Note: When any ambiguity of interpretation is found in this provisional translation, the Japanese text shall prevail.

3. Cases pertinent to Eligibility for Patent and Industrial Applicability (Main Paragraph of Article 29(1) of the Patent Act)

In order to make clear the examination practice in relation to the eligibility for patent and industrial applicability, the outline of the determination thereon, as well as the measures of the applicant is explained below based on specific examples.

(Points to Note)

These cases have been prepared with an aim to describe the examination practice. Therefore, it should be noted that modification such as clarification is added to the claims etc. in the above cases to ease explanation.

List of Cases

(In the list, "○" means that the claimed invention satisfies the requirements of eligibility for patent and industrial applicability. In contrast, "×" means that the claimed invention does not satisfies the requirements of eligibility for patent or industrial applicability.)

(a) Eligibility for Patent

Case No.	Title of Invention	Remarks	Determination
Case 1	A method of plating copper with iron	Those contrary to a law of nature	×
Case 2-1	A method of teaching in science and mathematics courses	Those in which a law of nature is not utilized	×
Case 2-2	A method for drawing a regular N-polygon inscribed in a given circle	Those in which a law of nature is not utilized	×
Case 2-3	A method of playing a game	Those in which a law of nature is not utilized	×
Case 2-4	A method for calculating the sum of natural numbers n to n+k	Those in which a law of nature is not utilized	×
Case 2-5	A method for determining a selling price of a commodity	Those in which a law of nature is not utilized	×
Case 2-6	A method for holding a party	Those in which a law of nature is not utilized	×
Case 3-1	Card set for game	Those regarded as technical ideas	○
Case 3-2	Sugar Content Data of Apples and a Method for Predicting Sugar Content Data of Apples	Those regarded/not regarded as technical ideas	○/×
Case 3-3	3D printing data of dolls and a 3D printing method of dolls	Those regarded/not regarded as technical ideas	○/×
Case 4-1	Apparatus and method for controlling fuel injection amount for automobile engine	Not reviewed from point of view computer and software	○

Case 4-2	Operation Method and Operation Program for Electric Rice Cooker	Not reviewed from point of view computer and software (IoT related technology)	○
Case 4-3	Image processing method by computer	Not reviewed from point of view computer and software	○
Case 5	Training data and method for generating images for training data	Those regarded/not regarded as technical ideas	○/×

(b) Industrial Applicability

Case No.	Title of Invention	Remarks	Determination
Case 11	Connecting method of gastrostoma tube and nutrient container	Invention considered to be surgery and therapy	○
Case 12	Image processing method for identifying direction and position of object	Invention considered to be surgery	×
Case 13-1	A method for the observation of the celom by using an endoscope	Invention considered to be surgery	×
Case 13-2	A method for controlling the operation of an endoscope	Invention considered to be surgery	○
Case 14-1	A method for contrast magnetic resonance imaging	Invention considered to be surgery	×
Case 14-2	A method for controlling a magnetic resonance imaging device	Invention considered to be surgery	○
Case 15-1	A method for treating an affected part by micro operation robot	Invention considered to be surgery	×
Case 15-2	A method for controlling the operation of a micro operation robot system	Invention considered to be surgery	○
Case 16-1	A method for sampling body fluid	Invention considered to be surgery	×
Case 16-2	A method for controlling the operation of a body fluid sampling device	Invention considered to be surgery	○
Case 17-1	A method for displaying superimposed images of an object being cut and a cutting device	Invention considered to be surgery	×
Case 17-2	A method for controlling a device for displaying superimposed images of an object being cut and a cutting device	Invention considered to be surgery	○
Case 18-1	A method for X-ray irradiation	Invention considered to be therapy	×
Case 18-2	A method for operating an X-ray device	Invention considered to be therapy	○
Case 19-1	A method for the treatment of cancer	Invention considered to be therapy	×
Case 19-2	A system for cancer treatment	Invention considered to be therapy	○
Case 20-1	A method for giving electrical stimulus by a pacemaker	Invention considered to be therapy	×
Case 20-2	A method for controlling a pacemaker	Invention considered to be therapy	○
Case 20-3	A method for controlling a pacemaker	Invention considered to be therapy	○

Case 20-4	A method for controlling the operation of a pacemaker	Invention considered to be therapy	○
Case 21-1	A method for retinal stimulation using an artificial eye system	Invention considered to be therapy	×
Case 21-2	A method for controlling an artificial eye system	Invention considered to be therapy	○
Case 22-1	A method for regenerating cartilage	Invention considered to be therapy	×
Case 22-2	An implant material for cartilage regeneration	Invention considered to be therapy	○
Case 23-1	A method for the treatment of cardiac infarction	Invention considered to be therapy	×
Case 23-2	A composition for treatment of cardiac infarction	Invention considered to be therapy	○
Case 24-1	A method for X-ray CT scanning	Invention considered to be data collection	○
Case 24-2	A method for controlling an X-ray CT scanner	Invention considered to be data collection	
Case 25-1	A method for magnetic resonance imaging	Invention considered to be data collection	○
Case 25-2	A method for controlling magnetic resonance imaging device	Invention considered to be data collection	○
Case 26	A method for nuclear medicine imaging	Invention considered to be data collection	○
Case 27-1	A method for measuring hematocrit values of blood	Invention considered to be methods for treating samples that have been extracted from the human body	×
Case 27-2	A method for measuring hematocrit values of extracted blood	Invention considered to be methods for treating samples that have been extracted from the human body	○
Case 27-3	A method for controlling the operation of a blood hematocrit measuring device	Invention considered to be methods for treating samples that have been extracted from the human body	○
Case 28-1	A method for blood purification	Invention considered to be methods for treating samples that have been extracted from the human body	×
Case 28-2	A method for controlling the operation of a blood purifying device	Invention considered to be methods for treating samples that have been extracted from the human body	○
Case 29-1	A method for Gene therapy	Invention considered to be methods for treating samples that have been extracted from the human body	×
Case 29-2	A method for manufacturing cell formulation for gene therapy	Invention considered to be methods for treating samples that have been extracted from the human body	○
Case 30-1	A method of inducing differentiation of cells	Invention considered to be methods for treating samples that have been extracted from the human body	○
Case 30-2	A method of separating and purifying differentiation-induced cells	Invention considered to be methods for treating samples that have been extracted from the human body	○
Case 30-3	A method of analyzing a ratio of separated and purified cells	Invention considered to be methods for treating samples that have been	○

		extracted from the human body	
Case 31-1	A method for judging a motion state of walking	Invention considered to be assisting device	○
Case 31-2	A method for controlling a power assisting device	Invention considered to be assisting device	○
Case 31-3	A method for power assisting	Invention considered to be assisting device	○

3.1 Eligibility for Patent

[Case 1] Those contrary to a law of nature

Title of Invention

A method of plating copper with iron

What is claimed is:

[Claim 1]

A method of plating copper with iron, comprising the steps of immersing a piece of copper piece in an aqueous solution containing iron ions, thereby forming an iron layer on said piece of copper.

Overview of the description

Electroplating has been a conventional method for plating copper with iron. The present invention provides a method which enables plating of a piece of copper with hard iron layer by only immersing the copper piece in an aqueous solution containing iron ions such as iron sulfate, using simpler equipment than that conventionally employed.

[Conclusion]

The invention of claim 1 falls under “invention”.

[Explanation]

It is common general technical knowledge that iron has a higher tendency to ionize than copper. Therefore it is impossible to form a hard iron layer over a piece of copper by only immersing it in an aqueous solution containing iron ions such as iron sulfate.

This implies that the claimed invention involves a means to solve the problem which is contrary to a law of nature. Therefore, it is impossible to solve the stated object and the claimed invention is not considered to be statutory “Inventions”.

[Case 2-1] Those in which a law of nature is not utilized

Title of Invention

A method of teaching in science and mathematics courses

What is claimed is:

[Claim 1]

A method of teaching in science and mathematics courses of lower elementary school grades, characterized in that the time ratio for introduction, development, and summary respectively 3:2:1.

Overview of the description

Conventionally, education of lower grade children has been carried out in the order of introduction, development and summary, at the ratio of 1:4:1 respective time allocation ratio. The present invention is to improve the teaching of science and mathematics by changing the ratio into 3:2:1, taking account of the reasoning and memorizing ability of children.

[Conclusion]

The invention of claim 1 does not fall under "invention."

[Explanation]

Since the “teaching” means providing instruction, it is a kind of mental activity. This invention, considering the reasoning and memorizing ability of children, employs the time ratio of 3:2:1 for introduction, development and summary in lower elementary school grades in order to improve the teaching of science and mathematics courses.

It follows that the claimed invention utilizes solely laws other than a law of nature and is therefore not considered to be statutory “Inventions”.

[Case 2-2] Those in which a law of nature is not utilized

Title of Invention

A method for drawing a regular N-polygon inscribed in a given circle

What is claimed is:

[Claim 1]

A method for drawing a regular N-polygon inscribed in a circle comprising the steps of:

setting the diameter AB of a given circle as the radius;

drawing circles having said radius with A and B as centers;

denoting one of the intersecting points thereof as C;

denoting as D the intersecting point of the given circle and the linear line connecting the second point from the A of the N equipartition points of the diameter;

equipartitioning by a length equal to AD the circumference of the circle; and

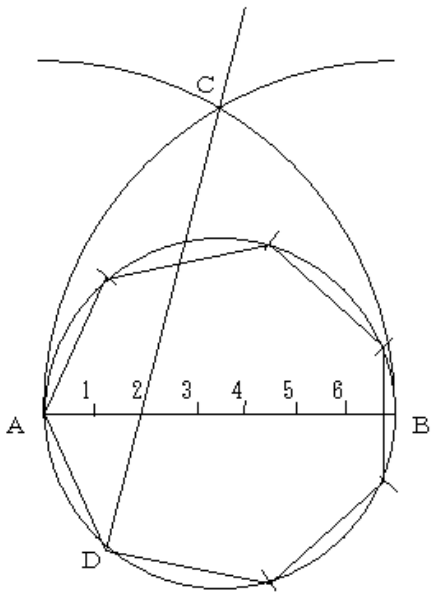
connecting equipartitioned points on the circumference successively with linear lines to construct a regular N polygon.

Overview of the description

This method makes possible the easy drawing of a regular N polygon in a given circle.

Drawing

Heptagon



[Conclusion]

The invention of claim 1 does not fall under "invention."

[Explanation]

Generally, the term "drawing" is used with the meaning of depicting a figure which satisfies given conditions in geometry. In order to depict a figure satisfying such given conditions, it is a prerequisite to assume that several basic constructions (known as postulates) and several axioms are true. A set of the determined postulates and axioms make possible certain constructions, and a change in the postulates and axioms inevitably leads to a change in the constructions. Therefore, pure geometric construction is nothing but an operation based on assumed postulates and axioms, and utilizes laws other than laws of nature.

The application of the above considerations to this example follows that the claimed invention is nothing more than a pure geometric construction and utilizes solely laws other than laws of nature. The claimed invention is therefore not considered to be statutory “Inventions”.

[Case 2-3] Those in which a law of nature is not utilized

Title of Invention

A method of playing a game

What is claimed is:

[Claim 1]

A method of playing a game, comprising the steps of:

piling up from larger to smaller several pieces having similar shape but different sizes at one of the given three positions; and

moving the pieces on top one by one to other positions without placing a large piece on a small piece, thereby moving all the pieces to another position in the least number of moves.

Overview of the description

The present invention enables players to enjoy an interesting, intellectually challenging game regardless of the number of players.

[Conclusion]

The invention of claim 1 does not fall under "invention."

[Explanation]

A game is generally performed following artificial rules unrelated to a law of nature, relying on human mental abilities such as reasoning, memorization, skill, luck, inspiration and chance.

Rules employed in the claimed invention, such as the moving of pieces and prohibited actions, are artificial arrangements to perform the game among players, and a law of nature is not utilized here. The claimed invention is therefore not considered to be statutory “Inventions”.

[Case 2-4] Those in which a law of nature is not utilized

Title of Invention

A method for calculating the sum of natural numbers n to n+k

What is claimed is:

[Claim 1]

A method for calculating the sum of natural numbers n to n+k in accordance with the formula:

$$s = (k+1)(2n+k)/2.$$

Overview of the description

The sum of natural numbers n to n+k, noted as "s," is expressed by:

$$s = n+(n+1)+(n+2)+ \text{---} +(n+k) \qquad \ldots(1)$$

The equation remains unchanged even if the order of addition changes. Thus, the sum is expressed in a different way as follows by reversing the sequence of the right side of the equation:

$$s = (n+k)+(n+k-1)+(n+k-2)+ \text{---} +(n+1)+n \qquad \ldots(2)$$

The combination of equations (1) and (2) results in

$$2s = (2n+k)+(2n+k)+(2n+k)+ \text{---} +(2n+k)$$

The right side of the equation consists of (k+1) times (2n+k), and it follows that the sum is simply calculated by

$$s = (k+1)(2n+k)/2$$

[Conclusion]

The invention of claim 1 does not fall under "invention."

[Explanation]

A method of calculation is a mathematical process for processing given numbers or equations representing certain relations in mathematics or other fields of science in accordance with mathematical algorithm.

A mere mathematical process based on the formula:

$$s = (k+1)(2n+k)/2$$

is carried out in the claimed invention, and the invention utilizes solely laws other than a law of nature. The claimed invention is therefore not considered to be statutory "Inventions".

[Case 2-5] Those in which a law of nature is not utilized

Title of Invention

A method for determining a selling price of a commodity

What is claimed is:

[Claim 1]

A method for determining the selling price of a commodity comprising the steps of: attaching a label on a product to indicate the production time of the product, an expiration date and a list price at the production time, and

determining a selling price at a selling time based on the formula:

Selling price = f (selling time) x list price

wherein the function 'f' is a monotonous decreasing function satisfying the condition:

$0 \leqq f \leqq 1$

Overview of the description

In the past, products of the same kind were placed on the same shelf for selling even if their production times differed. Therefore, those customers who prefer the freshness of a product tend to check the production time and select the most recent one, and therefore old products usually remain. As a result, those products that passed the expiration date lost the commercial value, and the cost to discard them as garbage was generated and this resulted in a loss of profit for the shop owner.

Then, in order to increase probability of selling old products, the shop owner tried to relocate products in a certain time interval in such a manner that old ones are placed at the front side of a shelf and new ones at the rear side. However, as shop floor space becomes larger, the cost for rearranging products in a certain time interval increases, and it always involved a risk that customers had a bad impression when they saw the rearrangement work.

Therefore, the problem to be solved by this invention is to provide a method for determination of the selling price of a commodity in that a lower selling price of the product can be set depending on the length of lapsed selling time by calculating the selling price using the formula:

Selling price = f (selling time) x list price

wherein the function 'f' is a monotonous decreasing function satisfying the condition:

$0 \leqq f \leqq 1$

in order to reduce the number of products whose selling period has expired as few as possible and to save the costs for rearrangement of the products on the shelf and for discarding the old products remained as garbage, without giving a bad impression created by the rearrangement to the customers. By this invention, the number of old products

which remain otherwise can be reduced even without relocating the products on the shelf, as it is expected that customers who prefer the freshness will buy relatively expensive new products while those customers who prefer thrift will buy relatively economical old products. Furthermore, because the selling price of the products whose selling period has expired becomes zero and those customers who are conscious of thrift may take out some of the products for free, so that a part of the cost for discarding the old products remained can be reduced.

Now, the function 'f' can be set based on the following formula:

$$f(\text{selling time}) = \log_{10}\left(1+9\max\left(\frac{\text{expiration date - selling time}}{\text{expiration date - production time}}, 0\right)\right)$$

[Conclusion]

The invention of claim 1 does not fall under "invention."

[Explanation]

A method for determining the selling price of a commodity defined in the claim is matter using a label as an article, but since it relies on economic laws or artificial arrangements, the claimed invention, considered to be a whole, is not utilizing a law of nature.

The claimed invention is therefore not considered to be statutory “Inventions”.

(Supplementary Explanation)

When the statement of this claim is amended as follows:

"A method for determining the selling price of a commodity in a cash register equipped with reading means for reading two dimensional bar codes indicating the production time, the expiration date and the list price of the product recorded on a label attached on the product, clocking means for outputting the current time, arithmetic means for calculating the selling price, display means for indicating the selling price, control means for controlling said reading means, clocking means, an arithmetic means, and display means, the method comprising the steps of:

reading by said reading means, the two dimensional bar codes recorded on a label attached to the product;

receiving by said control means, the information of the two dimensional bar codes outputted from said reading means;

outputting by said control means, said received bar codes information and the current time obtained by said clocking means to the arithmetic means;

calculating by said arithmetic means, the selling price of the product based on the formula:

Selling price = f (selling time) x list price

wherein, the function 'f' is a monotonous decreasing function satisfying the condition:

$0 \leqq f \leqq 1$

outputting the calculation result to said control means; and

indicating by said control means, the calculation result on said display means",

the amended claimed invention is deemed as the “creation of technological ideas utilizing a law of nature.” (For practical judgment, see ”Annex B Chapter 1 Computer software related Inventions”.)

[Case 2-6] Those in which a law of nature is not utilized

Title of Invention

A method for holding a party

What is claimed is:

[Claim 1]

A method for holding a party, comprising the steps of:

sending e-mail to invite to the party with message stating that those who respond early will receive a gift at the party, to the members based on the invitation list;

receiving e-mail to respond to said e-mail confirming the attendance;

registering the order of arrival of which said email for response is received in the name list of expected participants;

collecting the party fee at the party reception desk; and

giving a gift in the order of arrival registered in said name list after collecting said party fee.

Overview of the description

After calling for participation to the party, it is meaningless for the party planner if the actual number of participants is far less than expected. Then, just to be sure, the expected attendance will be confirmed in advance by e-mail for instance instead of return postcards, but this does not assure responses before the due date. Even if responses are received, it is uncertain if the members actually come to the party.

According to this invention, by telling members that those who responded early will receive a good gift, the probability of participation will increase and quick responses can be expected. Therefore, by grasping the anticipated attendance early, loss of expenses for preparation of the party such as meals can be reduced.

The cost of the gifts may be appropriated by the reduced expenses, previously including in the party fee, or by donation from the sponsors on the condition that the sponsors' goods will be used in the party.

[Conclusion]

The invention of claim 1 does not fall under "invention."

[Explanation]

A method for holding a party defined in the claim uses a system of e-mailing for the confirmation of attendance, but dependent on artificial arrangement to make the confirmation between the party planner and the participants and to give gifts in the entry order, and the claimed invention, considered to be a whole, is deemed as not utilizing a law of nature.

The claimed invention is therefore not considered to be statutory “Inventions”.

(Supplementary Explanation)

When the statement of this claim is amended as follows:

"An operation method of an information processing system for supporting party holding, comprising the steps of:

an input means;

an e-mail transmission and receiving means;

a storage means of anticipated participants list to memorize names, e-mail addresses, and the order of response e-mail confirming the attendance from the anticipated participants;

a storage means for memorizing a message telling that a gift will be given to the participants in the order of receiving the response e-mail;

a display means; and

a control means;

wherein, said control means comprising the steps of:

reading e-mail addresses from said storage means of the anticipated participants list and the message stored in said message storage means;

transmitting said message as an invitation e-mail requesting attendance confirmation to said e-mail addresses by the e-mail transmission and receiving means;

detecting response e-mails received by said e-mail transmission and receiving means;

memorizing a response e-mail received every time it is detected into said storage means of anticipated participants list in the order the response e-mails received; and

outputting all the names of anticipated participants of those who responded stored in said storage means of the anticipated participants list and the order of received response e-mail, when the instruction of the end of detection of response e-mails is sensed by said input means",

the amended claimed invention is deemed as the “creation of technical idea using a law of nature” (For practical judgment, see ”Annex B Chapter 1 Computer software related Inventions”.)

[Case 3-1] Those regarded as technical ideas

Title of Invention

Card set for game

What is claimed is:

[Claim 1]

A card set for game consisting of rectangle cards, each card has a classifying mark with number or symbol and type information corresponding to the classifying mark, the type information is located point symmetrically at the center of the card.

Overview of the description

The present invention provides a card set in which type information of the card can be read in the reversed direction by a reading sensor in a card reading device, the card reading device comprises the reading sensor for reading the type information for the cards, one of the cards moves from cards bundled line up in length direction.

[Conclusion]

The invention of claim 1 falls under “invention”.

[Explanation]

Since the type information is located point symmetrically at the center of the card, the type information of the card can be read in the reversed direction by the reading sensor. Thus, presenting the type information itself is considered to have technical features, and it falls under creation of technical ideas utilizing the laws of nature.

Therefore, the card set for game as claimed considered to be statutory “Inventions”.

[Case 3-2] Those regarded/not regarded as technical ideas

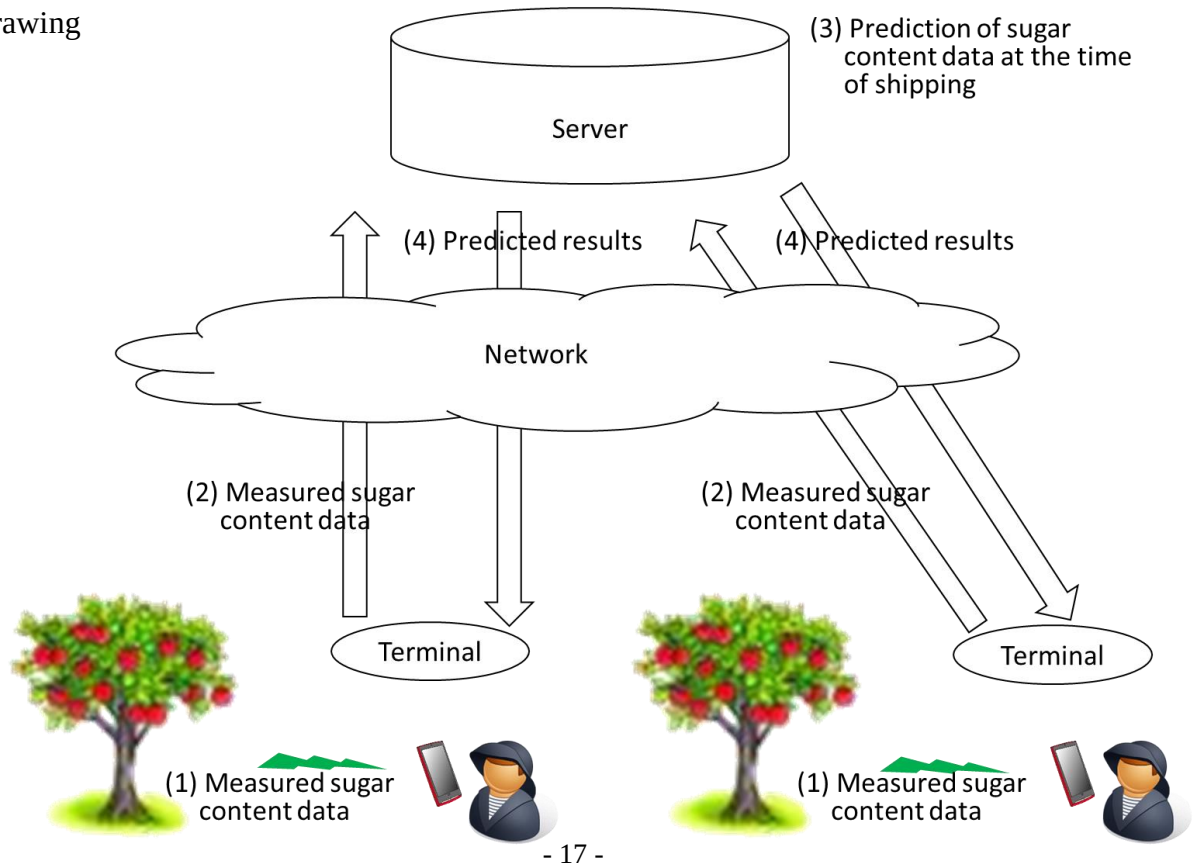
Title of Invention

Sugar Content Data of Apples and a Method for Predicting Sugar Content Data of Apples

What is claimed is:

[Claim 1] Sugar content data of preharvest apples on trees measured by a portable sugar content sensor for apples which performs reflective near-infrared spectroscopic analyses.	[Claim 1] Does not fall under "invention."
[Claim 2] The sugar content data of apples as described in Claim 1 received by a receiving unit of a server and stored in a memory unit of the said server.	[Claim 2] Does not fall under "invention."
[Claim 3] A method for predicting sugar content data of apples comprising; a step in which an analyzing unit of the server analyzes the relationship between sugar content data of preharvest apples for specified periods and data on meteorological conditions, and sugar content data of apples at the time of their shipping, based on past performance; a step in which the receiving unit of the said server receives the sugar content data of apples for specified periods as described in Claim 1; and a step in which a prediction unit of the said server predicts and outputs sugar content data of apples at the time of future shipping using the said received sugar content data of apples for specified periods and data on past and future meteorological conditions as inputs, based on the said analyzed relationships.	[Claim 3] Falls under "invention."

Drawing



Overview of the description

[Technical Field]

The present invention relates to sugar content data of apples and a method for predicting sugar content data of apples.

[Background Art]

The sugar content of apples is an important indicator at the time of shipping apples. Therefore, the sugar content of apples has been measured at the time of shipping. Apples are shipped after being graded based on measured sugar content and other conditions and the apple farmers change cultivation conditions of the following year as needed.

On the other hand, if sugar content data of preharvest apples on trees can be measured, it becomes possible to provide support for cultivation by predicting sugar content data of apples at the time of their shipping to push the sugar content of those apples closer to a desired level during their cultivation.

[Problems to be solved by the invention]

The present invention was created taking such circumstances into consideration and aims to provide support for cultivation based on the data to push the sugar content of those apples closer to a desired level by measuring sugar content data of preharvest apples on trees and by predicting sugar content data of apples at the time of their shipping.

[Solution for the Problem to be solved]

In the present invention sugar content data of preharvest apples on trees is measured with a portable sugar content sensor for apples. The said sugar content sensor for apples measures a sugar content of those apples by irradiating near-infrared lights on apples and performing spectroscopic analyses of reflected lights. Although this principle of measurement is the same as the conventional measurement of sugar content of apples performed at the time of their shipping, in the present invention sugar content data of preharvest apples on trees is measured since a portable sugar content sensor for apples has been developed in response to the progress of sensor technology. The said sugar content sensor for apples is equipped with the communication function and can transmit measured sugar content data to the server directly or via a terminal of an apple farmer.

This sugar content data of apples is used for analysis and prediction by the server.

The server makes analyses through the following steps (1) - (4).

(1) A step in which a receiving unit of the server receives during a specified period daily sugar content data of preharvest apples on trees from terminals of a plurality of apple farmers via the network.

(2) A step in which the receiving unit of the server receives data on meteorological conditions for specified periods before apples are harvested and sugar content data of apples at the time of their shipping. Meteorological conditions are selected arbitrarily from the amount of sunlight, temperature, the amount of rainfall, humidity, etc. Meteorological conditions may be those at a place where apples are cultivated or at a point or an area where the server is installed. If the place where apples are cultivated and the point where

the server is installed are not so far as to cause differences in meteorological conditions, those at the point or area where the server is installed may be adopted. Moreover, sugar content data of apples at the time of their shipping is measured for grading as in the past.

(3) A step in which a memory unit of the server stores the received sugar content data of apples for specified periods and data on meteorological conditions, and the sugar content data of apples at the time of their shipping as one combination. The server accumulates a sufficient amount of data on the said combination as actual values in order to obtain adequate results of the analyses explained in (4).

(4) A step in which an analyzing unit of the server analyzes, based on the said data stored in the memory unit, the relationship between sugar content data of apples for specified periods before they are harvested and data on meteorological conditions, and sugar content data of apples at the time of their shipping by means of machine learning. An arbitrary technique such as deep learning of neural networks is used for this machine learning. For example, neural networks are configured in a way that sugar content data of apples measured prior to a point X days before their harvest and data on meteorological conditions before their harvest are input in the input layer and sugar content data of apples at the time of their shipping is output from the output layer. Weights between neurons of the neural networks are optimized by means of supervised learning using analytical data obtained by tagging the input dada in the input layer and the output data from the output layer.

Then, a prediction by the server is made through the following steps (5) - (8).

(5) A step in which the receiving unit of the server receives sugar content data of preharvest apples on trees for specified periods from terminals of apple farmers via the network.

(6) A step in which the receiving unit of the server receives data on past meteorological conditions to date and data on predicted meteorological conditions for the future from the present to the date of shipping. Meteorological conditions are selected arbitrarily from the amount of sunlight, temperature, the amount of rainfall, humidity, etc. in the same manner as (2) above. However, the receiving unit receives predicted future meteorological conditions in this process for the purpose of making a prediction described later.

(7) A step in which the memory unit of the server stores the received data.

(8) A step in which a prediction unit of the server, based on the relationships obtained by performing the analyses described in the process (4), predicts sugar content data of apples at the time of future shipping using data stored therein by inputting the data on measured sugar content of apples for specified periods and the data on past and future meteorological conditions. In the case of the neural networks mentioned in (4), a prediction is made by inputting sugar content data of apples measured prior to the point of X days before the harvest and data on meteorological conditions prior to the point of X days before the harvest as well as data on meteorological conditions after the said point of X days

before the harvest in the input layer and by outputting sugar content data of apples at the time of their shipping from the output layer.

Then, the server transmits predicted sugar content data of apples at the time of their shipping to terminals of apple farmers via the network. The apple farmers examine if they need to change cultivation conditions, etc. based on the predicted sugar content data of apples at the time of their shipping.

[Effect of Invention]

The present invention can provide support for cultivation based on the data to push the sugar content of those apples closer to a desired level by measuring sugar content data of preharvest apples on trees and by predicting sugar content data of apples at the time of their shipping.

[Conclusion]

The invention of claim 1 does not fall under "invention."

The invention of claim 2 does not fall under "invention."

The invention of claim 3 falls under "invention."

[Explanation]

- Claim 1

Mere presentation of information (where the feature resides solely in the content of the information, and the main object is to present information), such as presentation of information (presentation per se, means for presentation or method of presentation) in which a technical feature does not reside, does not fall under "invention" ("creation of the technical idea utilizing a law of nature") mentioned in the main paragraph of Article 29(1).

Since Claim 1 does not specify any means for or a method of presenting sugar content data of apples, the sugar content data of apples of Claim 1 is considered to be characterized only in the content of information that “sugar content data of preharvest apples on trees measured by a portable sugar content sensor for apples which performs reflective near-infrared spectroscopic analyses”. Therefore, the sugar content data of apples of Claim 1 does not have technical features in the presentation of information (presentation per se, means for presentation or method of presentation), its feature resides solely in the content of the information, and its main object is to present information.

Therefore, since the sugar content data of apples of Claim 1 is mere presentation of information, it is not a creation of the technical idea utilizing a law of nature and thus does not fall under “invention”.

- Claim 2

Although Claim 2 identifies the sugar content data of apples of Claim 1 as “received by a receiving unit of a server and stored in a memory unit of the server”, it does not specify any means for or method of presenting the sugar content data of apples. Therefore,

it is still considered that its feature resides solely in the content of information. Therefore, the sugar content data of apples of Claim 2 does not have technical features in the presentation of information (presentation per se, means for presentation or method of presentation), its feature resides solely in the content of the information, and its main object is to present information.

Therefore, since the sugar content data of apples of Claim 2 is mere presentation of information, it is not a creation of the technical idea utilizing a law of nature and thus does not fall under "invention".

- Claim 3

The invention of Claim 3 is a method for predicting sugar content data of apples using the computer software. The method for predicting sugar content data of apples comprises "a step in which an analyzing unit of the server analyzes the relationship between sugar content data of preharvest apples for specified periods and data on meteorological conditions, and sugar content data of apples at the time of their shipping, based on past performance; a step in which the receiving unit of the said server receives the sugar content data of apples for specified periods as described in Claim 1 (sugar content data of preharvest apples on trees measured by a portable sugar content sensor for apples which performs reflective near-infrared spectroscopic analyses); and a step in which a prediction unit of the said server predicts and outputs sugar content data of apples at the time of future shipping using the said received sugar content data of apples for specified periods and data on past and future meteorological conditions as inputs, based on the said analyzed relationships". Therefore, the invention of Claim 3 is what concretely performs information processing based on the technical properties such as chemical or biological properties of apples.

Therefore, the invention of Claim 3 is a creation of the technical idea utilizing a law of nature as a whole and thus falls under "invention".

(Supplementary explanation)

Since the determination whether or not the inventions of Claim 3 fall under "inventions" is judged in accordance with "Examination Guidelines Part III, Chapter 1: Eligibility of Invention and Industrial Applicability", and thus is not examined from a viewpoint of the computer software.

[Measures of the applicant]

It is understood that regarding the sugar content data of apples its feature resides solely in the content of the information as far as the description etc. are referred to. Therefore, the sugar content data of apples of Claim 1 and 2 cannot overcome the reason for refusal.

[Case 3-3] Those regarded/not regarded as technical ideas

Title of Invention

3D printing data of dolls and a 3D printing method of dolls

What is claimed is:

[Claim 1] 3D printing data of dolls read in a control unit of a 3D printer when a modeling unit of the said 3D printer models, characterized in that it includes three-dimensional shapes and color tones of dolls to be modeled.	[Claim 1] Does not fall under "invention."
[Claim 2] A 3D printing method of dolls using the said 3D printer based on the 3D printing data of dolls as described in Claim 1, comprising; a step in which the said control unit reads in the said 3D printing data; a step in which the said control unit controls the said modeling unit in a way that it dispenses modeling resin based on the three-dimensional shape included in the said 3D printing data; and a step in which the said control unit controls the said modeling unit in a way that it dispenses colorants of a plurality of colors based on the color tones included in the 3D printing data.	[Claim 2] Falls under "invention."

Overview of the description

[Technical Field]

The present invention relates to 3D printing data of dolls and a 3D printing method of dolls.

[Background Art]

In general, dolls made of synthetic resin are produced by means of mold injection. However, dolls are produced in small quantities and large varieties so that a number of molds are required to produce these products by means of mold injection. Thus, production costs of dolls increase.

[Problems to be solved by the invention]

The present invention was realized in view of these circumstances and aims to provide dolls to the society at reasonable cost.

[Solution for the Problem to be solved]

(Omitted)

[Effect of Invention]

3D printing data of dolls of the present invention includes three-dimensional shapes and color tones of dolls to be modeled. Dolls can be easily produced by means of a 3D printer and they do not require molds for mold injection. Therefore, dolls will be provided to the society at reasonable cost.

[Conclusion]

The invention of claim 1 does not fall under "invention."
The invention of claim 2 falls under “invention.”

[Explanation]
- Claim 1

Mere presentation of information (where the feature resides solely in the content of the information, and the main object is to present information), such as presentation of information (presentation per se, means for presentation or method of presentation) in which a technical feature does not reside, does not fall under "invention" ("creation of the technical idea utilizing a law of nature") mentioned in the main paragraph of Article 29(1).

It is an ordinary operation of a 3D printer that the 3D printing data is “read in a control unit of a 3D printer when a modeling unit of the said 3D printer models” as described in Claim 1. The 3D printing data of dolls of Claim 1 does not add any technical feature to the means for or method of reading data in the control unit of the 3D printer, but it is characterized only in the content of information that “it includes three-dimensional shapes and color tones of dolls to be modeled”. Therefore, the 3D printing data of Claim 1 does not have technical features in the presentation of information (presentation per se, means for presentation or method of presentation), its feature resides solely in the content of the information, and its main object is to present information.

Therefore, since the 3D printing data of dolls of Claim 1 is mere presentation of information, it is not a creation of the technical idea utilizing a law of nature and thus does not fall under “invention”.

- Claim 2

The invention of Claim 2 is a 3D printing method of dolls by a 3D printer using the computer software. The 3D printer controls a modeling unit in a way that it dispenses modeling resin and colorants of a plurality of colors based on three-dimensional shapes and color tones included in the 3D printing data. Therefore, the invention of Claim 2 is what concretely performs control of 3D printer which is an apparatus, or processing with respect to the control.

Therefore, since the invention of Claim 2 is a creation of the technical idea utilizing a law of nature as a whole, it falls under “invention”.

(Supplementary explanation)

Since the determination whether or not the invention of claim 2 falls under “invention” is judged in accordance with “Examination Guidelines Part III, Chapter 1: Eligibility of Invention and Industrial Applicability”, and thus is not examined from a viewpoint of the computer software.

[Measures of the applicant]

It is understood that regarding the 3D printing data of dolls its feature resides solely in the content of information as far as the detailed description of the invention etc. are referred to. Therefore, the 3D printing data of dolls of Claim 1 cannot overcome the reason for refusal.

(Reference)

For 3D printing data that falls under “invention”, see Case 2-15 in “Annex B, Chapter 1: Computer Software Related Inventions, 3. Case Examples”.

[Case 4-1] Not reviewed from point of view computer and software

Title of Invention

Apparatus and method for controlling fuel injection amount for automobile engine

What is claimed is:

[Claim 1]

An apparatus for controlling a fuel injection amount for an automobile engine by a programmed computer comprising:

a first detecting means for detecting the number of rotations of engine;

a second detecting means for detecting change in the number of rotations of engine; and

a fuel injection amount determining means for determining a fuel injection amount depending on a value detected by the first detecting means and a value detected by the second detecting means.

[Claim 2]

A method for controlling a fuel injection amount for an automobile engine by a programmed computer comprising:

a step of detecting the number of rotations of engine;

a step of detecting change in the number of rotations of engine; and

a step of determining a fuel injection amount depending on the number of rotations of engine and change in the number of rotations of engine.

Overview of the description

[Technical Field]

The present invention relates to an apparatus for controlling a fuel injection amount for an automobile engine by a programmed computer.

[Background Art]

Conventionally, an electronic controller for a fuel injection amount of automobile engine determines the fuel injection amount based on the number of rotations of engine that is detected. However, while the number of rotations of engine is increasing because of sudden acceleration and so on, since the amount of inhalation of air is not able to be rapidly increase because of the frictional resistance in a supply pipe, air tend to become thinner from a theoretical mixture ratio of fuel/air transitionally. Conversely, while the number of rotations of engine is decreasing rapidly, since amount of inhalation of air is not able to be rapidly decreased because of inertia, air tend to become thicker from a theoretical mixture ratio of fuel/air transitionally. Therefore, when the number of rotations of engine increases or decreases rapidly, combustor efficiency may get worse, and then output might be less than the expected value..

[Problem to be Solved by the Invention]

The present invention improves combustion efficiency and output of engine in transient state in which the number of rotations of engine rapidly increases and decreases.

[Solution for the Problem to be Solved]

The present invention, in order to improve output and combustion efficiency of engine controls, is able to achieve the optimal mixture ratio of fuel/air by controlling the fuel injection amount depending on the situation.

Specifically, rapid increase and decrease in the number of rotations can be detected by newly providing a second detecting means for detecting change (derivative value of number of rotations) in the number of rotations of engine in addition to a first detecting means for detecting number of rotations of engine. Moreover, the control program electrically stored in the memory of fuel injection apparatus enables to determine the fuel injection amount depending on a value detected by the first detecting means and a value detected by the second detecting means.

The specific procedures of determining fuel injection amount are as follows. Setting the number of rotations of engine to the X-axis and the change of number of rotations of engine to the Y-axis, the two-dimensional map in which the optimal fuel injection amount experimentally determined as each lattice point of the number of rotations and the change in number of rotations on X-Y plane was recoded is created in advance. This two-dimensional map is electrically stored in the memory of fuel injection apparatus. First, the control program calculates the number of rotations from a value detected by the first detecting means and the change in number of rotations from a value detected by the second detecting means. Next, the fuel injection amount is determined by making reference to the two-dimensional map in the memory using the calculated number of rotations and change in number of rotations.

[Effect of Invention]

The optimal mixed ratio of a fuel/air mixture is achieved even rapid increase and decrease in the number of rotations of engine, and the combustion efficiency is improved.

[Conclusion]

The invention of claim 1 falls under “invention”.

The invention of claim 2 falls under “invention”.

[Explanation]

- Claim 1

The invention of claim 1 relates an apparatus for specifically performing processes of control for automobile engine as equipment, thus it can be said that the invention of claim 1 is considered to be creation of technical ideas utilizing the laws of nature. Also, the invention of claim 1 relates an apparatus for specifically performing processes based on physical property of subject automobile engine, thus it can be said that the invention of claim 1 is considered to be a creation of technical ideas utilizing the laws of nature.

Therefore, the invention of claim 1 is considered to be a creation of technical ideas utilizing the laws of nature as a whole, thus considered to be statutory “Inventions”.

- Claim 2

The invention of claim 2 relates a method for specifically performing processes of control for automobile engine as equipment, thus it can be said that the invention of claim 2 is considered to be creation of technical ideas utilizing the laws of nature. Also, the invention of claim 2 relates a method for specifically performing processes based on physical property of subject automobile engine, thus it can be said that the invention of claim 2 is considered to be a creation of technical ideas utilizing the laws of nature.

Therefore, the invention of claim 2 is considered to be a creation of technical ideas utilizing the laws of nature as a whole, thus considered to be statutory “Inventions”.

(Supplementary Explanation)

Since the determination whether or not the inventions of clam 1 and 2 fall under “inventions” is judged in accordance with Examination Guidelines “Part III, Chapter 1: Eligibility of Invention and Industrial Applicability”, and thus is not examined from a viewpoint of the computer software.

[Case 4-2] Not reviewed from point of view computer and software

Title of Invention

Operation Method and Operation Program for Electric Rice Cooker

What is claimed is:

[Claim 1]

A method of operating an electric rice cooker communicative with an external server through a network, comprising:

a step of receiving information on users' preferences of rice cooking, users' home arrival time, and whether or not to eat at home the external server;

a step of setting the time of starting rice boiling so that the rice boiling is completed just before the earliest home arrival time of users who have plans to eat at home based on information on the arrival time and whether or not to eat at home; and

a step of performing the rice boiling in an optimum manner of rice cooking for users who have plans to eat at home based on information on users' preferences of rice cooking and whether or not to eat at home.

[Claim 2]

An operation program for causing an electric rice cooker to carry out the method described in claim 1.

Overview of the description

The electric rice cooker, and the external server for managing information on users' preferences of rice cooking and the schedule of a plurality of users who utilize the electric rice cooker are connected to each other through the network. The user can access the external server through the network using the user's portable terminal, and the user can suitably register/update information on preferences of rice cooking and the schedule in the external server. The electric rice cooker can provide the following additional functions by utilizing information on users' preferences of rice cooking, the home arrival time, and whether or not to eat at home, which is acquired from the external server.

(1) The time of starting rice boiling is set so that the rice boiling is completed just before the earliest home arrival time of the users who have plans to eat at home based on information on the users' home arrival time and whether or not to eat at home.

(2) The rice boiling is performed in an optimum manner of rice cooking for preferences of rice cooking for users who have plans to eat at home based on information on users' preferences of rice cooking and whether or not to eat at home. As for the users' preferences of rice cooking, there are "soft and sticky feeling", "crisp feeling", and the like representing the texture of the cooked rice. Every users' preferences are recorded in advance in the external server. As for the optimized manner of rice cooking, the rice boiling for which the boiling time, the temperature, and the like are appropriately

controlled is conducted so as to satisfy the preferences of all the users who have plans to eat at home.

[Conclusion]

The invention of claim 1 falls under “invention”.

The invention of claim 2 falls under “invention”.

[Explanation]

- Claim 1

The invention of claim 1 is the method for operating the electric rice cooker utilizing the computer software. In addition, the electric rice cooker controls itself in the start time of the rice boiling and details of rice cooking based on information on users’ preferences of rice cooking, the home arrival time, and whether or not to eat at home acquired from the external server. Therefore, the invention of claim 1 concretely performs the control for rice boiling of the electric rice cooker as the apparatus or the processing with respect to the control. Accordingly, the invention of claim 1 is the creation of the technical idea utilizing the law of nature, and thus falls under “invention”.

- Claim 2

The invention of claim 2 is the program for causing the computer to carry out the method that falls under “invention”. Therefore, the invention of claim 2 is the creation of the technical idea utilizing the law of nature as a whole and falls under “invention”.

(Supplementary Explanation)

Since the determination whether or not the inventions of clam 1 and 2 fall under “inventions” is judged in accordance with Examination Guidelines “Part III, Chapter 1: Eligibility of Invention and Industrial Applicability”, and thus is not examined from a viewpoint of the computer software.

[Case 4-3] Not reviewed from point of view computer and software

Title of Invention

Image processing method by computer

What is claimed is:

[Claim 1]

An image processing method by computer for compensating the blurring of optically read image data comprising the steps of:

inputting a pixel matrix A of 3 rows and 3 columns obtained from image data picked up by an optical reading means;

computing a pixel matrix C = A * B;

using a matrix B, shown below, which formed by stored filter parameters of 3 rows and 3 columns, and

outputting the pixel matrix C.

$$B = \begin{pmatrix} 0 & -0.5 & 0 \\ -0.5 & 3 & -0.5 \\ 0 & -0.5 & 0 \end{pmatrix} \quad \text{or} \quad B = \begin{pmatrix} 0 & -0.5 & 0 \\ -0.5 & 2.75 & -0.5 \\ 0 & -0.5 & 0 \end{pmatrix}$$

Overview of the description

[Technical Field]

This invention relates to a picture quality improvement method in image processing by a computer.

[Background Art]

Generally, a blur depending on the characteristics of the reading means is produced in the image data which was picked up with an optical reading means.

Conventionally, each picked up pixel was multiplied by a digital filter (a kind of high-pass filter which passes high frequency ingredient) with parameters such as:

$$\begin{pmatrix} 0 & -1 & 0 \\ -1 & 4 & -1 \\ 0 & -1 & 0 \end{pmatrix} \qquad \begin{pmatrix} 0 & -1 & 0 \\ -1 & 5 & -1 \\ 0 & -1 & 0 \end{pmatrix}$$

in accordance with the 3 * 3 filtering method, for instance. But the compensation became strong in the case of an image having an extensive area of half tone density, so that an improvement in the picture quality could not be achieved.

[Problem to be Solved by the Invention]

An object of this invention is to provide an image processing method which can achieve a required compensation sufficiently and easily.

[Solution for the Problem to be Solved]

When executing digital computation of the filter and detected image using a computer, experiments were conducted by setting various parameters under the condition that the total energy of the image should not differ substantially before and after the arithmetic processing and that the values other than the center parameter should not be smaller than the center parameter, so that the image after the processing should not appear unnatural.

[Description of Embodiments]

As a result of these experiments, a picture quality was improved when a filter having the following parameters was used.

$$\begin{pmatrix} 0 & -0.5 & 0 \\ -0.5 & 3 & -0.5 \\ 0 & -0.5 & 0 \end{pmatrix} \qquad \begin{pmatrix} 0 & -0.5 & 0 \\ -0.5 & 2.75 & -0.5 \\ 0 & -0.5 & 0 \end{pmatrix}$$

Digital computation of such a filter is realized by an image processing program and said program is provided by recording on a recording medium.

[Effect of Invention]

According to the present invention, it is possible to provide a high quality image picture image with a simple arrangement.

[Conclusion]

The invention of claim 1 falls under “invention”.

[Explanation]

In relation to matrix B which is a filter parameter, it is clear that absolute values of parameters other than the central parameter are smaller than the absolute value of the central parameter, and by comprehensively grasping from the description, parameters of such a matrix B have been set based on the physical characteristics of the reversed spatial frequency characteristics when blurring of image occurred and total energy of image before and after arithmetic operation.

In other words, considering the characteristics of said matrix B, the claimed invention identified on the basis of the definition of claim 1 is considered to be processing that utilizes the physical characteristics to output image data C from image data A obtained as data from an optical reading means by compensating blurring of image using matrix B as a filter parameter.

Then, since the claimed invention identified on the basis of the definition of claim 1

is a method to concretely performing processing utilizing the physical characteristics related to an image obtained as data by an optical reading means, it can be a creation of technical concept utilizing the laws of nature.

Therefore, the claimed invention identified on the basis of the definition of claim 1 as a whole is "a creation of technical ideas utilizing natural laws," and it is considered to be statutory “Inventions”.

(Supplementary Explanation)

Since the determination whether or not the invention of clam 1 falls under “invention” is judged in accordance with Examination Guidelines “Part III, Chapter 1: Eligibility of Invention and Industrial Applicability”, and thus is not examined from a viewpoint of the computer software.

[Case 5] Those regarded/not regarded as technical ideas

Title of Invention

Training data and method for generating images for training data

What is claimed is:

[Claim 1]

Training data for training a discriminator, the training data consisting of images for training data generated by combining surgical instrument images indicating surgical instruments with radiological images including the human body, and correct data indicating the area of surgical instruments in the images for training data, wherein when radiological images including the human body are input, the area of surgical instruments in the input radiological image is determined.

[Claim 2]

A method for generating images for training data for training a discriminator that determines the area of surgical instruments in target images when the target images are input,

the method comprising a step of obtaining radiological images including the human body and surgical instrument images indicating surgical instruments;

and a step of generating images for training data corresponding to the target images by combining the surgical instrument images with the radiological images, performed by an image generation device for training data.

Overview of the description

[Technical field]

The invention relates to a method for creating images for training data for constructing a discriminator that determines the area of surgical instruments in input radiological images by machine learning.

[Background Art]

When performing surgical procedures on patients, various surgical instruments are used, such as gauze to control bleeding, sutures, and needles to close wounds or incisions. Such surgical instruments can cause serious complications if left in the patient's body after surgery. Therefore, it is necessary to ensure that no surgical instruments remain in the patient's body after surgery.

Conventionally, radiological images are taken of the patient after surgery, and the surgeon or nurse visually checks to see if gauze or other surgical instruments remain in the patient's body.

However, after a long surgery, both the surgeon and the nurses are tired and may miss the surgical instruments left behind.

Therefore, in order to assist surgeons and nurses, it was desired to construct a discriminator to which radiological images of patients are input to automatically determine the area of surgical instruments in the input radiological images.

[Problems to be Solved by the Invention]

A large amount of training data must be collected to create a discriminator as described above by machine learning, but actual radiological images in which surgical instruments such as gauze remain in the patient's body are extremely rare, making it difficult to collect a large amount of training data.

The present invention has been conceived in view of such situation and aims to easily create a sufficient number of images for training data to train a discriminator that determines the area of surgical instruments in input radiological images including the human body.

[Means for Solving the Problem]

In the present invention, the images for training data T0 for training the above discriminator are generated by obtaining radiological images G0 including the human body and surgical instrument images M0 indicating surgical instruments, and combining the obtained radiological images G0 and surgical instrument images M0.

[Effect of Invention]

A sufficient number of images for training data T0 can be easily prepared to train the above discriminator, and as a result, a discriminator with high detection accuracy of surgical instruments can be constructed.

[Mode for carrying out the invention]

The image processing device of the present invention comprises an image acquisition unit, a composition unit, a learning unit, a detection unit, and a display control unit.

The image acquisition unit obtains radiological images G0, including any subject, from an image storage system via the I/F network to generate images for training data T0. The image acquisition unit also obtains surgical instrument images M0 indicating surgical instruments from the image storage system to generate the images for training data T0. The surgical instrument image M0 is a three-dimensional image that indicates surgical instruments and is created using computer graphics or the like.

When target radiological images G1 are input, the composition unit combines the radiological images G0 and the surgical instrument images M0, thereby generating images for training data T0 for training a discriminator that determines the area of surgical instruments in the radiological images G1. The composition unit combines the radiological images G0 and the surgical instrument images M0 to generate the images for training data T0.

The composition unit also generates a plurality of images for training data T0 by

combining the surgical instrument images M0, whose position, angle and size are modified, with the radiological images G0 for training the discriminator described below. This generates images for training data T0, in which the surgical instrument images M0 are combined with the radiological images G0 as if they were radiographed.

The learning unit trains the discriminator to determine the area of surgical instruments in the input radiological images using the training data including the images for training data T0 and the correct data in which the area of surgical instruments in the images for training data T0 is identified, and the training data consisting of the radiological images without surgical instruments. A sufficient number of images are prepared as training data for machine learning.

As a discriminator, machine learning models can be used. Examples of machine learning models include a neural network model. A convolutional neural network is used as the discriminator in the embodiment.

The discriminator is trained to output, when the images for training data T0 contained in the training data are input, the probability that each pixel in the images for training data T0 is the area of surgical instruments.

The trained discriminator is applied to the detection unit. When the target radiological images G1 are input to the detection unit, the discriminator extracts the area of surgical instruments contained in the radiological images G1 to be detected to detect the area of surgical instruments.

The display control unit shows the radiological images G1 on the display, highlighting the area of surgical instruments detected by the detection unit from the radiological images G1 to be detected.

Any surgical instrument used in surgery, such as suture needles, gauze, scalpels, scissors, drains, sutures, forceps, and stent grafts, may be subject to surgical instrument detection.

[Conclusion]

The invention of claim 1 does not fall under “invention.”

The invention of claim 2 falls under “invention.”

[Explanation]

Claim 1

Mere presentation of information (where the feature resides solely in the content of the information, and the main object is to present information), such as presentation of information (presentation per se, means for presentation or method of presentation) in which a technical feature does not reside, does not fall under “invention” (“creation of the technical idea utilizing a law of nature”) mentioned in the main paragraph of Article 29(1).

The use of training data “to train a discriminator” as described in claim 1 is a very

normal operation in machine learning of discriminators, so that the training data of claim 1 does not bring any technical features to learning means or methods for discriminators, and is considered to be characterized only in the content of information that it consists of "images for training data generated by combining surgical instrument images indicating surgical instruments with radiological images including the human body, and correct data indicating the area of surgical instruments in the images for training data." Therefore, the training data of claim 1 does not have technical features in the presentation of information (presentation per se, means for presentation or method of presentation), where feature resides solely in the content of the information, and the main object is to present information.

Therefore, the training data of claim 1 is a mere presentation of information, it is generally not a creation of the technical idea utilizing a law of nature, and thus does not fall under "invention."

Claim 2

Claim 2 states that "a step of obtaining radiological images including the human body and surgical instrument images indicating surgical instruments; and a step of generating images for training data corresponding to the target images by combining the surgical instrument images with the radiological images are performed by an image generation device for training data." Therefore, it can be said that specific calculation or processing of information depending on the purpose (intended use) of the subject matter of Claim 2 is implemented by concrete procedure through cooperation of software and hardware resources. Thus, the subject matter of Claim 2 constructs the operation method of specific information processing system depending on intended use through cooperation of software and hardware resources.

Therefore, since it can be said that information processing by the software is concretely realized by using hardware resources, the subject matter of Claim 2 is a creation of a technical idea utilizing the laws of nature, and falls under "invention."

3.2 Industrial Applicability

[Case 11] Invention considered to be surgery and therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

Connecting method of gastrostoma tube and nutrient container

What is claimed is:

[Claim 1]

A method for connecting a gastrostoma tube and a nutrient container, the gastrostoma tube being placed to penetrate an abdomen wall and a stomach wall and provided with a connector at the end thereof to be outside of a body, the nutrient container provided with a connector attachable and detachable with respect to the gastroma tube and containing a nutrient therein, wherein the connectors are aligned at the longitudinal axis, and then the connector of the nutrient container is inserted and revolved into the connector of the gastrostoma tube so that the gastrostoma tube and nutrient container engage with each other.

Overview of the description

The present invention relates to a connecting method for a gastrostoma tube and a nutrient container.

In the present invention, the connectors are provided in both of the gastrostoma tube and nutrient container. The both of connectors are aligned at the longtuidnal axes, and the connector of the nutrient container is inserted and revolved into the connector of the gastrostoma tube, thereby both can be steadily engaged.

Therefore, the gastrostoma tube and nutrient container are easily and effectively connected at nursing homes and homes. Also, since the gastrostoma tube and nutrient container can be steadily connected, the nutrient is prevented to be leaked from the connected part of the tubes when opening a clamp and injecting the nutrient into stomach via the gastrostoma tube.

[Conclusion]

Not considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

Since, connecting the gastrostoma tube and nutrient container is performed prior to nutritional support, an object of the method is not to relief, inhibit and prevent disease. Therefore, the method does not fall under methods of therapy of humans.

Moreover, the method does not include the process of injecting the nutrient into

humans and the process of operating surgery for humans. Thus, the method does not fall under methods of surgery of humans.

Therefore, the method is not considered to be “methods of surgery, therapy or diagnosis of humans".

[Case 12] Invention considered to be surgery (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

Image processing method for identifying direction and position of object

What is claimed is:

[Claim 1]

An image processing method comprising: irradiating X-ray onto a subject to detect an X-ray image; extracting a marker attached to an object from the detected X-ray image; and identifying a direction and position of the object using the extracted marker.

Overview of the description

X-ray image photographed by the X-ray imaging device is subject to threshold processing to extract a marker attached to the object, and based on the direction and position of the extracted marker, the direction and position of the object can be identified in real-time. Thus, the surgical implements such as catheter, guide wire and balloon, and biopsy needle can be guided toward target position, and the position can be confirmed in the stent buried into the patient body.

[Conclusion]

Considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claim term "object" encompasses the "surgical implements" being "guided toward target position" from the description. Thus, since the image processing method of the claimed invention includes identifying a position of the "surgical implements" being "guided toward target position" in real-time, the image processing method of the claimed invention includes using (inserting, moving, maintaining and operating) the implements (surgical implements such as catheter, guide wire and balloon, and biopsy needle) in the body. Therefore, the method is considered to be “methods of surgery, therapy or diagnosis of humans".

[Response of Applicant]

Identify the method not to the image processing method during operation (example 1). Or, amend claims to be the method of operating medical instruments (example 2).

(Example 1)

An image processing method comprising: irradiating X-ray onto a subject to detect an X-ray image; extracting a marker attached to a stent buried into a body from the detected X-ray image; and identifying a direction and position of the stent using the

extracted marker.

(Example 2)

An operating method of an image processing device comprising: receiving an X-ray image from an X-ray imaging device; extracting a marker attached to an object from the received X-ray image; identifying a direction and position of the object using the extracted marker; and displaying the identified direction and position of the object.

(Supplementary Explanation)

The invention of example 1 is for confirming the position of a stent buried into a patient body. Thus, the surgery is not performed such as introducing therapy instruments into patient while performing the invention of example 1. Therefore, the method does not considered to be “methods of surgery, therapy or diagnosis of humans".

[Case 13-1] Invention considered to be surgery (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for the observation of the celom by using an endoscope

What is claimed is:

[Claim 1]

A method for capturing images of the inside of the celom with an endoscope, by way of changing the direction of the view by the operator using the rotation indicator, and rotating the imaging unit whose light axis tilted to the insertional axis of the endoscope.

Overview of the description

This invention relates to an endoscope for optical observation by insertion into the human body. It is especially beneficial to alter the direction of the view of rigid scopes such as laparoscopes that do not have a curve.

The endoscope of this invention has an external cylinder made of stainless pipe for the entire length of the insertion section, and is equipped with a imaging unit with a lens and a solid image sensor. The light axis of the imaging unit is tilted to the axis of the external cylinder and can rotate on the same axis as the external cylinder.

The imaging unit is rotated by a stepping motor. When an operator sends a signal indicating the rotation angle to the stepping motor by using the rotation indicator, the stepping motor rotates according to the signal and the operator can gain the desired visual field.

[Conclusion]

Considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

Since the matter reading “the operator using the rotation indicator” includes the step with an action of a medical doctor, the claimed method is not considered to be “methods for controlling the operation of a medical device.”

Since the claimed method does not involve the step with medical doctor’s judgment on the physical condition of a human body such as disease or physical health, the method is not considered to be “methods of diagnosis of humans.”

However, the claimed method includes the step to operate the endoscope inside the human body, by rotating the imaging unit and changing the direction of the view, and it is described in the detailed explanation of the invention that the endoscope is inserted into the human body. Furthermore, the imaging with an endoscope is normally carried out with the endoscope placed inside the human body. Since the claimed method includes a

method of surgery of humans as a part of the invention, the method is considered to be "methods of surgery, therapy or diagnosis of humans."

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 13-2, the claimed invention is not considered to be "methods of surgery, therapy or diagnosis of humans."

[Case 13-2] Invention considered to be surgery (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling the operation of an endoscope

What is claimed is:

[Claim 1]

A method for controlling the operation of an endoscope, wherein means of rotating the imaging unit whose light axis is tilted to the insertional axis of the endoscope is operated by receiving an instruction signal to rotate.

Overview of the description

This invention relates to an endoscope for optical observation by insertion into the human body. It is especially beneficial to alter the direction of the view of rigid scopes such as laparoscopes that do not have a curve.

The endoscope of this invention has an external cylinder made of stainless pipe for the entire length of the insertion section, and is equipped with a imaging unit with a lens and a solid image sensor. The light axis of the imaging unit is tilted to the axis of the external cylinder and can rotate on the same axis as the external cylinder.

The imaging unit is rotated by a stepping motor. When an operator sends a signal indicating the rotation angle to the stepping motor by using the rotation indicator, the stepping motor rotates according to the signal and the operator can gain the desired visual field.

[Conclusion]

Not considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

The matter reading “means of rotating the imaging unit whose light axis is tilted towards the insertional axis of the endoscope is operated by receiving an instruction signal to rotate” means that the means provided with the endoscope itself is operated by receiving an instruction signal to rotate, but it does not mean so further that a medical doctor gives the instruction signal to rotate, and the claimed method is judged not to include the step with an action of a medical doctor. Further, the claimed method does not include the step with an influence on the human body by the endoscope.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method, and is not considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

The statement of the claim of this example reads “A method for controlling the operation of an endoscope, wherein…” at the front, compared to that of Example 13-1. Additionally, the subject of the step of “is operated” is “means of rotating the imaging unit whose light axis is tilted to the insertional axis of the endoscope.”

[Case 14-1] Invention considered to be surgery (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for contrast magnetic resonance imaging

What is claimed is:

[Claim 1]

A method for contrast magnetic resonance imaging, wherein an examinee injected with contrast media is imaged with low-resolution real-time mode and then the mode is shifted to the actual high-resolution imaging when the signal strength within the desired domain exceeds the threshold value drastically.

Overview of the description

The present invention relates to a method for magnetic resonance imaging in accordance with the movement of contrast media.

The total dose of contrast media is determined by the patient's weight, and the change in the infusion rate is determined depending on the part of the body to be imaged and the imaging method. The determined dose of contrast agent and the change in the infusion rate are then read into the power injector, and contrast media is injected into the examinee's artery or venous during the imaging procedure. In order to obtain the image when the contrast agent reaches the desired domain, a real time image is acquired at low-resolution mode which enables a high time-resolution monitoring after the start of the contrast media injection. During the real time imaging procedure, the contrast magnetic resonance imaging device will continuously monitor the signal strength within the desired domain, and when the value exceeds the predetermined threshold value, the contrast magnetic resonance imaging device will detect that the contrast media has reached the desired domain and the mode is shifted to the actual imaging procedure of high-resolution setting.

[Conclusion]

Considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

Since the claimed method does not represent the function of the medical device but the steps with an action of a doctor, the method is not deemed as "methods for controlling the operation of a medical device."

The method in this example is not considered to be "methods of diagnosis of humans," since it does not include the steps of medical doctors judging the condition of human diseases or the physical condition of a human body for medical purposes.

In addition because the claim reads “an examinee injected with contrast media” the claimed invention is not defined by the procedure of contrast media injection. However, as the detailed explanation of the invention reads “injected into the examinee’s artery or venous during the imaging procedure,” a surgical treatment of injecting contrast media into blood vessels is practiced during the imaging procedure of the claimed method.

Therefore, although “an examinee injected with contrast media” is stated in the claim as if the contrast media was injected before the imaging, the claimed method is considered to be “methods of surgery, therapy or diagnosis of humans” since a surgical treatment is practiced in working of the claimed method and it includes a method of surgery of humans as a part of the step of the invention.

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 14-2, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 14-2] Invention considered to be surgery (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling a magnetic resonance imaging device

What is claimed is:

[Claim 1]

A method for controlling the operation of a magnetic resonance imaging device, wherein means of shifting to high resolution imaging is operated by the device when the signal strength within the desired domain drastically changes from the threshold value.

Overview of the description

The present invention relates to a method for magnetic resonance imaging in accordance with the movement of contrast media.

The total dose of contrast media is determined by the patient's weight, and the change in the infusion rate is determined depending on the part of the body to be imaged and the imaging method. The determined dose of contrast agent and the change in the infusion rate are then read into the power injector, and contrast media is injected into the examinee's artery or venous during the imaging procedure. In order to obtain the image when the contrast agent reaches the desired domain, a real time image is acquired at low-resolution mode which enables a high time-resolution monitoring after the start of the contrast media injection. During the real time imaging procedure, the contrast magnetic resonance imaging device will continuously monitor the signal strength within the desired domain, and when the value exceeds the predetermined threshold value, the contrast magnetic resonance imaging device will detect that the contrast media has reached the desired domain and the mode is shifted to the actual imaging procedure of high-resolution setting.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed method does not include the step with an action of a medical doctor or the step with an influence on the human body by the device. The operation of the magnetic resonance imaging device to shift to high resolution imaging when the signal strength within the desired domain drastically changes from the threshold value, i.e., the function of the magnetic resonance imaging device, is represented as a method.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device and is not considered to be "methods of surgery, therapy or

diagnosis of humans."

(Supplementary Explanation)

The statement of the claim of this example reads "A method for controlling the operation of a magnetic resonance imaging device, wherein…" at the front, compared to that of Example 14-1. Additionally, the subject of the step of "is operated" is "magnetic resonance imaging device."

[Case 15-1] Invention considered to be surgery (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for treating an affected part by micro operation robot

What is claimed is:

[Claim 1]

A method for treating an affected part by using a micro operation robot having at its head optical observing means and incising means and having at its bottom receiving means for receiving manipulator signals from an extracorporeal remote operation device, comprising the steps of;

operating a manipulator in order to give medical treatment to the affected part while viewing the monitor of the remote operation device, receiving a manipulator signal from the remote operation device by the receiving means, and incising the affected part of a patient by an incising means based on the signal received.

Overview of the description

The capsule type micro operation robot of the present invention can, owing to very delicate constitution thereof, perform treatment such as incision, excision, or the like of the affected part by remote control in an organ such as a blood vessel or the like, without excessively burdening the patient.

[Conclusion]

Considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

The matter reading “operating a manipulator in order to give medical treatment to the affected part while viewing a monitor of the remote operation device” includes the step with an action of a medical doctor to view a monitor and to operate a manipulator for treating the affected part. Furthermore, the matter reading “incising the affected part of a patient by incising means” depicts the step with an influence on the human body by the device.

Accordingly, the claimed method is not considered to be a method for controlling the operation of the medical device.

As a result, the method in this example is nothing but a method of surgery of humans since it corresponds to a method for operating a manipulator and incising the affected part for the treatment of the affected part. Accordingly, the claimed method includes a method of surgery of humans as part of the steps of the invention; thus, the method is considered to be “methods of surgery, therapy or diagnosis of humans”

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 15-2, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 15-2] Invention considered to be surgery (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling the operation of a micro operation robot system

What is claimed is:

[Claim 1]

A method for controlling the operation of a micro operation robot system provided with a micro operation robot and a remote operation device for remote-operating the robot with a manipulator, wherein the robot has at its head an optical observing means and an incising means and at its bottom a receiving means for receiving manipulator signals from the remote operation device, comprising the steps of;

transmitting the signal of the manipulator by the transmitting device to the remote operation device, receiving the manipulator signal from the remote operation device by the receiving means of the robot, and controlling the operation of the incising means of the robot with the manipulator signal received.

Overview of the description

The capsule type micro operation robot of the present invention can, owing to very delicate constitution thereof, perform treatment of the affected part by remote control in an organ such as a blood vessel or the like, without excessively burdening the patient.

[Conclusion]

Not considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example, the function of the micro operation robot system is represented as a method.

Since the matter reading “controlling the operation of the incising means of the robot with the signal received” means that “the incising means” provided with the micro operation robot system is controlled with the manipulator signal received and does not mean so farther that the incising means incise the human body as a result of the operation; thus, the claimed method is judged not to include the step with an influence on the human body by the device.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method, and the method does not include the step with an action of a medical doctor or the step with an influence on the human body by the device. As a result, it is not considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)
(1) A micro operation robot system is generally designed to be operated based on a manipulator signal operated by a medical doctor and is assumed to be operated by an action of a medical doctor. However, in case the function of the micro operation robot system is described as a method in a claim, it is considered to be a method for controlling the operation of the micro operation system as long as it does not include the step with an action of a medical doctor and/or the step with an influence on the human body by the device.

(2) Even if the function of the medical device is described as a method in a claim, it should be noted that the claim may not meet the requirement of description or embodiment if the device is not disclosed in the description, as in the case where only a method carried out by the step with an action of a medical doctor is disclosed.

[Case 16-1] Invention considered to be surgery (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for sampling body fluid

What is claimed is:

[Claim 1]

A method for sampling body fluid by a body fluid sampling device provided with a hollow piercing element installed inside housing, a sample extracting tube communicating with the piercing element, and an absorbing means, wherein the piercing element pierces the vein, and the body fluid is absorbed by the piercing element arranged in the vein blood vessel into the sample extracting tube.

Overview of the description

The present invention relates to a method for sampling body fluid such as blood or the like from the human body for analysis or processing. The housing of the body fluid sampling device is placed on the human body and a piercing element is pierced into the surface of the skin. When the device is operated, an absorbing power is applied to the piercing element to absorb the body fluid into the tube.

[Conclusion]

Considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

The step of “the piercing element is pierced” is not carried out by a means provided with this fluid sampling device but is the step with an action of a medical doctor. (Note: In this case, the method may also be judged to include the step with an influence on the human body via the piercing element.)

The step of “the body fluid is absorbed from the piercing element arranged in the vein blood vessel into the sample extracting tube” is judged to include the step with an influence on the human body by the device, as a signal is not received from the human body but body fluid is extracted from the human body.

The claimed method, therefore, is not a method for controlling the operation of the medical device because it includes the step with an action of a medical doctor and the step with an influence on the human body by a device.

The claimed method includes the step of surgical operation of piercing human body with the piercing element. Accordingly, the claimed method includes methods of surgery of humans; thus, the method is considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 16-2, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 16-2] Invention considered to be surgery (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling the operation of a body fluid sampling device

What is claimed is:

[Claim 1]

A method for controlling the operation of a body fluid sampling device provided with a hollow piercing element installed inside a housing, a sample extracting tube communicating with the piercing element, a sampling vessel connected with the end of the tube and having a pressure detecting unit inside, and a negative pressure generating unit giving a negative pressure on the sampling vessel, wherein a suppressing means controlling the operation of the negative pressure generating means is operated when the pressure detecting means detects a pressure lower than the predetermined value in the operation of the negative pressure generating unit.

Overview of the description

The present invention relates to a method for sampling body fluid such as blood or the like from a human body for analysis or processing. The housing of the body fluid sampling device is placed on a human body and a piercing element is used to pierce the surface of the skin. When the device is operated, an absorbing power is applied to the piercing element to absorb the body fluid into the tube for sampling. In this invention, as the pressure detecting means and the suppressing means are provided in the sampling vessel, it becomes possible to avoid endangering a human body by preventing the application of a higher absorbing pressure than required.

[Conclusion]

Not considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example, the function of the body fluid sampling device is represented as a method.

The matter reading “a suppressing means controlling the operation of the negative pressure generating means is operated when the pressure detecting means detects a pressure lower than the predetermined value in the operation of the negative pressure generating unit” means that the “suppressing means” provided with the body fluid sampling device is operated and does not mean so farther that the volume of the body fluid absorbed is changed as a result of the operation of the suppressing means, and the claimed method is judged not to include the step with an influence on the human body by the device.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method, and the method does not include the step with an action of a medical doctor or the step with an influence on the human body by the device. As a result, the method is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 17-1] Invention considered to be surgery (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for displaying superimposed images of an object being cut and a cutting device

What is claimed is:

[Claim 1]

A method for displaying superimposed images of the three-dimensional data of an object being cut and the three-dimensional data of a cutting device, comprising a step of : obtaining the three-dimensional data of an object to be cut and a cutting device with markers attached; a step of detecting the position of the markers on the object to be cut and the cutting device; and a step of making a connection between the three-dimensional data of the object being cut and the three-dimensional data of the cutting device by calculating the relative positional data of the object being cut and the cutting device.

Overview of the description

The present invention relates to a method for displaying superimposed images of an object being cut and a cutting device.

During a surgical operation for cutting a bone or treating a decayed tooth, the images of the bone or the tooth and the cutting device can be displayed as superimposed images on a screen placed adjacent to a surgeon, thereby providing the surgeon with information regarding the progress of the surgical procedure. By observing the images on the screen, the surgeon can check accurately of the situation of cutting, even sections that are difficult to visually recognize, and hence can carry out the surgery appropriately.

[Conclusion]

Considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

The "object to be cut" recited in the claims includes a tooth or a bone from the description. Also, the method for displaying superimposed images of an object being cut and a cutting device defined in the claim is a method to indicate the situation of cutting a bone or treating a decayed tooth, and includes a method for cutting the bone or tooth.

Therefore, the claimed method includes a method of surgery or therapy of humans as a part of the steps of the invention. Thus the method is considered to be "methods of surgery, therapy or diagnosis of humans."

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 17-2, the claimed invention is not considered to be "methods of surgery, therapy or diagnosis of humans."

[Case 17-2] Invention considered to be surgery (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling a device for displaying superimposed images of an object being cut and a cutting device

What is claimed is:

[Claim 1]

A method for controlling an operation of a device for displaying superimposed images of the three-dimensional data of an object being cut and the three-dimensional data of a cutting device, comprising;

a step for obtaining the three-dimensional data of an object to be cut and a cutting device with markers attached by a means to obtain the image data, a step for detecting the position of the markers on the object to be cut and the cutting device by a means to detect a position of the markers, and a step for making a connection between the three-dimensional data of the object being cut and the three-dimensional data of the cutting device with calculating the relative positioning data of the object being cut and the cutting device by a means to make a connection.

Overview of the description

The present invention relates to a method for displaying superimposed images of an object being cut and a cutting device.

During a surgical operation for cutting a bone or treating a caries tooth, the images of the bone or the tooth can be displayed as superimposed images on a screen adjacent to a surgeon, thereby providing the surgeon with information regarding the progress of the surgical procedure. By observing the images on the screen, the surgeon can check accurately of the situation of cutting, even sections that are difficult to visually recognize, and hence can carry out the surgery appropriately.

[Conclusion]

Not considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed method does not include the step of an action by a medical doctor or the step of giving an influence on the human body by the device. The function of the device for displaying superimposed images of the three-dimensional data of an object being cut and the three-dimensional data of a cutting device is represented as a method.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device and is not considered to be “methods of surgery, therapy or

diagnosis of humans."

(Supplementary Explanation)

The statement of the claim of this example reads "A method for controlling an operation of a device for…" at the beginning, compared to that of Example 17-1. Additionally, the subjects of the steps are "a means to obtain the image data", "a means to detect the position of the markers" and "a means to make a connection."

[Case 18-1] Invention considered to be therapy (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for X-ray irradiation

What is claimed is:

[Claim 1]

A method for irradiating X-rays onto the human body by changing the tube voltage and the tube current of the X-ray generator each time the generator rotates one lap inside the gantry.

Overview of the description

The present invention relates to a method for treatment of the human body by X-ray therapy with confirming the X-ray therapy process by monitoring the X-ray image of the affected area.

The device used in the current invention places the X-ray generator and the X-ray detector in opposite positions inside the gantry, and rotates one lap around the circumference of the gantry maintaining the opposite positions. The X-ray generator which is used for treatment of the human body and imaging procedures sets the appropriate tube voltage and tube current for treatment at the time of treatment and sets the appropriate tube voltage and tube current for image processing at the time of imaging. The X-ray device used in this invention has a control function for controlling the operation of the X-ray generator and the X-ray detector, and their rotation, detects the rotating position of the X-ray generator, and changes the tube voltage and tube current each time it rotates one lap around the circumference.

In the present invention the treatment and the imaging procedures are switched over each time the X-ray generator and the X-ray detector rotates one lap inside the gantry. At the time of treatment the X-ray will be irradiated to the affected area at the appropriate tube voltage and tube current value for treatment procedures while the X-ray generator is rotating one lap around the circumference. Just before the start of the next lap, the value of the tube voltage and tube current is changed to the appropriate value for imaging. During the next lap, the X-ray will be irradiated to the affected area at the appropriate tube voltage and tube current value for imaging, the X-ray that penetrate the affected area are detected by the X-ray detector, and image reconstruction is performed.

[Conclusion]

Considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

Since the matter reading “irradiating X-rays onto the human body” includes the step with an influence on the human body by the device, the claimed method is not considered to be a method for controlling the operation of the medical device.

Additionally since the claimed method does not include the steps with an action of a medical doctor judging the condition of human diseases or the physical condition of a human body for medical purposes, it is not considered to be “methods of diagnosis of humans.”

According to the detailed explanation of this invention, by changing the tube voltage and tube current of the X-ray generator, the treatment and imaging is repeated alternately; thus the steps to irradiate X-rays onto the human body by changing the tube voltage and tube current of the X-ray generator include a step of therapy of humans. Therefore, the claimed method is considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 18-2, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 18-2] Invention considered to be therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for operating an X-ray device

What is claimed is:

[Claim 1]

A method for controlling the X-ray generator by control means of the X-ray device; wherein the control means change the tube voltage and the tube current of the said X-ray generator each time the generator rotates one lap inside the gantry.

Overview of the description

The present invention relates to a method for treatment of the human body by X-ray therapy with confirming the X-ray therapy process by monitoring the X-ray image of the affected area.

The device used in the current invention places the X-ray generator and the X-ray detector in opposite positions inside the gantry, and rotates one lap around the circumference of the gantry maintaining the opposite positions. The X-ray generator which is used for treatment of the human body and imaging procedures sets the appropriate tube voltage and tube current for treatment at the time of treatment and sets the appropriate tube voltage and tube current for image processing at the time of imaging. The X-ray device used in this invention has a control function for controlling the operation of the X-ray generator and the X-ray detector, and their rotation, detects the rotating position of the X-ray generator, and changes the tube voltage and tube current each time it rotates one lap around the circumference.

In the present invention the treatment and the imaging procedures are switched over each time the X-ray generator and the X-ray detector rotates one lap inside the gantry. At the time of treatment the X-ray will be irradiated to the affected area at the appropriate tube voltage and tube current value for treatment procedures while the X-ray generator is rotating one lap around the circumference. Just before the start of the next lap, the value of the tube voltage and tube current is changed to the appropriate value for imaging. During the next lap, the X-ray will be irradiated to the affected area at the appropriate tube voltage and tube current value for imaging, the X-ray that penetrate the affected area are detected by the X-ray detector, and image reconstruction is performed.

[Conclusion]

Not considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed method does not include the step with an action of a medical doctor on the human body or the step with an influence on the human body by the device. The operation of the X-ray generator by control means of the X-ray device, i.e. the function of the X-ray device, is represented as a method.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device and is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 19-1] Invention considered to be therapy (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for the treatment of cancer

What is claimed is:

[Claim 1]

A method for treatment of cancer using;

a micro capsule X which contains an anti-cancer agent and releases the agent when disintegrated by a convergence supersonic wave, and

an apparatus having means to obtain the image data showing the position of the tumor, means to focus the convergence supersonic wave on the position of the tumor, and means to irradiate the convergence supersonic wave onto the micro capsule X.

Overview of the description

This invention is directed to a method for treatment of cancer comprising injecting a micro capsule X with a anti-cancer agent inside into the blood vessel, destroying the micro capsule X in the body, and making the anticancer agent work efficiently on the tumor. Since the convergence supersonic wave is focused onto the position of the tumor, only the micro capsule that has reached the tumor is disintegrated and thus the anti-cancer agent can be effectively administered to the tumor.

[Conclusion]

Considered to be “methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed method is to make an anticancer agent work on the tumor for treatment. Thus the method is considered to be "methods of surgery, therapy or diagnosis of humans".

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 19-2, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 19-2] Invention considered to be therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A system for cancer treatment

What is claimed is:

[Claim 1]

A cancer treatment system comprising;

a micro capsule X which contains an anti-cancer agent and releases the agent when disintegrated by a convergence supersonic wave, and

an apparatus having means to obtain the image data showing the position of the tumor, means to focus the convergence supersonic wave on the position of the tumor, and means to irradiate the convergence supersonic wave onto the micro capsule X.

Overview of the description

The present invention relates to a system for effectively administering an anti-cancer agent to the tumor.

Since the convergence supersonic wave is focused onto the position of the tumor when the micro capsule X which contains an anti-cancer agent and has been injected into the blood vessel disintegrates inside the human body, only the micro capsule that has reached the tumor is disintegrated and thus the anti-cancer agent can be effectively administered to the tumor.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed treatment system is an invention of the combination of the micro capsule X, and the apparatus having the means to obtain the image data, the means to focus the convergence supersonic wave on the position of the tumor, and means to irradiate supersonic waves; hence it is a product invention. Therefore, it is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 20-1] Invention considered to be therapy (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for giving electrical stimulus by a pacemaker

What is claimed is:

[Claim 1]

A method for giving an electrical stimulus by a pacemaker, comprising;

a step of comparing a heart rate detected by a detecting unit with a threshold value stored in a memory device, and, when the heart rate is lower than the threshold value,

a step of reading out an average heart rate in a steady state from the memory device, a step of calculating the difference between the average heart rate and the detected heart rate,

a step of setting a pulse generating interval value in accordance with the difference,

a step of a pulse generating unit's giving stimulus to the ventricle of the heart with the pulse generating interval having been set, and a step of keeping the heart rate steady.

Overview of the description

Since the pacemaker constantly analyzes an electric signal from a myocardium to give a stimulus to the ventricle of the heart with a signal most fitted to the state of the heart, the maintenance of the optimum heart rate is made possible without a switching operation of the output signal.

[Conclusion]

Considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

Since the matter reading "giving stimulus to the ventricle of the heart, and keeping the heart rate steady" includes the step with an influence on the human body by the device, the claimed method is not considered to be a method for controlling the operation of the medical device.

The method in this example is considered to be a method of therapy of humans, since it corresponds to a method for curing diseases by giving a stimulus to the ventricle of the patient's heart with pacemaker pulses and maintaining an optimum heart rate. Accordingly, the claimed method includes a method of therapy of humans as a part of the steps of the invention; thus, the method is considered to be "methods of surgery, therapy or diagnosis of humans."

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 20-2 to 20-4, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 20-2] Invention considered to be therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling a pacemaker

What is claimed is:

[Claim 1]

A method for controlling a pacemaker, comprising;

a step of comparing a heart rate detected at a detecting unit with a threshold value stored in a memory, and, when the heart rate is lower than the threshold value,

a step of reading out an average heart rate in a steady state from the memory,

a step of calculating the difference between the average heart rate and the detected heart rate, and

a step of setting a pulse generating interval value in accordance with the difference.

Overview of the description

Since the pacemaker constantly analyzes an electric signal from a myocardium to set a generating interval of the pulses most fitted to the state, the maintenance of an optimum heart rate is made possible.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example, the method relates to a method for controlling the internal operation of a pacemaker, and the function of the medical device is represented as a method.

Additionally, no step involves the step with an action of a medical doctor on a human body or the step with an influence on a human body by a device.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device and is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 20-3] Invention considered to be therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling a pacemaker

What is claimed is:

[Claim 1]

A method for controlling a pacemaker, comprising;

a step of comparing a heart rate detected at a detecting unit with a threshold value stored in a memory, and, when the heart rate is lower than the threshold value,

a step of reading out an average heart rate at a steady state from the memory, a step of calculating the difference between the average heart rate and the detected heart rate,

a step of setting a pulse generating interval value in accordance with the difference, and

a step of the pulse generating means' generating pulses for giving stimulus to the ventricle of the heart with the pulse generating interval.

Overview of the description

Since the pacemaker constantly analyzes electrical signals from the myocardium to set the generating interval of the pulses most fitted to the state, the maintenance of an optimum heart rate is made possible.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example, the function of the pacemaker is represented as a method, and, in addition to the method for controlling the internal operation of the pacemaker as described in Example 20-2, this method includes the step of generating pulses toward the outside of the pacemaker.

The matter reading "the pulse generating means' generating pulses for giving stimulus to the ventricle of the heart with the pulse generating interval" means that "the pulse generating means" provided with the pacemaker generates pulses, but it does not mean so farther that the generated pulses give stimulus to the ventricle of the heart as the direct result of the pulses being generated; thus, it is judged not to have the step with an influence on the human body by the device.

It should be further noted that pulses "for giving stimulus to the ventricle of the heart" does not depict the step with an influence on the human body, since it specifies the state and/or the character of the pulse and differs from an influence on the human body of

giving stimulus to the ventricle of the heart.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method and does not include the step with an action of a medical doctor or the step with an influence on the human body by the device. As a result, the method is not considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

A pacemaker is generally designed to be placed and operated in the human body by nature and is assumed to operate in a human body. However, in case the function of the pacemaker is described as a method in a claim, it is considered to be a method for controlling the operation of the pacemaker as long as the method does not include the step with an action of a medical doctor and/or the step with an influence on the human body by the device.

[Case 20-4] Invention considered to be therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling the operation of a pacemaker

What is claimed is:

[Claim 1]

A method for controlling the operation of a pacemaker; wherein means for comparing a heart rate detected in a detecting unit with a threshold value stored in a memory is operated, and, when the heart rate is lower than the threshold value, means for reading out an average heart rate at a steady state from the memory is operated, means for calculating the difference between the average heart rate and the detected heart rate is operated, means for setting the pulse generating interval value in accordance with the difference is operated, and pulse generating means for generating pulses for giving stimulus to the ventricle of the heart with a set pulse generating interval is operated.

Overview of the description

Since the pacemaker constantly analyzes electrical signals from a myocardium to set the pulse-generating interval best fitted to the state of the heart, the maintenance of the optimum heart rate is made possible.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example, the function of the pacemaker is represented as a method.

The matter reading “pulse generating means for generating pulses for giving stimulus to the ventricle of the heart is operated” means that “the pulse generating means” provided with the medical device is operated, but it does not mean so farther that the generated pulses give stimulus to the ventricle of the heart as the direct result of “the pulse generating means” being operated and the claimed method is judged not to include the step with an influence on the human body.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method, and does not include the step with an action of a medical doctor on the human body or the step with an influence on the human body by the device. As a result, the method is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 21-1] Invention considered to be therapy (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for retinal stimulation using an artificial eye system

What is claimed is:

[Claim 1]

A method for giving stimulus to a retina by an artificial eye system provided with an extracorporeal device composed of a visor device having an image receiving element and a light emitting element, and an extracorporeal image processing device, and an intraocular devices having a light receiving element, a signal processing circuit and an electrode, comprising;

a step of making a picture signal by processing an outside picture image obtained from the image receiving element of the visor device, a step of converting the picture signal into an optical signal for transmitting from the light emitting element of the visor device to the light receiving element of the intraocular devices, a step of receiving the optical signal by the light receiving element of the intraocular devices installed inside the oculus, a step of converting the received signal into a signal for use in electrical stimulation by the signal processing circuit of the intraocular devices, and a step of transmitting the signal for use in the electrical stimulation to an electrode for retina to transfer the signal to the retina, wherein stimulus of the picture information is given to the retina of the patient by the artificial eye system.

Overview of the description

The artificial eye system of the present invention can transfer the signal of the artificial picture information to the retina of a visually handicapped patient through an electrode for retina buried in the retina, by combining the image receiving element, the light emitting element, the light receiving element, and the signal processing circuit.

[Conclusion]

Considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The matter reading “transmitting the signal for use in electrical stimulation to an electrode for retina to transfer the signal to the retina” includes the step with an influence on the human body by the device as it transfers the signal to the retina resulting in the electrical stimulation of the retina.

In addition, the matter reading “stimulus of the picture information is given to the retina of the patient” depicts the step with an influence on the human body by the device

giving stimulus to the retina of the patient.

The claimed method, therefore, is not considered to be a method for controlling the operation of the medical device.

The method in this example is considered to be a method of therapy of humans, since it corresponds to a method for recovering the visual functions of a patient to cure diseases by transferring the signal for use in the electrical stimulation to the retina of a patient with the artificial eye system.

Accordingly, the claimed method includes a method of therapy of humans as a part of the steps of the invention; thus, it is considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 21-2, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 21-2] Invention considered to be therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling an artificial eye system

What is claimed is:

[Claim 1]

A method for controlling an artificial eye system provided with an extracorporeal device composed of a visor device having an image receiving element and a light emitting element, and an extracorporeal image processing device, and an intraocular device having a light receiving element, a signal processing circuit and an electrode, comprising;

a step of making a picture signal by processing an outside picture image by the image receiving element of the visor device, a step of converting the picture signal into an optical signal for transmitting from the light emitting element of the visor device to the light receiving element of the device for intraocular use, a step of receiving the optical signal by the light receiving element of the devices for intraocular use, a step of converting the received signal into a signal for use in the electrical stimulation for transferring to the retina by the signal processing circuit of the device for intraocular use, and a step of transmitting the signal for use in the electrical stimulation to the electrode buried in the retina.

Overview of the description

The artificial eye system of the present invention can transfer the signal of the artificial picture information to the retina of a visually handicapped patient through an electrode buried in the retina, by combining the image receiving element, the light emitting element, the light receiving element, and the signal processing circuit.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example, the function of the artificial eye system is represented as a method.

Since the matter reading “transmitting the signal for use in the electrical stimulation to the electrode buried in the retina” means that the device for intraocular use transmits signals for use in electrical stimulation and does not mean so farther as transferring the signal for use in the electrical stimulation to the retina as the result of the transmission, the claimed method is judged not to include the step with an influence on the human body by the device.

It should be noted that the matter reading “buried in the retina” in the above step

specifies the state and/or the character of the electrode in the artificial eye system and is distinguished from the step with the action of a medical doctor burying the electrode in the retina or from the step with an influence on the human body by the device.

Therefore, the claimed method is considered to be a method for controlling the operation of the medical device since the function of the medical device is represented as a method and does not include the step with an action of a medical doctor on the human body or the step with an influence on the human body by the device. As a result, it is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 22-1] Invention considered to be therapy (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for regenerating cartilage

What is claimed is:

[Claim 1]

A method for regenerating cartilage wherein a material wherein the A-cells is embedded in gel formed by the biocompatible polymeric material Z is transplanted to a joint of humans.

Overview of the description

It was found that transplantation of a material wherein the A-cells is embedded in gel formed by the biocompatible polymeric material Z to a joint of humans has a remarkable cartilage regenerating effect.

[Conclusion]

Considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed invention is a method for regenerating cartilage and thus a method of therapy of humans. Also the claimed invention is a method to transplant a medical material into the body and thus a method of surgery of humans. Therefore, the claimed invention is considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 22-2, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 22-2] Invention considered to be therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

An implant material for cartilage regeneration

What is claimed is:

[Claim 1]

An implant material for regenerating a cartilage consisting of biocompatible polymeric material Z and A-cells wherein the A-cells are embedded in gel formed by the biocompatible polymeric material Z, characterized in that the implant is transplanted to a joint of humans.

Overview of the description

It was found that transplantation of a material wherein the A-cells is embedded in gel formed by the biocompatible polymeric material Z to a joint of humans has a remarkable cartilage regenerating effect.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

As the implant material for cartilage regeneration described in the claim itself is a product, it does not fall under “methods of surgery, therapy or diagnosis of humans.”

[Case 23-1] Invention considered to be therapy (considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for the treatment of cardiac infarction

What is claimed is:

[Claim 1]

A method for treating cardiac infarction wherein A-cells and cell growth factor W are combined to be administrated to the site of cardiac infarction of humans.

Overview of the description

It was found that the infarct area was reduced and cardiac function was recovered by injecting a combination of A-cells and cell growth factor W to the site of cardiac infarction of humans.

[Conclusion]

Considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

As the claimed method is for treating myocardial infarction, it is a method of therapy of humans. Also as the claimed method involves a method for administrating A-cells and cell growth factor W to the site of cardiac infraction, it is a method of surgery of humans. Therefore, the claimed invention falls under “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 23-2, the claimed invention is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 23-2] Invention considered to be therapy (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A composition for treatment of cardiac infarction

What is claimed is:

[Claim 1]

A composition for treating cardiac infarction containing A-cells and cell growth factor W as active ingredients, characterized in that the composition is administrated to the site of cardiac infarction of humans.

Overview of the description

It was found that the infarct area was reduced and cardiac function was recovered by injecting a combination of A-cells and cell growth factor W to the site of cardiac infarction of humans.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

As the composition for treating cardiac infarction described in the claims itself is a product, it does not fall under “methods of surgery, therapy or diagnosis of humans.”

[Case 24-1] Invention considered to be data collection (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for X-ray CT scanning

What is claimed is:

[Claim 1]

A method for imaging by controlling the respective parts of an X-ray CT scanner by control means, comprising;

a step of exposing X-rays to the human body by controlling X-ray generating means, a step of detecting the X-rays permeated through the human body by controlling X-ray detecting means, and a step of performing reconstruction of the detected data and converting such detected data into picture data for display.

Overview of the description

The present invention relates to a method for imaging by controlling an X-ray CT scanner for picking up an image of a human body, and a picture image thereof can be accurately displayed on account of the reconstruction of the detected data.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed invention does not include the steps of medical doctors judging for medical purposes the physical condition of a human body such as diseases and physical health, nor the steps of surgery or therapy of humans. Therefore, the claimed method is not considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

Since the matter reading “exposing X-rays to the human body” includes the step with an influence on the human body by the device, the claimed method is not considered to be a method for controlling the operation of the medical device.

[Case 24-2] Invention considered to be data collection (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling an X-ray CT scanner

What is claimed is:

[Claim 1]

A method for controlling the respective parts of an X-ray CT scanner by control means, comprising;

a step of generating X-rays by controlling X-ray generating means, a step of detecting X-rays permeated through the human body by controlling X-ray detecting means, and a step of performing reconstruction of the data detected and converting the detected data into picture data for display.

Overview of the description

The present invention relates to a method of controlling an X-ray CT scanner for picking up an image of a human body, and a picture image thereof can be accurately displayed on account of reconstruction of the detected data.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example, the function of the X-ray CT scanner is represented as a method.

Since the matter reading “generating X-rays by controlling X-ray generating means” means that the “X-ray generating means” belonging to the X-ray CT scanner generates X-rays and does not mean so farther that the human body is exposed by the X-rays; thus, the claimed method is judged not to include the step with an influence on the human body by the device.

Furthermore, the matter reading “detecting X-rays permeated through the human body by controlling X-ray detecting means” represents the function that the “X-ray detecting means” provided to the X-ray CT Scanner receives a signal (X-ray) permeated through a human body. As a result, the claimed method is judged not to include the step with an action of a medical doctor or the step with an influence on a human body by the device.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method, and the method does not include the step with an action of a medical doctor or the step with an influence on the human body by the device. Accordingly, the method is not

considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 25-1] Invention considered to be data collection (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for magnetic resonance imaging

What is claimed is:

[Claim 1]

A method for magnetic resonance imaging by a magnetic resonance imaging device comprising;

a step of repeating pulse sequences while sequentially changing the intensity of the gradient magnetic field in the phase encode direction in the order from lower to higher, wherein the pulse sequence is carried out by irradiating 90o pulse to the imaging objective region while generating a gradient magnetic field in the slice direction, a step of generating a predetermined quantity of the gradient magnetic field in the phase encode direction, a step of irradiating 180o pulse to the region while generating the gradient magnetic field in the slice direction, and a step of detecting a magnetic resonance signal from the pertinent region while generating the gradient magnetic field in the lead-out direction.

Overview of the description

The magnetic resonance imaging device of the present invention acquires magnetic resonance signals in the order of phase encode from low to high when the human body is imaged by the spin-echo method.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed invention do not include the steps of medical doctors judging for medical purposes the physical condition of a human body such as diseases and physical health, nor the steps of surgery or therapy of humans. Therefore, the claimed method is not considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

Since the matters reading “irradiating 90o pulse to the imaging objective region while generating a gradient magnetic field in the slice direction” and “irradiating 180o pulse to the region while generating the gradient magnetic field in the slice direction” include the step with an influence on the human body by the device, the claimed method is not considered to be a method for controlling the operation of the medical device.

[Case 25-2] Invention considered to be data collection (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for controlling magnetic resonance imaging device

What is claimed is:

[Claim 1]

A method for controlling the operation of a magnetic resonance imaging device in which the control means of the magnetic resonance imaging device controls a transmitting and receiving circuit, a RF coil, and a gradient coil, comprising; a step of repeating pulse sequences while sequentially changing the intensity of the gradient magnetic field in the phase encode direction in the order from low to high, wherein the pulse sequence is carried out by a RF coil transmitting a 90o pulse toward a uniform magnetic field space while the gradient coil is generating the gradient magnetic field in the slice direction, a step of a gradient coil generating a predetermined quantity of the gradient magnetic field in the phase encode direction, a step of a RF coil transmitting an 180o pulse while the gradient coil is generating a gradient magnetic field in the slice direction, and a step of a RF coil receiving a magnetic resonance signal from a human body while a gradient coil is generating a gradient magnetic field in the read-out direction.

Overview of the description

The magnetic resonance imaging device of the present invention acquires magnetic resonance signals in the order of the phase encode from low to high when a human body is imaged by a spin-echo method.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example, the function of the magnetic resonance imaging device is represented as a method.

The matters reading “a RF coil transmitting a 90o pulse toward a uniform magnetic field space while the gradient coil is generating the gradient magnetic field” and “a RF coil transmitting 180o pulse while the gradient coil is generating the gradient magnetic field” mean that “the RF coils” provided with the magnetic resonance imaging device transmit pulses; however, this does not mean so farther that the generated pulses are exposed to the human body as a result of generating pulses. Accordingly, the claimed method is judged not to include the step with an influence on the human body by the device.

Furthermore, the matter reading “the RF coil receiving a magnetic resonance signal

from the human body" represents the function that "the RF coil" receives a signal (magnetic resonance signal) from the human body; thus, the claimed method is judged not to include the step with an influence on the human body by the device.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method, and the method does not include the step with an action of a medical doctor or the step with an influence on the human body by the device. As a result, the method is not considered to be "methods of surgery, therapy or diagnosis of humans."

[Case 26] Invention considered to be data collection (not considered to be methods of surgery, therapy or diagnosis of humans)

Title of Invention

A method for nuclear medicine imaging

What is claimed is:

[Claim 1]

A method for nuclear medicine imaging comprising;

a step of performing SPECT imaging synchronized with the cardiac cycle on the examinee's heart administered with a radioactive agent, a step of performing ultrasonic Doppler imaging synchronized with the cardiac cycle on the examinee's heart without contrast agent, and a step of superimposing of the SPECT image and the ultrasonic Doppler image that have the same time phase of the heartbeat.

Overview of the description

The present invention relates to the superimposed image display of a SPECT (Single photon emission computed tomography) image which is a type of a nuclear medicine image and a supersonic Doppler myocardial image.

Firstly with regard to the myocardial SPECT imaging, a radioactive agent that contains gamma emitters such as Technetium is administered to the vain of the examinee, and 45 minutes later, the examinee is moved to the bed of the SPECT device. An electrocardiogram device is attached to the examinee and the SPECT imaging is performed in synchronization with the heartbeat.

Next, in order to avoid excess strain on the examinee's heart, further use of radioactive agent are avoided and an electrocardiogram device is attached to the examinee and the Doppler myocardial imaging is performed in synchronization with the heartbeat.

The SPECT images and supersonic Doppler images that have the same time phase of the heartbeat are displayed in a superimposed display format.

The superimposed image displays enable the evaluation of cardiac ischemia, and because of the synchronization with the heartbeat, inconsistency in the data appearance due to pulsation can be avoided.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In order to perform SPECT imaging, radioactive agent injection into the vein is required; however, the imaging is commenced after a time lapse according to the detailed explanation of the invention. No surgical procedure takes place during the steps of the

claimed method. Furthermore, the claimed method does not include the steps of medical doctors judging the condition of human diseases or the physical condition of a human body for medical purposes.

Therefore, the claimed method is not considered to be “methods of surgery, therapy or diagnosis of humans.”

(Supplementary Explanation)

Since the claimed method does not represent the function of the medical device but the steps with an action of a doctor, the method is not deemed as “methods for controlling the operation of a medical device.”

[Case 27-1] Invention considered to be methods for treating samples that have been extracted from the human body (considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for measuring hematocrit values of blood

What is claimed is:

[Claim 1]

A method for optically measuring hematocrit values of blood, the method comprising;

irradiating the blood with light comprising a selected range of wavelengths; and calculating the hematocrit value based on the strength of the reflection from the blood.

Overview of the description

The present invention relates to a method of measuring the blood hematocrit value, by utilizing the light absorbing characteristic of each element in blood, and calculating the blood hematocrit value.

This invention enables the measuring of the hematocrit value of blood flowing in the blood circuit during dialysis treatment. During a dialysis treatment the fluid removal rate has to be controlled so that the patient does not experience any blood pressure drop or shock. The hematocrit value of blood flowing in the blood circuit which is a parameter closely related to the rate of change of the circulating blood volume, which is a control factor for the fluid removal rate, can be calculated without direct contact with the circulating blood.

Other than measuring the hematocrit value of the blood during dialysis treatment, the present invention enables conducting of various tests such as anemia tests. In such cases, the extracted blood is housed in a test container, the blood housed in the test container is irradiated with light comprising a selected range of optical wavelengths, and the blood hematocrit value which is an indicator for anemia is calculated based on the strength of the reflection from the blood.

[Conclusion]

Considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

Although the claimed method does not include a method for removing blood or returning blood, the method in this example corresponds to a method for measuring blood hematocrit values of blood in an extracorporeal circuit.

Accordingly the claimed method is deemed as “methods of surgery, therapy or

diagnosis of humans," since it corresponds to a method to analyze a sample which has been extracted from the human body on the assumption that the sample is to be returned to the same human body for medical treatment purposes.

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 27-2 and 27-3, the claimed invention is not considered to be "methods of surgery, therapy or diagnosis of humans."

[Case 27-2] Invention considered to be methods for treating samples that have been extracted from the human body (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for measuring hematocrit values of extracted blood

What is claimed is:

[Claim 1]

A method for optically measuring hematocrit values of blood which is housed in a test container, the method comprising;

irradiating the blood with light comprising a selected range of wavelengths; and calculating the hematocrit value based on the strength of the reflection from the blood.

Overview of the description

The present invention relates to a method of measuring the blood hematocrit value, by utilizing the light absorbing characteristic of each element in blood, and calculating the blood hematocrit value.

This invention enables the measuring of the hematocrit value of blood flowing in the blood circuit during dialysis treatment. During a dialysis treatment the fluid removal rate has to be controlled so that the patient does not experience any blood pressure drop or shock. The hematocrit value of blood flowing in the blood circuit which is a parameter closely related to the rate of change of the circulating blood volume, which is a control factor for the fluid removal rate, can be calculated without direct contact with the circulating blood.

Other than measuring the hematocrit value of the blood during dialysis treatment, the present invention enables conducting of various tests such as anemia tests. In such cases, the extracted blood is housed in a test container, the blood housed in the test container is irradiated with light comprising a selected range of optical wavelengths, and the blood hematocrit value which is an indicator for anemia is calculated based on the strength of the reflection from the blood.

In addition, the blood which is housed in a test container is discarded without returning to human body.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The claimed method is considered to be a method for measuring the blood hematocrit value of blood which is housed in a test container, and does not include a

method practiced in the extracorporeal circuit. As a result, it is not considered to be "methods of surgery, therapy or diagnosis of humans."

[Case 27-3] Invention considered to be methods for treating samples that have been extracted from the human body (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for controlling the operation of a blood hematocrit measuring device

What is claimed is:

[Claim 1]

A method for controlling the operation of a device for optically measuring blood hematocrit value, wherein;

means of irradiating the blood with light comprising a selected range of wavelengths is operated; and means of calculating the hematocrit value based on the strength of the reflection from the blood is operated.

Overview of the description

The present invention relates to a method of measuring the blood hematocrit value, by utilizing the light absorbing characteristic of each element in blood, and calculating the blood hematocrit value.

This invention enables the measuring of the hematocrit value of blood flowing in the blood circuit during dialysis treatment. During a dialysis treatment the fluid removal rate has to be controlled so that the patient does not experience any blood pressure drop or shock. The hematocrit value of blood flowing in the blood circuit which is a parameter closely related to the rate of change of the circulating blood volume, which is a control factor for the fluid removal rate, can be calculated without direct contact with the circulating blood.

Other than measuring the hematocrit value of the blood during dialysis treatment, the present invention enables conducting of various tests such as anemia tests. In such cases, the extracted blood is housed in a test container, the blood housed in the test container is irradiated with light comprising a selected range of optical wavelengths, and the blood hematocrit value which is an indicator for anemia is calculated based on the strength of the reflection from the blood.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example the function of the device for optically measuring the blood hematocrit value is represented as a method.

The matter reading “means of irradiating the blood with light comprising a selected

range of wavelengths is operated" means that "the means of irradiating with light comprising a selected range of wavelengths" provided with the blood purifying instrument is operated, but it does not mean so further that the light is irradiated to the human body as a result of the "the means of irradiating with light comprising a selected range of wavelengths" being operated and it is judged not to include the step with an influence on the human body by the device.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method and does not include the step with an action of a medical doctor on the human body or the step with an influence on the human body by the device. As a result, the method is not considered to be "methods of surgery, therapy or diagnosis of humans."

[Case 28-1] Invention considered to be methods for treating samples that have been extracted from the human body (considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for blood purification

What is claimed is:

[Claim 1]

A method for blood purification by a blood purifying device provided with a blood removal line, a blood return line, a blood plasma separation apparatus to separate the blood introduced through the blood removal line into the blood cell and blood plasma, an absorptive apparatus to remove any disease virus from the separated blood plasma, a pressure sensor to detect the pressure of the blood removal line and blood return line, and a blood pump, comprising;

a step of removing blood via the blood removal line, a step of separating the blood cell and the blood plasma, a step of removing any disease virus from the separated blood plasma, a step of mixing the blood cells with the blood plasma with the disease virus removed, a step of returning blood via the blood return line, and a step of controlling the flow of blood from the blood pump according to the pressure of the blood removal line and blood return line.

Overview of the description

The blood purifying device of the present invention can perform the treatment safely and continuously by controlling the flow of blood from the blood pump according to the pressure of the blood removal line and blood return line when removing any disease virus such as bilirubin from the blood.

[Conclusion]

Considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The matter reading “removing blood via the blood removal line” and “returning blood via the blood return line” are the step with an influence on the human body by a device.

The blood purifying device of this case forms an extracorporeal circuit. During operation of the blood purifying device, the blood is continuously circulated in the human body and extracorporeal circuit. The matters reading “separating the blood cell and the blood plasma,” “removing any disease virus from the separated blood plasma” and “mixing the blood cells with the blood plasma with the disease virus removed” mean that separating

blood into the blood cell and the blood plasma, removing any disease virus from the separated blood plasma, and mixing the blood cells with the blood plasma with the disease virus removed are performed in an extracorporeal circuit; thus are deemed as the steps with an influence on the human body by a device. The blood, blood plasma and blood cells are continuously circulated in the human body and extracorporeal circuit. Thus, each of the steps is a step with an influence on the human body by a device.

The matter reading "controlling the flow of blood from the blood pump according to the pressure of the blood removal line and blood return line" means that the flow of blood from the blood pump is controlled; thus are deemed as the step with an influence on the human body by a device.

Therefore, the claimed method is not considered to be a method for controlling the operation of a medical device.

Since the method in this case relates to a method of treating the blood in an extracorporeal circuit and is a method of treating samples which have been extracted from the human body on the assumption that the sample is to be returned to the same body for medical treatment purposes, the method is considered to be "method of surgery, therapy, or diagnosis of humans."

(Supplementary Explanation)

It should be noted that, if the claim is described as in Example 28-2, the claimed invention is not considered to be "methods of surgery, therapy or diagnosis of humans."

[Case 28-2] Invention considered to be methods for treating samples that have been extracted from the human body (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for controlling the operation of a blood purifying device

What is claimed is:

[Claim 1]

A method for controlling the operation of a blood purifying device provided with a blood removal line, a blood return line, a blood plasma separation apparatus to separate the blood introduced through the blood removal line into the blood cell and blood plasma, an absorptive apparatus to remove any disease virus separated from the blood plasma, a pressure sensor to detect the pressure of the blood removal line and blood return line, and a blood pump, wherein a means controlling the flow of the blood pump is operated according to the output from the pressure sensor.

Overview of the description

The blood purifying device of the present invention can perform the treatment safely and continuously by controlling the flow of blood from the blood pump according to the pressure of the blood removal line and blood return line when removing any disease virus such as bilirubin from the blood.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

In this example the function of the blood purifying device is represented as a method.

The matter reading “a means controlling the flow of the blood pump is operated according to the output from the pressure sensor” means that “the means controlling the flow of the blood pump” provided with the blood purifying device is operated, but it does not mean so further that there is a change in the blood output from the pump as a result, and it is judged not to include the step with an influence on the human body by the device.

Therefore, the claimed method is considered to be a method for controlling the operation of a medical device since the function of the medical device is represented as a method and does not include the step of an action by a medical doctor on the human body or the step of giving an influence on the human body by the device. As a result, the method is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 29-1] Invention considered to be methods for treating samples that have been extracted from the human body (considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for Gene therapy

What is claimed is:

[Claim 1]

A method of reducing a cancer by administering the vector Z including both the DNA encoding protein X and the DNA encoding protein Y into a human body.

Overview of the description

It was found that a cancer would be reduced as a result of suppression of angiogenesis particular to cancer tissues and simultaneously stimulation of immunity by administering the claimed recombinant vector into a human body.

[Conclusion]

Considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

A method for the reducing cancer by administration of the recombinant vector into a human body is considered to be methods of therapy of humans. Therefore, the claimed method is considered to be "methods of surgery, therapy or diagnosis of humans."

[Case 29-2] Invention considered to be methods for treating samples that have been extracted from the human body (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for manufacturing cell formulation for gene therapy

What is claimed is:

[Claim 1]

A method for manufacturing cell formulation for cancer therapy by introducing genes with vector Z including both the DNA encoding protein X and the DNA encoding protein Y into a cell W extracted from a human body

Overview of the description

It was found that a cancer would be reduced as a result of suppression of angiogenesis particular to cancer tissues and simultaneously stimulation of immunity by the recombinant cell medicine for cancer therapy obtained by the claimed method.

The cells obtained from a donor who is a relative of the patient could be used. However, it is the most preferable to use the cells from the patient himself or herself in view of compatibility.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

Methods for manufacturing medicines like recombinant cell medicines from the cells extracted from a human body as a raw material are not considered to be "methods of surgery, therapy or diagnosis of humans," even if the cells extracted from the patient himself or herself are supposed to be used, as described in the detailed explanation of the invention.

[Case 30-1] Invention considered to be methods for treating samples that have been extracted from the human body (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method of inducing differentiation of cells

What is claimed is:

[Claim 1]

A method of inducing differentiation of an human induced pluripotent stem cells to a neural stem cells wherein the human induced pluripotent stem cells are cultured in serum-free medium and in the presence of X cell growth factor.

Overview of the description

It was found that the the differentiation of human induced pluripotent stem cells (hereinafter abbreviated as “iPS cells”) to neural stem cells was induced by culturing them in serum-free medium and in the presence of X cell growth factor.

Moreover, taking into consideration of immunological compatibility, it is preferable to use iPS cells derived from somatic cells of the same patient. The neural stem cells differentiated from human iPS cells can be used as a therapeutic agent for degenerative neurological disorder.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

Since the method of inducing differentiation to the neural stem cells outside the human body is applicable to "a method for manufacturing an intermediate product for a medicinal product or a medical material by utilizing raw materials collected from a human body,” it does not fall under "methods of surgery, therapy or diagnosis of humans," even if the method is practiced on the presumption that the materials are to be returned to the same body.

[Case 30-2] Invention considered to be methods for treating samples that have been extracted from the human body (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method of separating and purifying differentiation-induced cells

What is claimed is:

[Claim 1]

A method of separating and purifying neural stem cells from a cell population including them differentiated from human iPS cells, the said method comprising the steps of;

(a) separating the neural stem cells by using separation membrane M, and

(b) culturing the cells separated in (a) in the medium containing compound P.

Overview of the description

It was found that the separation membrane M selectively absorbed the neural stem cells. Moreover, it has been publicly known that compound P is useful for maintaining pluripotency of the neural stem cells and for proliferation of them.

Thus, it is possible to obtain high-purity neural stem cells by separating the neural stem cells from the cell population containing undifferentiated human iPS cells and purifying them by using the separation membrane M, and by culturing them in the medium containing compound P. The high-purity neural stem cells can be used as a safer therapeutic agent for degenerative neurological disorder.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

Since the method of separating and purifying the neural stem cells outside the human body is applicable to "a method for manufacturing a intermediate product for medicinal product or a medical material by utilizing raw materials collected from a human body," it does not fall under "methods of surgery, therapy or diagnosis of humans," even if the method for treating materials is practiced on the presumption that the materials are to be returned to the same body.

[Case 30-3] Invention considered to be methods for treating samples that have been extracted from the human body (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method of analyzing a ratio of separated and purified cells

What is claimed is:

[Claim 1]

A method of analyzing a ratio of neural stem cells within a cell population including separated and purified neural stem cells derived from human iPS cells, the said method comprising the steps of;

(a) measuring the expression level of cell marker A and cell marker B in the said cell population using a labeled antibody respectively, and

(b) determining the ratio of the neural stem cells based on the said expression level,

wherein the cell marker A consists of the amino-acid sequence of SEQ ID NO:1.

Overview of the description

It was found that the cell marker A was specifically expressed in the neural stem cells and consisted of the amino acid sequence of SEQ ID NO:1. An antibody which binds to the cell marker A was also produced. Moreover, the cell marker B is publicly known as a cell marker widely expressing in the overall stem cells.

Thus, it is possible to measure the expression level of the cell marker A and the cell marker B using a labeled antibody respectively,, and to analyze the ratio of the neural stem cells in a cell population derived from the human iPS cells by deciding a determining the the expression level of the cell marker A to that of the cell marker B, which allows safer treatment of degenerative neurological disorder.

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

Since the method of inspecting the separated and purified cell population outside the human body is applicable to "a method for analyzing a medicinal product or a medical material, or an intermediate product thereof which is manufactured by utilizing raw materials collected from a human body," it does not fall under "methods of surgery, therapy or diagnosis of humans," even if the method for treating materials is practiced on the presumption that the materials are to be returned to the same body.

[Case 31-1] Invention considered to be assisting device (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for judging a motion state of walking

What is claimed is:

[Claim 1]

A method for judging walking conditions with a power assisting equipment coupled to a leg of a worker to reduce his burden comprising,

a step of measuring myogenic potential of the leg of the worker by a sensor attached to a leg part of the power assisting equipment, and

a step of judging the walking conditions based on the measured myogenic potential.

Overview of the description

This invention relates to a method for judging walking conditions using the power assisting equipment used to reduce a burden of a worker who involves in hard work. The power assisting equipment is appropriately controlled based on the result of judgment of walking conditions. ("A worker," described in the claims is defined as a person who involves in hard work in the detailed explanation of the invention. It is not supposed that the power assisting equipment of this invention assists movements of those who lost muscle strength and those who lost physical motor function for medical purposes.)

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

The step for judging walking conditions based on the myogenic potential measured by a sensor attached to a leg part of the power assisting equipment is the step with an action by a device. Therefore, since the claimed method for judging walking conditions does not include the steps of judging for the medical purpose the physical condition of a human body such as diseases and physical health, it is not deemed as “methods of diagnosis of humans.”

According to the detailed explanation of this invention, since “a worker” is defined as a person who involves in hard work and it is not supposed that the power assisting equipment of this invention assists for the medical purpose movements of those who lost muscle strength and those who lost physical motor function, the claimed method does not fall under the method of therapy of humans.

Therefore, the claimed method is not considered to be “methods of surgery, therapy or diagnosis of humans.”

[Case 31-2] Invention considered to be assisting device (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for controlling a power assisting device

What is claimed is:

[Claim 1]

A method for controlling a power assisting equipment coupled to a worker to reduce his burden comprising,

a step of measuring myogenic potential of an arm or a leg of the worker by a sensor attached to the power assisting equipment, and

a step of moving the arm or the leg of the worker by driving a motor attached to the power assisting equipment based on the measured myogenic potential.

Overview of the description

This invention relates to a method of appropriately controlling the power assisting equipment used to reduce a burden of a worker who involves in hard work based on the myogenic potential of an arm or a leg of the worker. ("A worker," described in the claims is defined as a person who involves in hard work in the detailed explanation of the invention. It is not supposed that the power assisting equipment of this invention assists movements of those who lost muscle strength and those who lost physical motor function for medical purposes.)

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

This case relates to a method for controlling the power assisting equipment.

According to the detailed explanation of this invention, since “a worker” is defined as a person who involves in hard work and it is not supposed that the power assisting equipment of this invention assists for the medical purpose movements of those who lost muscle strength and those who lost physical motor function, the method for controlling the power assisting equipment of this invention does not fall under “methods of surgery, therapy or diagnosis of humans.”

[Case 31-3] Invention considered to be assisting device (not considered to be methods of surgery, therapy or diagnosis of human)

Title of Invention

A method for power assisting

What is claimed is:

[Claim 1]

A power assisting method to assist movements of a worker by a power assisting equipment coupled to workers to reduce their burden comprising,

a step of measuring myogenic potential of an arm or a leg of the worker by a sensor attached to the power assisting equipment, and

a step of moving the arm or the leg of the workers by driving a motor attached to the power assisting equipment based on the measured myogenic potential.

Overview of the description

This invention relates to a method of appropriately controlling the power assisting equipment using judgment results of a judgment made by the power assisting equipment used to reduce a burden of a worker who involves in hard work. This invention relates to a method for controlling a power assisting equipment used to reduce a burden of a worker who involves in hard work based on the myogenic potential of an arm or an leg of the worker and assisting movements of the worker. ("A worker," described in the claims is defined as a person who involves in hard work in the detailed explanation of the invention. It is not supposed that the power assisting equipment of this invention assists movements of those who lost muscle strength and those who lost physical motor function for medical purposes.)

[Conclusion]

Not considered to be "methods of surgery, therapy or diagnosis of humans".

[Explanation]

This case relates to a power assisting method.

According to the detailed explanation of this invention, since “a worker” is defined as a person who involves in hard work and it is not supposed that the power assisting equipment of this invention assists for the medical purpose movements of those who lost muscle strength and those who lost physical motor function, the power assisting method of this invention does not fall under “methods of surgery, therapy or diagnosis of humans.”