matters stated in the cited document”. When the “matters stated in the cited document” as a basis to deny the novelty are part of the alternatives, if it is deemed that a person skilled in the art can identify the invention with only one of the alternatives as a matter for identifying the invention, the cited document could serve as a basis to deny the novelty(See Examination Guideline Part Ⅱ,Chapter 2, 1.5.3(3)).

Therefore, in the case of invention relating to a specific salt of a compound, when various salts are listed as a salt of the compound in the alternative way, and the specific salt of compound isn’t

specifically stated in the cited document, in the cases where the listed salts have less variety or the specific salt is listed as a particularly preferred salt, it is deemed that the specific salt of compound is stated in the cited document to a identifiable degree by a person skilled in the art, and the invention claimed is not novel.
On the other hand, like this case, in the case where 34 kinds of salts, for example, hydrochloride, hydrosulfate, tertrate or citrate, etc., which are widely used as pharmaceutically acceptable salt are simply exemplified in equal rank and hydrochloride is not listed as a particularly preferred salt, it is not deemed that hydrochloride of compound A is stated in the cited document to a identifiable degree by a person skilled in the art. So the invention claimed is novel.

[KIPO]

KIPO considers that the present invention is not novel due to the following reason:
The general criterion in assessing novelty about a common salt of a compound in KIPO is that a common salt of a compound is regarded as being 'substantially identical' to the compound and if the claimed compound is the same as the cited compound, the novelty of claimed salt is also denied.

"Substantially identical invention" means that there is no newly produced effect, since the difference in the concrete means for solving problems is caused by mere addition, conversion or deletion of well-known or commonly used arts and the difference between the claimed invention and the cited invention does not practically affect the technical idea of the claimed invention.

The present invention relates to ethyl-2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-methyethyl]amino]ethyl]-2,5-dimethyl-phenoxy]acetate hydrochloride represented by formula (I).

Ethyl-2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-methyethyl]amino]ethyl]-2,5-dimethyl -phenoxy]acetate of the present invention is shown in the cited invention as one of phenoxyacetic acid derivatives of a Markush type claim (See example 2.). The cited invention also discloses that the phenoxyacetic acid derivatives can be converted into their pharmaceutically acceptable salts with hydrochloric acid (See column 16, lines 28-34.), which is common in the art.

Accordingly,
ethyl-2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-methyethyl]amino]ethyl]-2,5-dimethyl-phenoxy]acetate hydrochloride can be regarded as a common salt of ethyl-2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-methyethyl]amino]ethyl]-2,5-dimethyl-phenoxy]acetate, and in assessing novelty of the claimed invention, the former and the latter are regarded as being "substantially identical."

Compared with the cited invention, the novelty of ethyl-2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-methyethyl]amino]ethyl]-2,5-dimethyl-

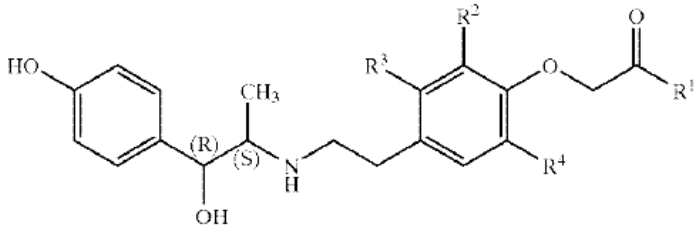
phenoxy]acetate has been already destroyed and therefore, the novelty of ethyl-2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-methyethyl]amino]ethyl]-2,5-dimethyl-phenoxy]acetate hydrochloride, which is a common salt of the said compound is also negated.

[SIPO]

The claimed invention lacks novelty.

The claim invention is a HCl salt of a specific compound, Ethyl (−)-2-[4-[2-[[(1S,2R)-2-hydroxy-2-(4-hydroxyphenyl)-1-ethylethyl]amino]ethyl]-2,5-dimethylphenoxy]acetate (so-called as compound A). The prior document D1 (US 6538152B1 Mar. 25, 2003) disclosed the same compound in example 2(compound 12), but did not disclose its HCl salt in the same example. The general formula compounds including the same compound A is disclosed in the part of "disclosure of the invention" in the description:

"The present invention relates to a phenoxyacetic acid derivative represented by the general formula:



or a pharmaceutically acceptable salt thereof."

Meanwhile, the prior document D1 also disclosed that "The phenoxyacetic acid derivatives represented by the above general formula (I) of the present invention can be converted into their pharmaceutically acceptable salts in the usual way. Examples of such salts include acid addition salts formed with mineral acids such as hydrochloric acid, hydrobromic acid, hydroiodic acid, sulfuric acid, nitric acid and phosphoric acid; ……."

That is, D1 gives a general disclosure of the hydrochloride of phenoxyacetic acid derivatives which include compound A, but failed to disclose the embodiment or example of the hydrochloride of compound A.

According to the Guideline, for a compound claim in an application, if it is referred to in a reference document, it is deduced that it does not possess novelty, unless the applicant can provide evidence to verify the compound is not available before the date of filing. The word "refer to" means 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 material to be used).

The claimed invention is a compound claim. As the compound A is disclosed in example 12 in D1, and in the related part of D1 disclosed that the compound embodiment comprise its pharmaceutical salt and the salt can be hydrochloride (i.e. salts formed with hydrochloric acid), it means that D1 had referred to the hydrochloride of compound A, unless the applicant can provide evidence to verify the compound is not available before the date of filing. So claim 1 is not novel.

3.4 Case 4

(1) Outline of the Application (EP 1136850 and T99/05)

[Claim]

An optical fibre line (11) comprising:
a plurality of positive dispersion optical fibres (14) having a positive chromatic dispersion in a signal wavelength band;
a plurality of negative dispersion optical fibres (16) having a negative chromatic dispersion in the signal wavelength band;
wherein the positive dispersion optical fibres (14) and the negative dispersion optical fibres (16) are alternately arranged and coupled in the longitudinal direction of the optical fibre line (11);
characterized in that
the plurality of positive dispersion optical fibres (14) are selected from a positive dispersion optical fibre group the cumulative dispersion value of which conforms to a distribution with a first average value (DA) which is positive and a first standard deviation;
the plurality of negative dispersion optical fibres (16) are selected from a negative dispersion optical fibre group the cumulative dispersion value of which conforms to a distribution with a second average value (DB) which is negative and a second standard deviation;
the absolute value of the sum of the first and second average values (DA, DB) is not greater than 20% of the first average value (DA) and
the absolute value of the difference between the first and second standard deviation is not greater than 20% of the first standard deviation.

[Description]

The present invention relates to an optical fibre line for transmitting a plurality of wavelengths of optical signals in a wavelength division multiplexing (WDM) transmission system.
For enhancing the transmission quality of WDM transmission systems, the optical fibre lines are required to have the two contradictory characteristics:
a) As the absolute value of chromatic dispersion in the optical fibre line in a signal wavelength band, for instance 1,55 micron wavelength band, is greater, the pulse waveform of optical signals is more likely to deform, thereby deteriorating the transmission quality. Therefore, from such a viewpoint, it is desirable that the absolute value of chromatic dispersion in the optical fibre line is smaller.

b) If the absolute value of the chromatic dispersion in the signal wavelength band is smaller, on the other hand, then four-wave mixing, which is a kind of nonlinear optical phenomena, is more likely to occur, which causes cross talk and noise, thereby deteriorating the transmission quality. Therefore, from such a viewpoint, it is desirable that the absolute value of chromatic dispersion in the optical fibre line be greater.

For satisfying the two contradictory demands, the current invention proposes an optical transmission line (10) as shown in the figure 1 below.

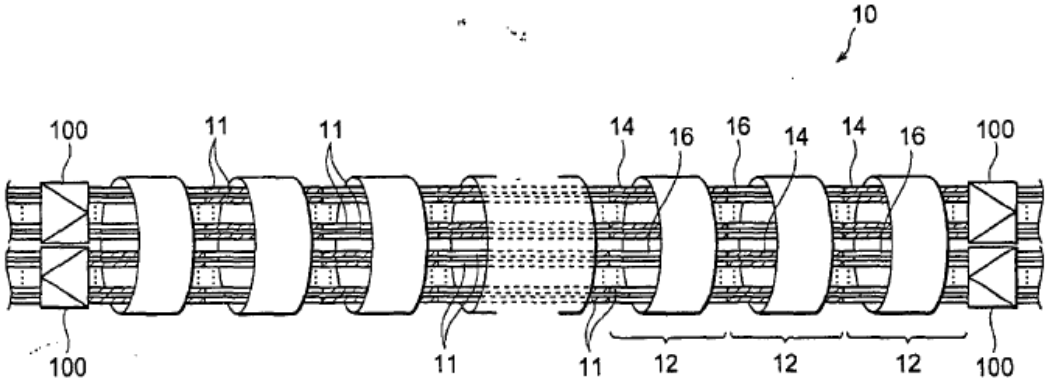
The transmission line is constituted by a plurality of optical cables (12) coupled to one another and is laid between optical repeaters (100). Each of the plurality of optical cables (12) contains a plurality of positive dispersion optical fibres (14) having a positive chromatic dispersion in a 1,55 micron wavelength band and a plurality of negative dispersion optical fibres (16) having a negative chromatic dispersion in the same 1,55 micron wavelength band.

Each of the positive dispersion optical fibres (14) is an optical fibre selected from positive dispersion optical fibre group whose cumulative dispersion at a predetermined wavelength, e.g. 1,55 micron, conforms to a distribution with an average value of DA (>0) and a standard deviation of σA. Each of the negative dispersion optical fibres (16) is an optical fibre selected from negative dispersion optical fibre group whose cumulative dispersion at a predetermined wavelength, e.g. 1,55 micron, conforms to a distribution with an average value of DB (<0) and a standard deviation of σB.

The plurality of optical cables (12) are arranged adjacent each other in the longitudinal direction thereof, such that the positive dispersion optical fibres (14) contained in a first optical cable and the negative dispersion optical fibres (16) contained in a second optical cable, adjacent to the first optical cable, are coupled to each other. As a result, the optical transmission line (10) contains a plurality of optical fibres lines (11) each comprising the positive dispersion optical fibre (14) and the negative dispersion optical fibre (16) coupled to each other.

In the positive / negative dispersion optical fibre group A / B, the cumulative dispersion conforms to a Gaussian distribution having an average value of DA / DB, preferably within the range of 5 to 50 ps/nm or -50 to -5 ps/nm, whereas the standard deviation σA / σB is within the range of 0 to 5 ps/nm.

Fig.1



(2) Outline of the Prior Art (WO97/20403)

The document (WO 97/20403) discloses a dispersion management system for soliton optical transmission system which comprises a plurality of positive and a plurality of negative dispersion

optical fibres having respectively a positive and a negative chromatic dispersion. Furthermore, the positive and the negative dispersion optical fibres are alternately arranged and coupled in the longitudinal direction of the optical fibre line.
The arrangement of a typical system is shown in the figure 2 below and comprises a transmitter T and a receiver R lined by a length L of fibre. This fibre is divided into elements "l" comprising separate sections of fibre N with normal dispersion and fibre A with anomalous dispersion. The fibre components (N, A) have opposite sign dispersions.

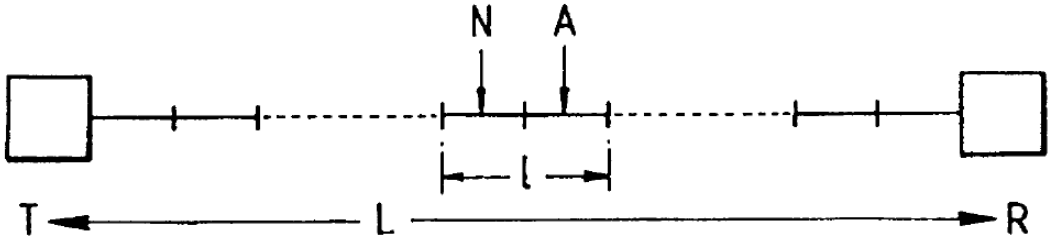


Figure 2

(3) Assessments of Novelty by each Office

[JPO]

The claimed invention is novel.

The cited document (WO97/20403) discloses a system which comprises a plurality of positive and a plurality of negative dispersion optical fibres having respectively a positive and a negative chromatic dispersion. Thus, the issue is whether the cited document discloses the matters of “the absolute value of the sum of the first and second average values (DA, DB) is not greater than 20% of the first average value (DA)” and “the absolute value of the difference between the first and second standard deviation is not greater than 20% of the first standard deviation.”

(1) Concerning the matter of “the absolute value of the sum of the first and second average values (DA, DB) is not greater than 20% of the first average value (DA)”
The cited document discloses that the dispersions of fibres are +2.8 ps^2/km and -3.0 ps^2/km, and the path average dispersion is -0.1 ps^2/km. This means the absolute value of the sum of the first and second average values is 0.1 ps^2/km and it is not greater than 20 % of the first average value +2.8 ps^2/km.
Thus the matter of “the absolute value of the sum of the first and second average values (DA, DB) is not greater than 20% of the first average value (DA)” is disclosed in the cited document.

(2) Concerning the matter of “the absolute value of the difference between the first and second standard deviation is not greater than 20% of the first standard deviation”

The cited document doesn’t mention the standard deviations of the dispersions of fibres. Even though to make the standard deviation of dispersion be preferably small is well known in the relevant technical field, the matter of “the absolute value of the

difference between the first and second standard deviation is not greater than 20% of the first standard deviation" isn't disclosed in the cited document.
Thus, the claimed invention is novel over the cited document.

[KIPO]
The claimed invention lacks novelty over the cited document.

The claimed invention states in page 10, line 12 – page 11, line 19 and figures 2, 4-5 that each fiber section has a different average dispersion (D_A, D_B). The average dispersion (D_A, D_B) has a distribution profile with the standard deviation (σ_A, σ_B). On the other hand, the cited invention (WO97/20403) suggests in figure 1 that each fiber section with the same signed dispersion has a constant value of the dispersion. That means the first and second average dispersion in the cited invention corresponding to D_A, D_B in the claimed invention is 2.8ps^2/km, -3.0ps^2/km, respectively and the first and second standard deviation in the cited invention corresponding to σ_A, σ_B in the claimed invention are not disclosed but presumed always 0.

The first and second average dispersion corresponding to D_A, D_B have a different unit from D_A, D_B. However, considering the linear proportionality between them at a specified wavelength, the difference of unit are negligible in the numerical limitation 'the absolute value of the sum (0.2) of the first and second average values (2.8, -3.0.) is not greater than 20% (0.56) of the first average value'. That means the limitation in the claimed invention includes the limitation in the cited invention.

Therefore, the cited invention discloses all technical features in the claimed invention except for the numerical limitation about the standard deviation disclosed in the claimed invention newly.

In a case where no numerical limitation is found in the cited invention while new numerical limitation is included in a claimed invention, the invention is regarded as novel. However, if the numerical limitation can be arbitrary chosen by a person skilled in the art or it can be hinted in a cited invention in view of the common technical knowledge at the time of filing, novelty of the invention is denied in general. (KIPO examiner's manual).

It is clear that no numerical limitation about the non-zero standard deviation is found in the cited invention while new numerical limitation about the standard deviation is included in a claimed invention and it cannot be hinted in a cited invention in view of the common technical knowledge at the time of filing.

However, since any technical meaning such as an objective for adopting the numerical limitation about the standard deviation and an effect caused by the numerical limitation about the standard deviation cannot be found in the claimed invention, the numerical limitation about the standard deviation is regarded as so arbitrary.

Therefore, the claimed invention is not novel over the cited document.

[SIPO]
The claimed invention is not novel.

The cited document (WO97/20403) discloses a dispersion management system which comprises a transmitter T and a receiver R lined by a length L of fibre. This fibre is divided into elements "l" comprising separate sections of fibre N with normal dispersion and fibre A with anomalous dispersion. The dispersion values of the fibre elements 1 can be alternated between +2.8ps2/km and -3.0ps2/km, i.e. the positive dispersion fibres and the negative dispersion fibres are alternately arranged in the longitudinal direction of the fibre transmission line.

That is, in the cited document, the positive dispersion fibres and the negative dispersion fibres can be selected from a positive dispersion fibre group consisting of a plurality of positive dispersion fibres with dispersion values of +2.8ps2/km and a negative dispersion fibre group consisting of a plurality of negative dispersion fibres with dispersion values of -3.0ps2/km, respectively.

For the positive dispersion fibre group and the negative dispersion fibre group, the average dispersion value of the positive dispersion fibre group (equivalent to an average value of DA in the claim) is +2.8pS2 /km, the standard deviation of the positive dispersion fibre group (equivalent to a standard deviation of σ_A in the claim) is 0,（explanation: (1) the cited invention states in page 2 lines 4-6 “Figure 2 shows the pulse profile at the beginning of each unit cell in a dispersion managed system. The dispersion map comprises alternating 100km fibres with dispersions of -3ps2/km and +2.8ps2/km;” and in page 2 lines 25-26 “figures 2 and 3 show the observed behaviour when the dispersion values alternated between -3.0ps^2/km and 2.8ps^2/km”; that is to say, only two values , i.e.“-3.0ps^2/km” and “2.8ps^2/km”, are the only dispersion values to be chosen. That means the first and second average dispersion in the cited invention corresponding to D_A, D_B in the claimed invention is 2.8ps^2/km, -3.0ps^2/km, respectively. Furthermore, figure 1 also shows that each fiber section with the same signed dispersion has a constant value of the dispersion. (2) In statistics and probability theory, standard deviation shows how much variation exists from the average. Hence the standard deviation of a group of equal values should be 0. As the reason referred in explanation (1), the standard deviations of σ_A and σ_B are 0, respectively.） the average dispersion value of the negative dispersion fibre group (equivalent to an average value of DB in the claim) is -3.0pS2 /km, the standard deviation of the negative dispersion fibre group (equivalent to a standard deviation of σ_B in the claim) is 0.

SIPO base the above identification on that the cited invention (WO97/20403A1) suggests in figure 1 that each fiber section with the same signed dispersion has a

constant value of the dispersion, and the cited invention states in page 2 lines 25-26 that figures 2 and 3 show the observed behaviour when the dispersion values alternated between -3.0ps^2/km and 2.8ps^2/km.

The absolute value of the sum of the average dispersion value of the positive dispersion optical fibre group and the average dispersion value of the negative dispersion optical fibre group is 0.2ps2/km which is not more than 20%（2.8*20%）of the average dispersion value of the positive dispersion fibre group, and the absolute value of the difference of the standard deviation of the positive dispersion fibre group and the standard deviation of the negative dispersion fibre group is 0 which is not more than the standard deviation of the positive dispersion fibre group.

Thus, all features of the claim are known from the cited document, both the claimed and cited invention can be applied to the same technical field, solve the same technical problem, and have the same expected effects, and therefore the claimed invention is not novel.

3.5 Case 5

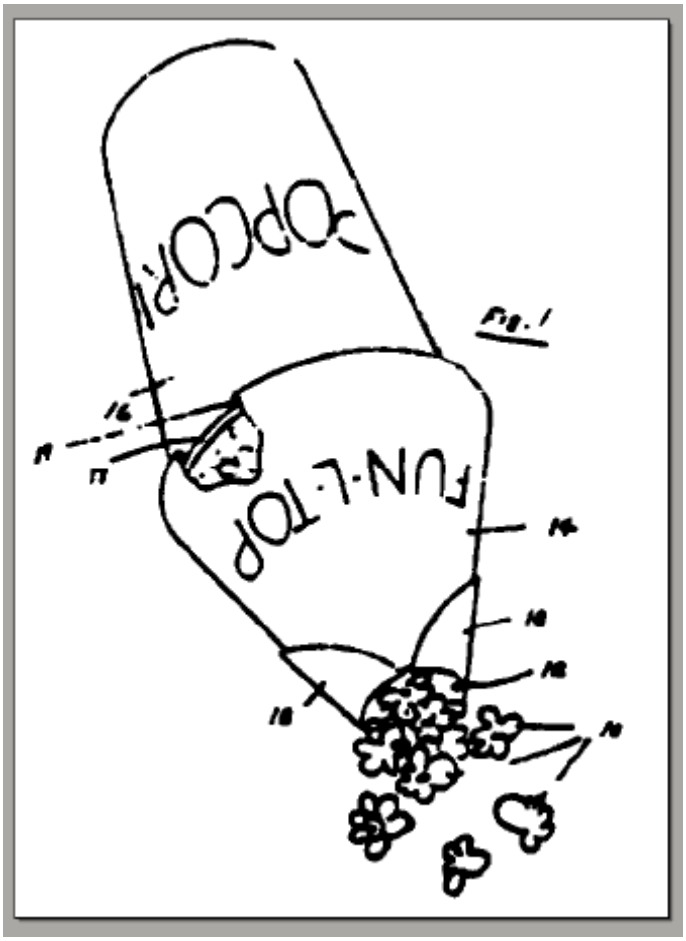
(1) Outline of the Application (US 08/187,111)

[Claim]

A dispensing top for passing only several kernels of a popped popcorn at a time from an open-ended container filled with popped popcorn, having a generally conical shape and an opening at each end, the opening at the reduced end allows several kernels of popped popcorn to pass through at the same time, and means at the enlarged end of the top to embrace the open end of the container, the taper of the top being uniform and such as to by itself jam up the popped popcorn before the end of the cone and permit the dispensing of only a few kernels at a shake of a package when the top is mounted on the container.

[Description]

The invention is directed to a device for dispensing popped popcorn. The device is conically shaped with a large opening that fits on a container and a smaller opening at the opposite end that allows popped popcorn to pass through when the device is attached to a popcorn container and turned upside down.



(2) Outline of the Prior Art

Swiss Patent No. 172,689 to Harz (January 16, 1935)

The Harz patent discloses “a spout for nozzle-ready canisters,” which may be tapered inward in a conical fashion, and it states that the spout is useful for purposes such as dispensing oil from an oil can.

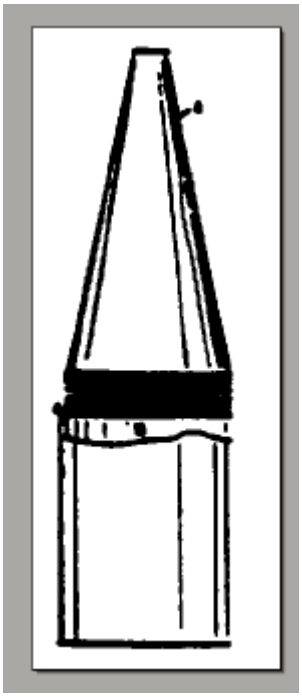


Figure 5

(3) Assessments of Novelty by each Office

[JPO]

JPO considers that the claimed invention seems to be novel.

The cited document (Harz patent) discloses the dispensing top whose shape is similar to the claimed invention in terms of following points:

- having a generally conical shape
- opening at each end
- having means at the enlarged end
- of the top to embrace the open end of the container
- the taper of the top being uniform

On the other hand, the cited document fails to disclose that the dispensing top is "permitting the dispensing of only a few kernels of popped popcorn at a shake of package" (In other word, the dispensing top allows several kernels of popped popcorn to pass through at the same time).

When a claim includes a limitation of use and the claimed invention can be construed as an invention based on discovering an unknown attribute of a product and finding that the product is suitable for new use due to the presence of such attribute, the limitation of use should be regarded as having a meaning that specifies the claimed invention and it is appropriate to construe the claimed invention by including the aspect of the limitation of use (See, II. of I.B.2.c. in the comparative table). In such case, the claimed invention is novel unless the cited document discloses the limitation of use. However the claimed invention in Case 5 isn't considered to be such case (See, Note 1 of I.B.2.c. in the comparative table).

Instead, the claimed invention is construed as having a structure which is suitable for permitting the dispensing of only a few kernels of popped popcorn at a shake of package. Thus, if the cited document discloses the suitable structure, even though the limitation of use is not literally disclosed, the claimed invention lacks the novelty (See, I. of I.B.2.c. in the comparative table). As mentioned above, the shape of dispensing top in the cited document is similar to the claimed invention. So, whether the size of the dispensing top in the cited document is suitable for permitting the dispensing of only a few kernels of popped popcorn at a shake of package is an important issue.

However, the cited document merely discloses the dispensing top is introduced the ingot mouth of a conventional car's oil tank and its size isn't clear. As a result, the cited document can't be considered to disclose the structure which is suitable for permitting the dispensing of only a few kernels of popped popcorn at a shake of package and the claimed invention seems to be novel.

Note that in the case if the cited document can be considered to disclose the suitable structure by referring the common technical knowledge in the relevant technical field, the novelty of the claimed invention is taken over by the cited document.

[KIPO]

KIPO considers that the claimed invention seems to be novel.

If an invention is already disclosed to the public before the filing of the patent application, the invention does not meet the requirement of the novelty. The invention disclosed to the public means an invention identified by the matters, which are directly and clearly described or considered to be essentially described, though not explicitly written in a publication. therefore novelty is not a legal issue but a factual issue.

The terminology described in the claim cannot be limited as described in detailed description of the invention or drawings. As the terminology described in the claim should be interpreted in an objective and reasonable way by taking into consideration of its technical meaning, together with the common general knowledge at the time of filing, based on the general meaning of the terminology, the terminology described in the claim can not be interpreted such as to comprise the meaning and scope which a person with ordinary skill in the art cannot comprehend at all.

In view of the foregoing, the claimed invention does not literally limit the material of a dispensing top and the combination structure between a dispensing top and a container. But, as the subject matter of the claimed invention is a dispensing top connected with a popcorn container, a skilled person may not consider an ingot which endures the oil pressure as material of a dispensing top for a popcorn and a thread, as the cited document shows as the combination structure between a dispensing top and a container. Consequentially, although the claimed invention does not specifically limit

the material of the dispensing top and the combination structure between a dispensing top and a container, the material of the dispensing top and the combination structure between a dispensing top and a container in the claimed invention obviously differ from that of the cited document.

The claimed invention is construed as having the open end of a dispensing top which is suitable for permitting the dispensing of only a few kernels of popped popcorn at a shake of package. The cited document does not limit the size of the open end of a dispensing top. There is possibility that the size of the open of the dispensing top in the cited document is similar to the claimed invention. But it is just possibility and the possibility does not deny the novelty. As the cited document discloses that the dispensing top is based on a technical concept wherein liquid(oil) is converged by the cone, it can not prove the open end of a dispensing top which is suitable for permitting the dispensing of only a few kernels of a popped popcorn at a shake of package.

[SIPO]

SIPO considers that the claimed dispensing top is not anticipated by the document CH172689.

The reasons are as follows.

According to the Guidelines, when examining novelty, the examiner shall consider the technical solution, technical field, technical problem, and expected effects.

The document (CH 172689) discloses a dispensing top, which has a generally conical shape and an opening at each end, and means at the enlarged end of the top to embrace the open of the container. The taper of the top is uniform. Therefore, the document does not disclose the feature “the reduced end allows several kernels of popped popcorn to pass through at the same time”.

Thus, it seems the document is not same with this application in regard to technical solution, technical field, technical problem, and expected effects.
However, according to the Guidelines, 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 scope of 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 this reason, according to Chinese Patent Law, to determine the novelty of product claims including feature of use, 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 implies that the claimed product has a certain particular structure and/or composition, the use as a definitive feature of the structure and/or composition of the product must be considered.

As to this application, if the dispensing top is only limited for passing popped popcorn from an open-ended container filled with popped popcorn, it is not novel because the use of passing popped popcorn does not change the structure of the top. However, the feature “the reduced end

allows several kernels of popped popcorn to pass through at the same time" includes the information of size, that is to say, the size of the dispensing top should permit only several kernels of popped popcorn to pass at a shake of a package.

The document (CH 172689) merely discloses the dispensing top is introduced the ingot mouth of a conventional car's oil tank. It does not disclose its size. Thus, it cannot be deduced from CH172689 that the size of the structure is suitable to pass only several kernels of popped popcorn at a shake of a package. The claim seems to be novel.

3.6 Case 6

(1) Outline of the Application(CN 200510117358)

[Claim]

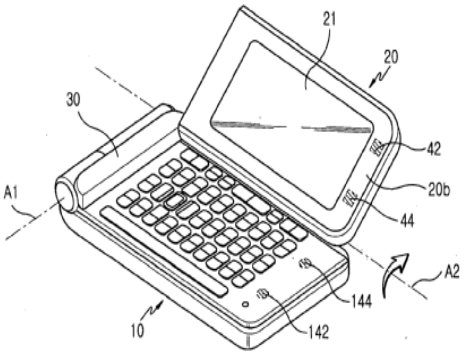
1. A mobile communication terminal comprising a main housing (10), a folder cover (20) and two hinge axes (A1,A2), wherein the folder cover (20) contains a display screen (21); when the folder cover (20) is opened with respect to the first hinge axe (A1), a general phone mode is used for performing a phone call function; and when the folder cover (20) is opened with respect to the second hinge axe (A2), a computer mode is used while the display content is rotated comparing to the one in the general phone mode.

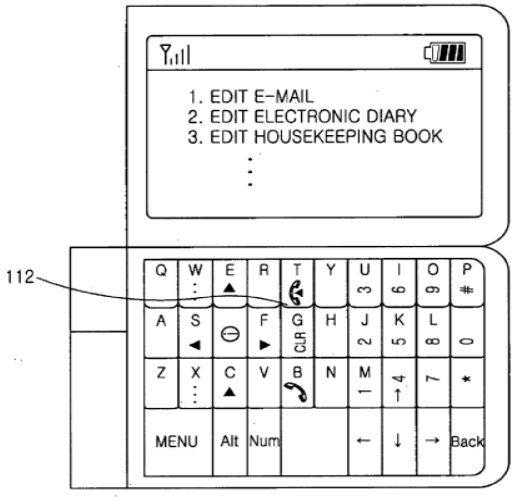
2.The terminal of claim 1, wherein only part of the keys in the keypad can be used in the general phone mode.

3.The terminal of claim 1, wherein the terminal further comprises an internal antenna.

[Description]

The present invention relates to a mobile communication terminal which changes an operation mode according to an opening direction of the folder cover. The purpose of the present invention is to solve the problem that in the mobile communication terminal with dual hinge axes, the user needs to select a displayed menu in order to change a view mode. The description describes such a technical solution that: detecting the opening of the folder cover (20) which contains a display screen (21); sensing the opening direction of the folder cover (20) and outputting a sense signal; if being a first sense signal, then changing the operation mode into a general phone mode for performing a phone call function, adopting a vertical view and enabling only the keys for performing the phone call function; and if being a second sense signal, then changing the operation mode into a computer mode, adopting a horizontal view and performing a function of editing and sending e-mails.





(2) Outline of the Prior Art(WO 2004/054210 A1)

The document discloses a radio communication terminal comprising a main housing (1402), a display screen (1411) and two hinge axes (1405,1408). In a first embodiment, the two hinge axes (1405,1408) locates in the short and long sides of the main housing respectively; when rotating around a first hinge (1405), the phone mode is used wherein the keypad (1409) is adapt for use in an orientation with the elongate extension of the terminal arranged vertically; and when rotating around a second hinge (1408), the computer mode is used wherein the keypad is adapt for use in an orientation with the elongate extension of the terminal arranged horizontally. In a second embodiment, the two hinge axes (5,8) locate in the middle and long side of the main housing (2) respectively; when rotating around the first hinge (5), the phone mode is used; and when rotating around the second hinge (8), the computer mode is used, wherein in the phone mode, only absolutely necessary number keys and control keys (9) are accessible.

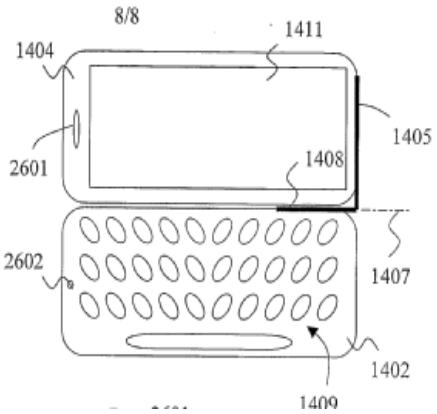


Fig. 26

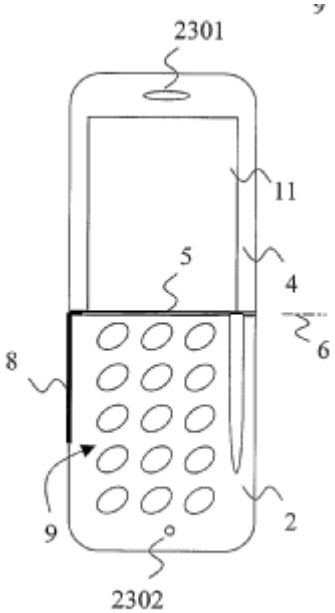


Fig. 24

(3) Assessments of Novelty by each Office

[JPO]

Below are the results of determining the novelty for claims 1 to 3 of the present invention, respectively.

- The invention claimed in claim 1 is not novel.

As the second general embodiment, the following matters are disclosed in the cited document (WO 2004/054210 A1)

- It is a mobile communication terminal equipped with a main housing (1402), a folder cover (1404) and two hinges (1405 and 1408).
- There is a display screen (1411) on the folder cover.
- When the folder cover is opened with the first hinge, the terminal is used in the general phone mode.
- When the folder cover is opened with the second hinge, the terminal is used in the computer mode.
- The mobile communication terminal has the function of orienting the displayed characters or symbols on the display screen in dependence of which open position has been assumed.

This is indication that the cited document discloses the same mobile communication terminal as the invention claimed in claim 1. Therefore the invention claimed in claim 1 is not novel.

- The invention claimed in claim 2 is novel.

Although it is stated in the cited document that as the second general embodiment, the main housing is equipped with a keypad that may be used in the general phone mode as well as the computer mode, the fact that “only part of the keys in the keypad can be used when used in the general phone mode” is not disclosed.
On the other hand, as the first general embodiment in the cited document it is stated that the main housing is equipped with a keyboard which may be used in both the general phone mode and the computer mode and that while the whole keypad can be used in the computer mode, only the necessary number keys and control keys can be used in the general phone mode. However, it is also disclosed as the first general embodiment that the first hinge is placed at the middle part of the main housing and the terminal is not designed in a way that the folder cover is opened with the first hinge.
In comparing the claimed invention and the cited invention, it is not allowed to compare the claimed invention with a combination of two or more independent cited inventions. In the cited document, facts “the terminal is used in the telephone mode when opened with the first hinge” and “the whole keypad may be used in the computer mode but in the general phone mode, only the necessary number keys and control keys can be used” are stated as different embodiment, which are approved as being matters used to specify the cited inventions for different cited inventions. Therefore, in comparison with both cited inventions, the invention claimed in claim 2 has different points and can be determined as being novel.

- The invention claimed in claim 3 is not novel.

At the time when the application concerned was filed, the mobile communication terminal equipped with an internal antenna pertained to well-known arts familiar to the public which was common general knowledge for a person skilled in the art. The statement on the cited document concerned the field of mobile communication terminals such as cellular phones, pagers, communication instruments and smart phones. Although the internal antenna of the mobile communication terminal was not specified by the embodiment of the cited document, due to the above-mentioned considerations, the antenna can be considered as being equivalent to such description in the cited document. Therefore, it is determined that there are no different points in comparing the invention claimed in claim 3 and the invention stated in the cited document, and that the invention claimed in claim 3 is not novel.

[KIPO]

The result of assessing the novelty as to claims 1-3 of the present invention is as follows.

A. Independent Claim 1

The **main housing,** the **folder cover** with a display screen and **two hinge axes** which are basic components of a terminal disclosed in claim 1 of the present invention correspond respectively to the first terminal member (1702), the second terminal member (1704) and two hinge devices (1706, 1707) in the document (see figures 17-19 and page 10, lines 21-36).

The feature of **two operation modes** according to opening direction of the folder cover is identical to that of the document in that the terminal may be unfolded in the elongate extension in a clamshell manner to assume a phone mode orientation, and unfolded transverse to the elongate extension in a laptop-like manner to assume a computer mode orientation (see abstract, page 7, lines 13-25 and claim 39).

The feature of rotating **a display content** according to two operation modes is disclosed in the document (see page 12, line 29 – page 13, line 9).

As all of the features of claim 1 are disclosed in the document, this claim is anticipated by the document. Therefore, claim 1 lacks novelty.

B. Dependent Claim 2

The additional feature of including **part of keys for the general phone mode** in claim 2 is disclosed in the document (see figure 25 and page 13, lines 25-31). Therefore, claim 2 lacks novelty.

C. Dependent Claim 3

The additional feature of including an internal antenna is not disclosed the document. However,

the feature is well-known or commonly used in the art and does not practically affect the technical idea of the claimed invention. Therefore, claim 3 lacks novelty because the subject matter of claim 3 is substantially the same as that of the document.

[SIPO]

SIPO considers that the claim 1 is not novel, but the claims 2-3 are novel.

As to the claim 1, the following content is considered to be implicitly disclosed by the cited document.

·In the computer mode, the display content is rotated comparing to the one in the general phone mode.

Because the reference document discloses the computer mode and the usage of the keyboard in this mode, i.e., the keypad is adapt for use in an orientation with the elongate extension of the terminal arranged horizontally, it implicitly discloses that the display content is necessarily rotated comparing to the one in the general phone mode.

All the other matters are literally disclosed in the reference document, thus the claim 1 lacks novelty.

As to the claim 2, the reference document discloses in another embodiment that in the phone mode, only absolutely necessary number keys and control keys are accessible (corresponding to the appended technical feature in the claim 2). In the second embodiment, the folder cover can not be rotated in two directions but the main housing can, so the solution is different from the first embodiment. As the two embodiments represent different technical solutions and person skilled in the art may arrive at the solution in claim 2 through the combination of them, it is not allowed to combine the technical features from different embodiment to assess the novelty.

As to the claim 3, the radio communication terminal must contain antenna. The figures only show part of the surfaces, we can not identify that it implicitly discloses that it is an internal one.

4 Summary of Results and Analysis

Case 1

In case 1, the feature of "polyethylene resin layer's thickness of 0.05 to 0.3 mm" in the claim is not disclosed in cited invention.

The three offices hold that the only difference between the claimed invention and the cited invention is the feature of "thickness of 0.05 to 0.3 mm".

KIPO holds that the claimed invention is not novel when it is substantially or exactly identical to the cited invention. "The substantially identical invention" means that there is no newly produced effect, since the difference in the concrete means for solving problems is caused by mere addition, conversion or deletion of well-known or commonly used arts and this difference does not practically affect the technical idea of the claimed invention. In Case 1, the difference does not practically affect the technical idea of the claimed invention, and the numerical limitation of the claimed invention can be arbitrarily chosen by the person skilled in the art. So the claimed invention and the cited invention can be considered to be substantially identical, the claim has no novelty.

JPO holds that the claim is not considered to be identical to the prior art document, and the claim is novel. Because the prior art document does not describe the feature of "thickness of 0.05 to 0.3 mm" and it is not considered as equivalents to such description.

SIPO considers the limitation of polyethylene resin layer's thickness of 0.05 to 0.3 mm, which has not been disclosed in the cited prior art. Though, the feature of the thickness may not contribute the inventive step to the claimed invention, but it does render the claim novelty.

Reference
When the cited document is a conflicting application, JPO will apply the "identicalness" assessment under Art. 29-2 and 39 rather than the "novelty" assessment under Art. 29(1). For JPO, the concept of "identical" in Article 29-2 and 39 is broader than the concept of "novelty". If the matters defining a claimed invention is merely addition, deletion or replacement of well-known or commonly used art to a prior art, and there is no special effect compared to the prior art, the claimed invention is considered to be identical ("substantially identical") and the claimed invention is deemed to be identical to the prior art, meanwhile, it does not lack novelty usually.

In the case of the prior art document is an earlier conflicting patent application, namely secret prior art, and if the claim is substantially identical to the invention stated in the earlier patent document, the claimed invention is identical in JPO.

For JPO, as mentioned above, regarding to the feature of “thickness of 0.05 to 0.3 mm”, both the upper and lower thickness limits of the polyethylene resin layer in the claim are only an appropriately defined number that represents a matter of design in the earlier patent documentation to be appropriately selected by a person skilled in the art. And, as any specific technical meaning or critical importance cannot be found in the definition of the thickness, the claim is substantially identical with the invention stated in the earlier application description. Consequently, the claim and the invention stated in the earlier application description can be considered substantially identical.

As to KIPO, there is no difference regarding novelty assessment between the published document and conflicting patent application.

As to SIPO, when the cited document is a conflicting document, “direct substitution of customary means” assessment is adopted to judge novelty, if the difference between the claimed invention and the cited one can been deemed as a substitution of customary means by a skilled person in the art, then the claimed invention is not novel. But “direct substitution of customary means” is only used for conflicting documents in practice. In this sense, both JPO and SIPO differentiate conflicting applications from publicly available prior art, and adopt a different assessment.

Case 2

In case 2, the features described in the claims were disclosed directly or implicitly in the prior art document, and the use feature of superoxide anion decomposing agent in the claim was not disclosed in prior art.

KIPO, JPO and SIPO hold that the only difference between the claimed invention and the prior art is “superoxide anion decomposing agent”.

JPO holds that when the claimed invention provides a limitation of use in the claims and is considered to be an invention based on the discovery of an unknown attribute of a product and finding of the product’s adaptability for novel use derived from the attribute, the limitation of use may define the claimed invention. However, the novelty of the claimed invention is denied when a novel use of the product is not considered to be provided, based on the common general knowledge in the area as of the filing, even with a discovered unknown attribute and this applies in this case. Thus, the claimed invention is not novel.

KIPO holds that when a claimed invention is related to a novel use of a known product and the claim includes an expression specifying the product by its use, the invention could be novel even though the product is already known from prior art documents. Concerning the composition, there is no difference between the composition comprising platinum fine powder of the present invention and the

composition comprising platinum fine particles of the cited document in a type, size, and manufacturing process of a component included in each composition. On the other hand, concerning use of the composition, since the prior art document does not explicitly describe the use of the composition for decomposing superoxide anion radicals, outwardly, the subject matters of this instant invention and the prior art document are considered different. However, considering the Description of the present invention, the composition for decomposing superoxide anion radicals can be used for cosmetics, medicaments for various diseases such as cancer, diabetes mellitus, atopic dermatitis, Alzheimer's disease, retinitis pigmentosa, etc., a filter of cigarette, and so on. Among these, pharmaceutical uses of the composition for ameliorating cancer, diabetes, atopic dermatitis, etc. are already disclosed in the prior art document. Hence, the subject matter of the present invention is substantially identical to that of the cited document. Thus, claim 1 of this instant invention lacks novelty.

SIPO considers that claim 1 of this instant invention is not novel. Novelty judging principle according to Guidelines is that: 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 defined by this use feature is not novel as compared with the cited product. Moreover, 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 of novelty.

In this case, claim 1 claims a superoxide anion decomposing agent composed of platinum fine powder having a particle size of 6 nm or less as observed under a microscope which is prepared under a metal salt reduction method. Although the prior art does not disclose that the use of platinum fine powder as a superoxide anion decomposing agent, the use feature does not imply any change in the structure and composition of the product. And the electrochemically bioactive fine particles used here are in a platinum colloidal solution produced by means of a metal salt reduction method. In addition, the range of platinum fine powder described in claim 1 is “6 nm or less”, it covers the range of the electrochemically bioactive fine particles used in cited document, which is 1 to 3 nm. So, each feature of the claim 1 is disclosed and claim 1 lacks novelty.

In a word, as to JPO and KIPO, the product defined by use could be novel even though the product is already known from prior art, however JPO holds that the product in the claimed invention is not novel in this case, because the claimed invention does not provide a novel use based on the discovery of unknown attribute, and KIPO holds that the subject matter of the present invention is substantially identical to that of the cited document in this case. On the other hand, SIPO only considers whether the use changes the structure or composition of the product or not. If not, the product defined by use cannot be novel even though this known product provides a novel use based on its unknown attribute.

Case 3

With regard to Case 3, the claimed invention is HCl salt of compound A. The cited document discloses the hydrochloride of phenoxyacetic acid derivatives which include compound A, but failed to disclose the embodiment or example of the hydrochloride of compound A.

JPO considers that the invention claimed is novel due to the following reasons: When the "matters stated in the cited document" as a basis to deny the novelty are part of the alternatives, if it is deemed that a person skilled in the art can identify the invention with only one of the alternatives as a matter for identifying the invention, the cited document could serve as a basis to deny the novelty(See Examination Guideline PartⅡ,Chapter 2, 1.5.3(3)). Therefore, in the cases where the listed alternatives have less variety or the claimed alternative is listed as a particularly preferred alternative, it could be deemed that the specific alternative was stated in the cited document to a identifiable degree by a person skilled in the art, and the invention claimed is not novel in such cases. However, in this case, in the case where 34 kinds of salts, for example, hydrochloride, hydrosulfate, tertrate or citrate, etc., which are widely used as pharmaceutically acceptable salt are simply exemplified in equal rank and hydrochloride is not listed as a particularly preferred salt, it is not deemed that hydrochloride of compound A is stated in the cited document to a identifiable degree by a person skilled in the art.

However, SIPO and KIPO consider the claimed invention is not novel with different reasons. The general criterion in assessing novelty about a common salt of a compound in KIPO is that a common salt of a compound is regarded as being 'substantially identical' to the compound and if the claimed compound is the same as the cited compound, the novelty of claimed salt is also denied. Compound A of the present invention is shown in the cited invention as one of phenoxyacetic acid derivatives of a Markush type claim (See example 2.). The cited invention also discloses that the phenoxyacetic acid derivatives can be converted into their pharmaceutically acceptable salts with hydrochloric acid (See column 16, lines 28-34.), which is common in the art. Accordingly, hydrochloride of Compound A can be regarded as a common salt of Compound A, and in assessing novelty of the claimed invention, the former and the latter are regarded as being "substantially identical." So the novelty is negated.

While SIPO standard for examining a compound claim is this, if a compound is referred to in a cited document, it is deduced that it does not possess novelty, unless the applicant can provide evidence to verify the compound is not available before the date of filing. The word "refer to" means "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 material to be used)". As the compound A is disclosed in examples in the cited document, it discloses that the compound embodiment comprise its pharmaceutical salt and the salt

can be hydrochloride (i.e. salts formed with hydrochloric acid), it means that the cited document has referred to the hydrochloride of compound A, unless the applicant can provide evidence to verify the compound is not available before the date of filing. So the novelty of the claimed invention is denied.

Case 4

JPO holds the claimed invention novel; while KIPO and SIPO hold not novel.

JPO:

The numerical limitation about the "average value" in the underlined part is already disclosed by the cited document (The cited document discloses that the dispersions of fibres are +2.8 ps2/km and -3.0 ps2/km, and the path average dispersion is -0.1 ps2/km. This means the absolute value of the sum of the first and second average values is 0.1 ps2/km and it is not greater than 20 % of the first average value +2.8 ps2/km.)

While, the matter of "the absolute value of the difference between the first and second standard deviation is not greater than 20% of the first standard deviation" isn't disclosed in the cited document.

Thus, the claimed invention is novel.

KIPO:

The "average value" limitation is already disclosed by the cited document (The cited invention suggests in figure 1 that each fiber section with the same signed dispersion has a constant value of the dispersion, i.e. average dispersions are 2.8ps2/km and -3.0ps2/km respectively, corresponding to DA, DB in the claimed invention. Though the average dispersions corresponding to DA, DB have a different unit from DA, DB, However, considering the linear proportionality between them at a specified wavelength, the difference of unit is negligible.)

On the other hand, the numerical limitation about the "standard deviation" is not disclosed by the cited document. Normally, the invention is regarded as novel. However, if the numerical limitation can be arbitrarily chosen by a person skilled in the art or it can be hinted in a cited invention in view of the common technical knowledge at the time of filing, novelty of the invention is denied

.

The first and second standard deviation in the cited invention corresponding to σA, σB in the claimed invention are not disclosed but presumed always 0 （For each fiber section with the same signed dispersion has a constant value of the dispersion）. It is clear that no numerical limitation about the non-zero standard deviation is found in the cited invention and it cannot be hinted in a cited invention in view of the common technical knowledge at the time of filing. However, since any technical meaning such as an objective for adopting the numerical limitation about the standard deviation and an effect caused by the numerical limitation about the standard deviation cannot be found in the claimed invention, the numerical limitation about the standard deviation is regarded as so arbitrary.

Thus, the claimed invention is not novel.

SIPO:
The claimed invention only limits the relationship of the average dispersion and the standard deviation between the positive and negative dispersion optical fibre groups, but not the specific values which can be selected in the groups. In the situation, the limitation does not exclude that a specific value can be arbitrarily large or small, as long as the average dispersion and the standard deviation of the group as a whole meet the conditions. That means for any arbitrary plurality of positive/negative dispersion optical fibres, there is always a group of positive/negative dispersion optical fibres having the features as claimed and such that the arbitrary plurality of optical fibres can be considered to result from a selection from among the fibres of this group.

The cited document discloses that the positive and negative dispersion fibres can be selected from a positive dispersion fibre group consisting of a plurality of positive dispersion fibres with dispersions of +2.8ps2/km and a negative dispersion fibre group consisting of a plurality of negative dispersion fibres with dispersions of -3.0ps2/km, respectively. That means, the first and second average values are 2.8ps2/km and -3.0ps2/km respectively, the first and second standard deviations are both 0, the absolute value of the sum of the first and second average values is 0.2ps2/km which is not greater than 20 % of the first average value +2.8 ps2/km, the absolute value of the difference of the first and second standard deviation is 0 which is not greater than 20% of the first standard deviation.
Thus, the claimed invention is not novel.

Case 5

With regard to Case 5, the claimed invention and prior art invention are both dispensing tops having generally conical shape and an opening at each end. The matter in terms of “allow only several kernels of popped popcorn to pass through at the same time” in the claim is not disclosed in the cited document. All three offices consider the aforementioned feature limits the invention and the dispensing top in the claimed invention should have a structure adapting for allowing only several kernels of popped popcorn to pass through at the same time. All three offices consider the cited document does not disclose that the dispensing top has the structure, and the claimed invention is novel. However, KIPO is of the opinion that the material of the dispensing top and the combination structure between a dispensing top and a container in the claimed invention obviously differ from that of the cited document, whereas, JPO and SIPO does not regard the material of the dispensing top and the combination structure between a dispensing top and a container as factors which render the claimed invention novel.

Case 6

With regard to Case 6, the claimed invention and prior art invention are both mobile communication terminals. In claim 1, the matter of “while the display content is rotated comparing to the one in the general phone mode” is not explicitly disclosed in

the cited document. In claim 2, the matter of “only part of the keys in the keypad can be used in the general phone mode” is disclosed in another embodiment of the cited document. In claim 3, the matter of “an internal antenna” is not explicitly disclosed in the cited document. The claim 1 lacks novelty because the usage of the keyboard in computer mode in the cited document implies that the display content to be necessarily rotated.

SIPO and JPO hold claim 2 novel because it is not allowed to assess the claimed invention by combining two or more embodiments from the cited document. However, KIPO holds the claim 2 not novel. Even though the drawings in the cited document are expressed differently, those drawings are to show the difference in the technical features between the cited document and the common general knowledge. Therefore, the claim 2 is not novel by an embodiment in the cited document

As to claim 3, even the internal antenna is not disclosed by the cited document, KIPO and JPO considers terminal equipped with an internal antenna to be well-known art and KIPO considers that the cited document substantially discloses this, and JPO considers that it is equivalent to such description in the cited document, so they both hold the claim 3 not novel. While SIPO holds claim 3 novel, since the matter “internal antenna” is not disclosed explicitly, nor implicitly by the cited document. If the matter not disclosed by the prior art is “antenna” instead of “internal antenna”, then SIPO will hold claim 3 not novel, since the person skilled in the art know any mobile terminal must have an antenna, no matter it is internal or external. Then the matter “antenna” is impliedly disclosed by the prior art. When the matter not disclosed is an “internal antenna” , then there are two possibilities as to antenna, either internal or external, so the skilled person can not directly and unambiguously deduce that antenna is internal, since there is another choice of “external antenna”, then “internal antenna” can not be deemed to be implicitly disclosed.
In SIPO, technical contents that can be derived directly and unambiguously by a skilled person are included as disclosure of prior art. In JPO, “equivalent to such description”, that can be derived from the description based on their common general knowledge is included.

5 Conclusion

By comparison, the three Offices reach the same conclusion as to two cases and different conclusions as to the other four. Even for the same conclusion 2 cases, the reasoning the decision varied slightly. Basically, this case comparative study on novelty achieves its expected goal, it discloses the differences among the three offices in terms of novelty assessing.

Regarding the differences identified, the difference as to the product defined by its use is noted. For JPO and KIPO, even the product is known, if a novel use and attribute is provided, then the invention could be novel. But in SIPO, this is not the case, even the claimed invention provides a new use or attribute, but if it doesn't change the structure or composition of the product, then the invention is not novel.

In addition, the following differences are notified:
1) In KIPO, "substantially identical" can be used for novelty. While, in SIPO, only the technical contents that can be derived directly and unambiguously by a skilled person can be used. In JPO, "equivalent to such description", that can be derived from the description based on their common general knowledge can be used.
2) In SIPO, when examining novelty, the examiner shall consider the technical solution, technical field, technical problem, and expected effects. JPO and KIPO do not have corresponding step.
3) The concept "substantially identical" from KIPO actually is quite different from the similar expression "substantively the same" from SIPO in terms of meaning and usage. In KIPO, adding, conversion or deleting well-known art which has no effect to the technical idea can be deemed as "substantially identical", but in SIPO, the scope for "substantively the same" is much narrower, only "direct substitution of customary means" can be deemed so.
4) When the cited document is a conflicting application, JPO applies "identicalness assessment" rather than "novelty assessment" which is applied as to the publicly available document, while SIPO applies "direct Substitution of Customary Means" especially regarding conflicting documents.

Consequently, despite the differences which this comparative study is designed to find out on purpose, the general process to assess the novelty in great sense is quite similar among the three offices.