

Appeal decision

Appeal No. 2018-11115

Appellant MTG Co., Ltd.

Patent Attorney ONDA, Makoto

Patent Attorney ONDA, Hironori

The case of appeal against the examiner's decision of refusal of Japanese Patent Application No. 2017-211946, entitled "Muscle Electrostimulation Device", [the application published on February 1, 2018, Japanese Unexamined Patent Application Publication No. 2018-15638, number of claims (1)] has resulted in the following appeal decision:

Conclusion

The examiner's decision is revoked.

The Invention of the present application shall be granted a patent.

Reason

No. 1 History of the procedures

The present application is a divisional application filed on November 1, 2017 from Japanese Patent Application No. 2017-501829, which was filed on June 22, 2015 (Heisei 27) as an international application date (Priority Claim on February 27, 2015), and the history of the procedures is shown as follows.

As of November 22, 2017	: Notice of reasons for refusal
December 28, 2017	: Submission of a written opinion and a written amendment
As of January 18, 2018	: Notice of reasons for refusal (final)
March 1, 2018	: Submission of a written opinion and a written amendment
As of March 27, 2018	: Notice of reasons for refusal (final)
May 1, 2018	: Submission of a written opinion and a written amendment

As of May 10, 2018 : Decision to dismiss the amendment, and decision of refusal

August 15, 2018 : A request for appeal

September 27, 2018 : Submission of a written amendment (a written request for appeal)

No. 2 Outline of the examiner's decision

An outline of Examiner's decision (the decision of refusal as of May 10, 2018) is as follows.

The invention according to Claim 1 of the present application is an invention that could have been invented with ease by a person ordinarily skilled in the art in the technical field of the Invention (hereinafter, referred to as "a person skilled in the art") based on the invention described in the following Cited Document 1 and well-known matters, and, therefore, Appellant should not be granted a patent for that in accordance with the provisions of Article 29(2) of the Patent Act.

Cited Document 1 : The description of United States Patent No. 6445955

Cited Document 2 : The description of United States Patent No. 8938303 (a document illustrating a well-known art)

Cited Document 3 : Japanese Unexamined Patent Application Publication No. H9-182805 (a document illustrating a well-known art)

Cited Document 4 : Japanese Unexamined Patent Application Publication No. H10-57506 (a document illustrating a well-known art)

Cited Document 5 : International Publication No. WO 2013/106644 (a document illustrating a well-known art)

Cited Document 6 : The description of United States Patent No. 5423874 (a document illustrating a well-known art)

No. 3 The Invention

The invention according to Claim 1 of the present application (hereinafter, referred to as "the Invention") is an invention specified by the matters described in Claim 1 of the Scope of Claims amended by the written amendment dated March 1, 2018, and it is as indicated below.

"[Claim 1]

A muscle electrostimulation device for abdominal muscle comprising: a main

body part, a power source part stored in the main body part; an electrode part to which electric power is supplied from the power source part; a control part for controlling power supply to the electrode part; an operation part configured to change a control mode of the control part; and a sheet-like base material on one surface of which the electrode part is formed, the muscle electrostimulation device being configured so as to be attached to an abdomen of a person to apply an electric stimulation from the electrode part to the abdomen, wherein

the electrode part includes a first electrode group extending from the main body part so as to be positioned in the direction of the right hand of the person relative to a center line passing through the center of the main body part in parallel to the direction of the height of the person when the electrode part is attached to the center of the abdomen, and a second electrode group extending from the main body part so as to be positioned in the direction of the left hand of the person relative to the center line,

a part between the first electrode group and the second electrode group is constituted so as to be capable of conducting electrification through the person, and the first electrode group and the second electrode group respectively include three or more electrodes,

electrodes included in the first electrode group and electrodes included in the second electrode group are positioned symmetrically with respect to the center line,

the electrodes included in the first electrode group are arranged in an arc shape curved so as to be convex in the rightward direction, and the electrodes included in the second electrode group are arranged in an arc shape curved so as to be convex in the leftward direction,

each of the first electrode group and the second electrode group has an upper electrode located at an upper end in a direction parallel to the center line, a lower electrode located at a lower end, and one or more center electrodes positioned between the upper electrode and the lower electrode,

a support part for supporting the base material is provided on a surface of the base material opposite to a surface on which the electrode part is formed,

in the base material and the support part, a first cut part is formed between the upper electrode of the first electrode group and the upper electrode of the second electrode group, and a second cut part is formed between the lower electrode of the first electrode group and the lower electrode of the second electrode group, and wherein

the support part has a thickness change part which has a thickness thinner as a distance from the center line becomes shorter at positions where each of the upper electrodes, each of the center electrodes, and each of the lower electrodes are projected

when viewed from a side opposite to a surface on which the base material is provided."

No. 4 Cited Documents and Cited Inventions

The above-mentioned Cited Document 1 cited in the reasons for refusal stated in the examiner's decision describes the following matters together with drawings. Note that the temporary translation was made by the body.

1 "FIG. 8 shows an overhead view of the electrodes 5 attached to a miniature wireless transcutaneous electrical neuro or muscular-stimulation unit 1, placed on a user's lower back." (Column 6, lines 1 to 4)

2 "Turning now to the drawings, in which like numerals indicate like elements throughout the several views, FIG. 1 and FIG. 2 represent the present invention as a water resistant miniature wireless transcutaneous electrical neuro or muscular-stimulation unit 1 comprising a housing 2 having a front portion 3 and a rear portion 4. The housing 2, which is made of an FDA approved thermoplastic material, has dimensions of approximately 1.5"×1.5"×0.3" and weighs about 4 oz. It is compatible with all versions of electrode/battery assemblies 18 as well as with various industry-standard electrodes 5.

A plurality of electrodes 5, as seen in FIG. 3, each having an internal side 42 and an external side 41 (see FIG. 18), are attached to the housing 2. The electrodes 5 come in various shapes and sizes and can be disposable or non-disposable. The various types of electrode configurations can be seen in FIGS. 4a-4l. The various electrode configurations can be placed in a number of different locations on the user's body including but not limited to: the neck; wrist; shoulder; the elbow or forearm; the hand or a finger; the scapula; the abdomen; the lower back; the knee; the hip; the buttocks; the thigh; and the ankle. The electrodes 5 are affixed directly to a pain site or other area requiring electro or muscular-stimulation anywhere on the user's body as illustrated in FIG. 5 and FIG. 6. Attached to the electrodes 5 is a flexible non-conductive carrier 19, as seen in FIG. 10, which carries current to a pain site requiring electrical neuro or muscular-stimulation via the electrodes 5. The electrodes 5 are either fixed or able to swivel at each connection point to allow for optimal electrode placement at each pain site.

The electronics module 20 is located within the housing 2 and comprises an electrical circuit 21 which provides a biphasic or monophasic sequence of pulses to the electrodes 5. It has several pre-programmable waveforms that are available for a variety of specific clinical needs. The electronics module 20 within the housing 2 is detachable and disposable and able to be snapped into and out of each miniature wireless

transcutaneous electrical neuro or muscular-stimulation unit 1." (Column 6, line 44 to Column 7, line 15)

3 "One or more batteries 22 supply power to the electronics module 20, wherein the batteries 22 can be placed in a battery housing of the interface plate which connects to the bottom of the electronics module 20 or can be integrated with the electrodes 5 in one assembly." (Column 7, lines 29 to 34)

4 "A series of one or more protrusions within the housing 2 provides a means to restrict the waveforms available to those appropriate for each particular electrode 5 and treatment. These protrusions interface with the electronics module 20 to determine the waveforms which may be used.

A user may select and control specific waveforms and the intensities of a number of various modes at the site of an electrode 5, as well as the orientation and quantity of the electrodes 5." (Column 7, lines 48 to 55)

5 "A disposable electrode-battery assembly 18, as seen in FIGS. 10, 11, and 12, resides within the housing 2 of the present invention. FIG. 10 shows the assembly 18 comprising a plurality of electrodes 5 each having an internal and external side and a plurality of batteries 22 each having a positive pole 23 and a negative pole 24. Current-carrying runners 25 comprise a conductive film 26. Two of these runners 25 make direct contact to the positive 23 and negative 24 poles of the battery 22, while the third makes contact with conductive hydrogel 27 which carries the stimulating current to the patient via each electrode 5. Contact to the battery poles is secured by either a conductive adhesive 28 as seen in FIG. 9 or a mechanical clip 29 as seen in FIG. 11 in order to apply the required pressure. The conductive film 26 may be a silver alloy film or other flexible low impedance material. The external side 41 of the electrode 5 is covered by soft cosmetically appealing molded foam or elastomer as seen in FIG. 17." (Column 8, line 63 to Column 9, line 13)

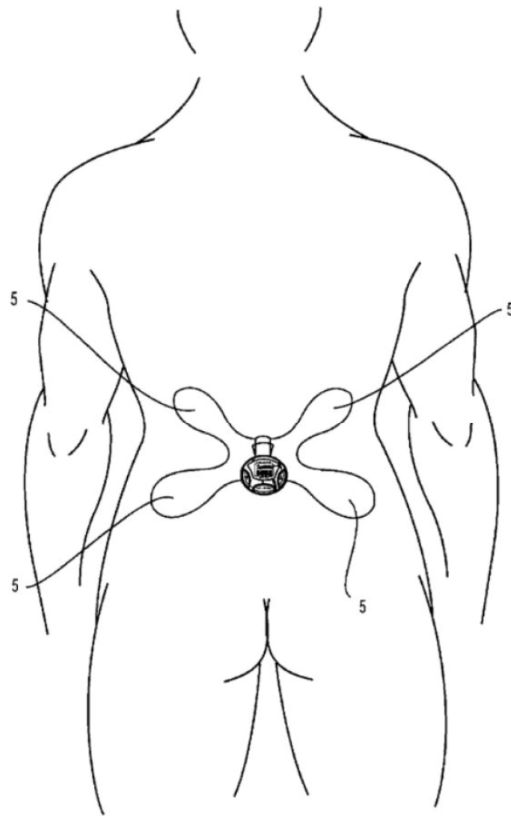


FIG. 8

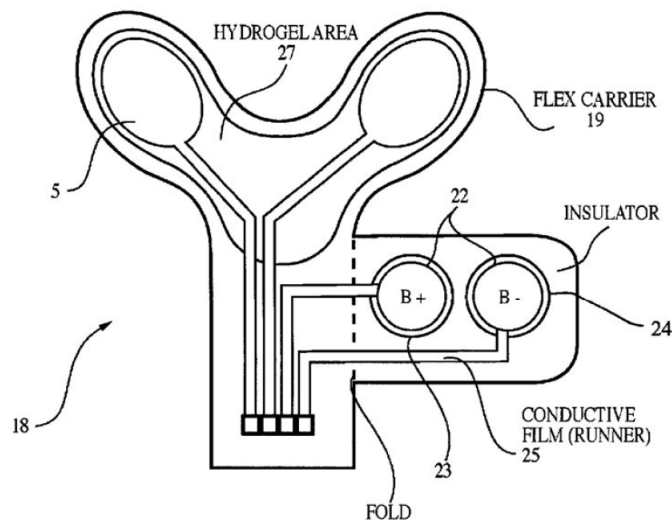
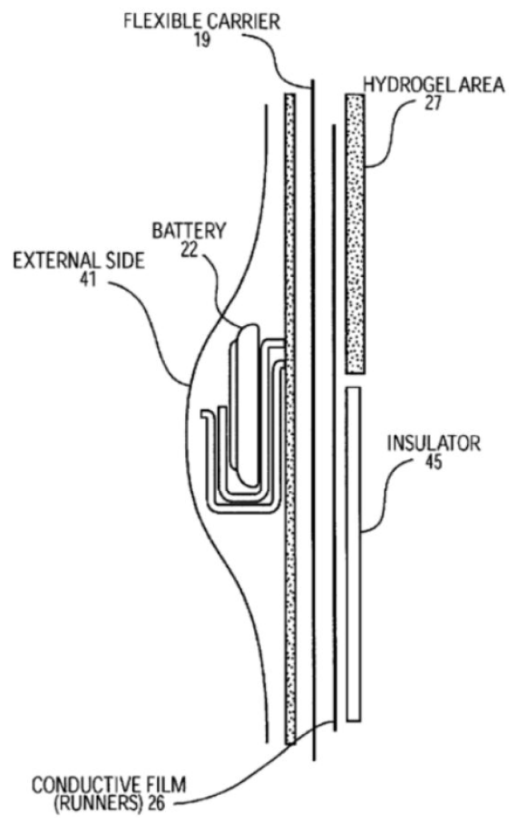


FIG. 10



SIDE VIEW (NOT TO SCALE)

FIG. 12

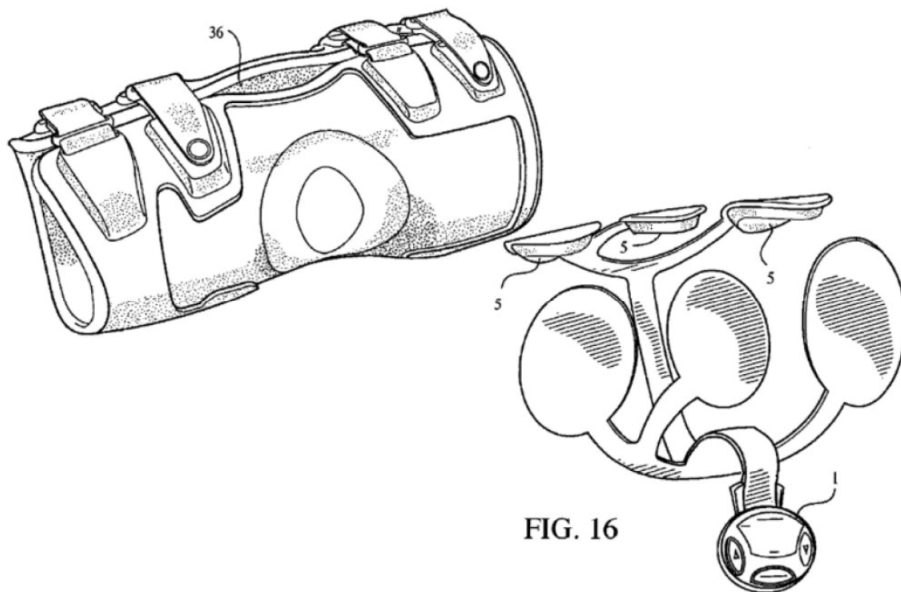


FIG. 16

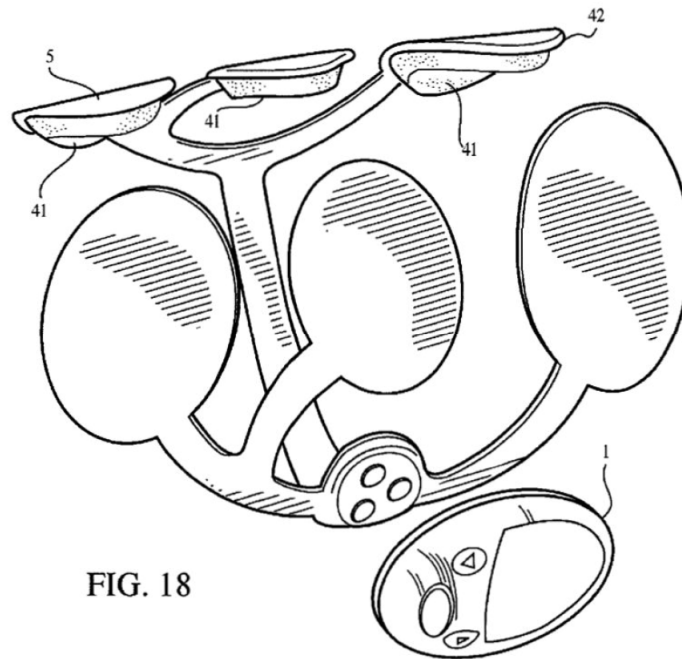


FIG. 18

6 From FIG. 8, there can be seen: a point that the device is attached to the center of the lower back of a person; a point that, on this occasion, two upper electrodes and two lower electrodes are located line-symmetrically, respectively, in the right and the left regions; and a point that, between the right and left electrodes, cuts are formed, respectively, at the upper portion and the lower portion.

7 As shown in FIG. 10, the matter that the right and left electrodes are connected to the positive pole and the negative pole of the battery, respectively, can be said to be a matter that a part between the right and left electrodes is constituted so as to be capable of conducting electrification through the person.

8 From FIG. 12, there can be seen a point that the conductive film 26 is provided in one side of the flexible carrier 19, and, in the other side, a sheet-shaped member and the external side 41 are provided.

9 In FIG. 16 and FIG. 18, it is described that three pairs of electrodes are used when used for the limbs.

10 From the above, it is recognized that there is described, in Cited Document 1, the following invention (hereinafter, referred to as "Cited Invention").

"An electrical muscle stimulation unit 1 comprising: a housing 2; a battery 22 existing in the housing 2; electrodes 5 connected to the battery 22; an electric circuit 21 to provide necessary pulses to the electrodes 5; a protrusion to determine a waveform available to the electric circuit 21; and a flexible nonconductive carrier 19 coupled to the electrodes 5, the electrical muscle stimulation unit 1 being configured to be attached to a lower back of a person and so as to apply an electric stimulation from the electrode part to the lower back,

when the electrodes 5 are attached to the center of the lower back, two upper electrodes 5 and two lower electrodes 5 are respectively positioned in the right and left regions line-symmetrically,

a part between the electrodes 5 in the right and the electrodes 5 in the left is constituted so as to be capable of conducting electrification through the person,

in a side opposite to a side in which the conductive film 26 of the flexible nonconductive carrier 19 is formed, a sheet-shaped member and an external side 41 are provided, and

a cut is formed in each of an upper and a lower portion between the right and left electrodes."

No. 5 Comparison / judgment

1 Comparison

The Invention and Cited Invention will be compared.

As viewed from its structure, functions, and the like, "the housing 2" in Cited Invention corresponds to "main body part" in the Invention. In a similar fashion, "a battery 22 existing in the housing 2" in Cited Invention corresponds to "a power source part stored in the main body part" in the Invention, "electrodes 5 connected to the battery 22" in Cited Invention to "an electrode part to which electric power is supplied from the power source part" in the Invention, because it is natural that electric power is supplied as long as it is connected to the battery, "an electric circuit 21 to provide necessary pulses to the electrodes" in Cited Invention to "a control part for controlling power supply to the electrode part" in the Invention, because provision of necessary pulses is nothing but control of electric power supply, "a protrusion to determine a waveform available to the electric circuit 21" in Cited Invention to "an operation part configured to change a control mode of the control part" in the Invention, since it can be said that a control mode is changeable if it is possible to determine an available waveform, and "a flexible carrier 19 coupled to the electrodes 5" in Cited Invention to "a sheet-like base material on which the electrode part is formed on one surface" of the Invention, when the statements in FIG. 12

are viewed together, respectively.

In addition, the point of "being configured so as to be attached to a lower back of a person to apply an electric stimulation from the electrode part to the lower back" of Cited Invention is in common with the point of "being configured so as to be attached to an abdomen of a person to apply an electric stimulation from the electrode part to the abdomen" in the Invention to the extent of "being configured so as to be attached to a trunk of a person to apply an electric stimulation from the electrode part to the trunk".

"The electrical muscle stimulation unit 1" in Cited Invention obviously corresponds to "muscle electrostimulation device" in the Invention.

When looking into FIG. 8 together, the point that "when the electrode is attached to the center of the lower back, two upper electrodes and two lower electrodes are respectively positioned in the right and left regions line-symmetrically" of Cited Invention is, to the extent of including "the electrode part includes a first electrode group extending from the main body part so as to be positioned in the direction of the right hand of the person relative to a center line passing through the center of the main body part in parallel to the direction of the height of the person when the electrode part is attached to the center of the trunk, and a second electrode group extending from the main body part so as to be positioned in the direction of the left hand of the person relative to the center line", "electrodes included in the first electrode group and electrodes included in the second electrode group are positioned symmetrically with respect to the center line", and "each of the first electrode group and the second electrode group has an upper electrode located at an upper end in a direction parallel to the center line, and a lower electrode located at a lower end", in common with the point of including "the electrode part includes a first electrode group extending from the main body part so as to be positioned in the direction of the right hand of the person relative to a center line passing through the center of the main body part in parallel to the direction of the height of the person when the electrode part is attached to the center of the abdomen, and a second electrode group extending from the main body part so as to be positioned in the direction of the left hand of the person relative to the center line", "electrodes included in the first electrode group and electrodes included in the second electrode group are positioned symmetrically with respect to the center line", and "each of the first electrode group and the second electrode group has an upper electrode located at an upper end in a direction parallel to the center line, and a lower electrode located at a lower end" in the Invention.

In addition, the point that "a part between the right and left electrodes is constituted so as to be capable of conducting electrification through the person" of Cited Invention corresponds to the point that "a part between the first electrode group and the second

electrode group is constituted so as to be capable of conducting electrification through the person" of the Invention.

The point that "in a side of the flexible carrier 19 opposite to a side in which the conductive film 26 is formed" of Cited Invention corresponds to the point that "a support part for supporting the base material is provided on a surface of the base material opposite to a surface on which the electrode part is formed" of the Invention.

The point that "a cut is formed in each of an upper portion and a lower portion between the right and left electrodes" of Cited Invention corresponds to the point that "in the base material and the support part, a first cut part is formed between the upper electrode of the first electrode group and the upper electrode of the second electrode group, and a second cut part is formed between the lower electrode of the first electrode group and the lower electrode of the second electrode group" of the Invention.

Therefore, it can be said that the Invention and Cited Invention have the following corresponding feature and different features.

[Corresponding Feature]

"A muscle electrostimulation device for a trunk comprising: a main body part, a power source part stored in the main body part; an electrode part to which electric power is supplied from the power source part; a control part for controlling power supply to the electrode part; an operation part configured to change a control mode of the control part; and a sheet-like base material on which the electrode part is formed on one surface, the muscle electrostimulation device being configured so as to be attached to a trunk of a person to apply an electric stimulation from the electrode part to the trunk, wherein

the electrode part includes a first electrode group extending from the main body part so as to be positioned in the direction of the right hand of the person relative to a center line passing through the center of the main body part in parallel to the direction of the height of the person when the electrode part is attached to the center of the trunk, and a second electrode group extending from the main body part so as to be positioned in the direction of the left hand of the person relative to the center line,

a part between the first electrode group and the second electrode group is constituted so as to be capable of conducting electrification through the person,

electrodes included in the first electrode group and electrodes included in the second electrode group are positioned symmetrically with respect to the center line,

each of the first electrode group and the second electrode group has an upper electrode located at an upper end in a direction parallel to the center line, and a lower

electrode located at a lower end,

a support part for supporting the base material is provided on a surface of the base material opposite to a surface on which the electrode part is formed, and

in the base material and the support part, a first cut part is formed between the upper electrode of the first electrode group and the upper electrode of the second electrode group, and a second cut part is formed between the lower electrode of the first electrode group and the lower electrode of the second electrode group."

[Different Feature 1]

A point that a trunk to which a muscle electrostimulation device is attached is "abdomen" in the Invention, whereas it is "lower back" in Cited Invention.

[Different Feature 2]

A point that, in the Invention, "the first electrode group and the second electrode group respectively include three or more electrodes", and "one or more center electrodes positioned between" the upper electrode and the lower electrode are included, whereas, in Cited Invention, such constitution is not provided.

[Different Feature 3]

A point that, in the Invention, "the electrodes included in the first electrode group are arranged in an arc shape curved so as to be convex in the rightward direction, and the electrodes included in the second electrode group are arranged in an arc shape curved so as to be convex in the leftward direction", whereas, in Cited Invention, such constitution is not provided.

[Different Feature 4]

A point that, in the Invention, "the support part has a thickness change part which has a thickness thinner as a distance from the center line becomes shorter at positions where each of the upper electrodes, each of the center electrodes, and each of the lower electrodes are projected when viewed from a side opposite to a surface on which the base material is provided", whereas, in Cited Invention, such constitution is not provided.

2 Judgment on Different Features

On the occasion of discussing the above Different Features, when the problems to be solved by the Invention and the effects of the Invention are confirmed, first, there are statements, in the Descriptions of the present application, that, as the problem to be solved by the Invention, "to provide a muscle electrostimulation device capable of giving stimulation to an abdominal muscle effectively." ([0005]), and, as its effect, "when the above-mentioned muscle electrostimulation device is attached to the abdomen, the

electrodes included in the first electrode group and the electrodes included in the second electrode group line up in the right and left directions of a person in a manner sandwiching the main body part. Therefore, equivalent electrostimulation will be able to be obtained in the right and left side of the main body part, and thus it is possible to give a proper balance of stimulation to the abdominal muscle." ([0008]).

In addition, as an example associated with the above-mentioned problem to be solved and the effect, there are statements that "In Modified Example 6, as shown in FIG. 32, ... (Omitted) ... The second electrode group 32 includes the fourth left side electrode 324 disposed at a position, which is closer to the main body part 10 than the third left side electrode 323 and farther from the main body part 10 than the second left side electrode 322 and which is located between the second left side electrode 322 and the third left side electrode 323, the fourth left side electrode 324 being arranged in an arc or in a line together with the first left side electrode 321, the second left side electrode 322, and the third left side electrode 323." ([0274]), "In addition, in Modified Example 6, the fourth right side electrode 314 and the fourth left side electrode 324 are positioned at linearly-symmetric positions with respect to the center line 10a. By this, the muscle electrostimulation device 1 becomes further suitable for stimulating the abdominal rectus muscle 4." ([0277]).

Seen from these statements, it is recognized that the constitution concerning the above-mentioned Different Features 1 to 3 in which a muscle electrostimulation device is attached to "abdomen", "the first electrode group and the second electrode group respectively include three or more electrodes", "one or more center electrodes positioned between" the upper electrode and the lower electrode are included, and "the electrodes included in the first electrode group are arranged in an arc shape curved so as to be convex in the rightward direction, and the electrodes included in the second electrode group are arranged in an arc shape curved so as to be convex in the leftward direction" is specified in Claim 1 as a constitution to solve the above-mentioned problem to be solved and exert the above effect by these together.

Then, it is appropriate to grasp Different Features 1 to 3 mentioned above as a set of technologies, and, thus, hereinafter, Different Features 1 to 3 will be examined together.

In Cited Document 1, as a portion to which an electrode can be arranged, "abdomen" is cited together with various portions of a human body (refer to the above-mentioned No. 4, 2). Also, in Cited Document 1, there is described, as an application example to the limbs, ones having three electrodes (refer to the above-mentioned No. 4, 9).

However, the constitution in which a muscle electrostimulation device is attached to "abdomen", "the first electrode group and the second electrode group respectively include three or more electrodes", "one or more center electrodes positioned between" the upper electrode and the lower electrode are included, and "the electrodes included in the first electrode group are arranged in an arc shape curved so as to be convex in the rightward direction, and the electrodes included in the second electrode group are arranged in an arc shape curved so as to be convex in the leftward direction" is not described in Cited Document 1, and is not conventionally well-known, either.

In addition, the above-mentioned problem to be solved and the like of the Invention are not suggested in Cited Document 1, and are not a well-known problem to be solved, either. Then, even if it could have been conceived of by a person skilled in the art to apply Cited Invention to "abdomen" taking the matter described in Cited Document 1 into consideration, it cannot be said that, on this occasion, it is just a design-related matter to examine the number of electrodes and their arrangement so as to make these suitable for application to an abdomen, and to realize three or more electrodes arranged in an arc shape curved so as to be convex in the rightward direction and in the leftward direction, respectively.

Accordingly, it cannot be said that the constitution of the Invention concerning Different Features 1 to 3 mentioned above could be easily conceived of by a person skilled in the art from Cited Invention.

Furthermore, so long as the constitution of the Invention concerning Different Features 1 to 3 mentioned above could not be conceived of with ease, also its effect is not within a range that is predictable by a person skilled in the art.

Therefore, without examining the above-mentioned Different Feature 4, it cannot be said that the Invention could have been invented with ease by a person skilled in the art based on Cited Invention and the well-known technical matters.

No. 6 Closing

As above, the Invention could not have been easily invented by a person skilled in the art based on Cited Invention and the well-known technical matters. Accordingly, the application cannot be rejected due to the reasons of the examiner's decision.

In addition, beyond that, no other reasons for refusal were found.

Therefore, the appeal decision shall be made as described in the conclusion.

December 2, 2019

Chief administrative judge: HAYASHI, Shigeki

Administrative judge: TERAKAWA, Yurika

Administrative judge: SHOJI, Hidefumi