

Appeal decision

Appeal No. 2018-13837

Aichi, Japan

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The case of appeal against the examiner's decision of refusal of Japanese Patent Application No. 2016-224975, entitled "GAME MACHINE" [the application published on May 24, 2018, Japanese Unexamined Patent Application Publication No. 2018-79206] has resulted in the following appeal decision:

Conclusion

The appeal of the case was groundless.

Reason

No. 1 History of the procedures

The present application is an application filed on Nov. 18, 2016; against notice of reasons for refusal dated Oct. 27, 2017, a written opinion and a written amendment were submitted on Dec. 25 of the same year; against final notice of reasons for refusal as of Mar. 26, 2018, a written opinion and a written amendment were submitted on May 14 of the same year; the amendment submitted on May 14 of the same year was dismissed as of Jul. 31 of the same year, and, in conjunction with this, a decision of refusal (hereinafter, referred to as "Examiner's decision") was made; and, against this, an appeal against an examiner's decision of refusal was made on Oct. 18 of the same year, and, at the same time, an amendment (hereinafter, referred to as "the Amendment") was made.

No. 2 Decision to Dismiss Amendment on the Amendment

[Conclusion of Decision to Dismiss Amendment]

The Amendment shall be dismissed.

[Reason]

1. Outline of the Amendment

The purport of the Amendment is to amend, in Claim 1 of the scope of claims, a matter related to a "specific electronic component" that is "mounted" on a "specific mounting area" and a matter related to a "specific printing section" that is "formed" on a "specific mounting area", and the statements of Claim 1 of the scope of claims before the Amendment and after the Amendment are as follows, respectively (underlined portions show the amended portions).

(Before the Amendment: the amendment made on Dec. 25, 2017)

"[Claim 1]

A game machine, comprising a substrate on which a plurality of electronic components are mounted, wherein,

a specific mounting area on which a specific electronic component among the plurality of electronic components is mounted, and another mounting area on which an electronic component different from the specific electronic component among the plurality of electronic components is mounted are formed, on a mounting surface of the substrate, and wherein,

a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted in such a way that it overlaps with at least a part of the specific printing section, in the specific mounting area."

(After the Amendment: the amendment made on Oct. 18, 2018)

"[Claim 1]

A game machine, comprising a substrate on which a plurality of electronic components are mounted, wherein,

a specific mounting area on which a specific electronic component among the plurality of electronic components is mounted, and another mounting area on which an electronic component different from the specific electronic component among the plurality of electronic components is mounted are formed, on a mounting surface of the substrate, wherein,

a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted in such a way that it overlaps with at least a part of the specific printing section, and a space is provided between the mounting surface of the substrate and the specific electronic component, in the specific mounting area, and wherein

the specific printing section is made visible through the space."

2. Propriety of amendment

(Hereinafter, the terms "after the Amendment" and "before the Amendment" are also simply referred to as "after amendment" and "before amendment", respectively)

(1) Claim 1 after amendment is one that limits a mounting form of "specific electronic component" that is "mounted" on the above-mentioned "specific mounting area" described in Claim 1 before amendment, in a "specific mounting area" that is a matter specifying the Invention described in Claim 1 before amendment, by specifying that "a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted in such a way that it overlaps with at least a part of the specific printing section, and a space is provided between the mounting surface of the substrate and the specific electronic component".

(2) Claim 1 after amendment is one that limits the feature of the above "specific printing section" described in Claim 1 before amendment, regarding the "specific printing section" that is "formed" on the "specific mounting area" which is a matter specifying the Invention described in Claim 1 before amendment, by specifying that "the specific printing section is made visible through the space".

Then, since the invention described in Claim 1 before amendment and the invention described in Claim 1 after amendment have an identical field of industrial application and identical problems to be solved, the Amendment falls under the category of ones for the purpose of "restriction of the scope of claims" stipulated in Article 17-2(5)(ii) of the Patent Act.

In addition, the Amendment is based on the statements of paragraph [1077]-[1089] of the specification and the drawings [FIG. 140]-[FIG. 142] originally attached to the application, and it is not one that adds so-called new matters. Therefore, it satisfies the requirement stipulated in Article 17-2(3) of the Patent Act.

3. Independent requirements for patentability

Accordingly, whether the invention specified by the matters described in Claim 1 after the Amendment (hereinafter, referred to as "the Amended Invention") can be granted a patent independently at the time of filing of the patent application; that is, whether it complies with the provisions of Article 126(7) of the Patent Act as applied mutatis mutandis pursuant to the provisions of Article 17-2(6) of the same Act will be examined below.

(1) The Amended Invention

The Amended Invention is as indicated in the above "1. Outline of the Amendment" and is specified as follows.

(The following reference letters A-E were added by the body in order to separately describing the matters specifying the invention)

"E A game machine, comprising,

A a substrate on which a plurality of electronic components are mounted, wherein,

B a specific mounting area on which a specific electronic component among the plurality of electronic components is mounted, and another mounting area on which an electronic component different from the specific electronic component among the plurality of electronic components is mounted are formed, on a mounting surface of the substrate ,wherein,

C a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted in such a way that it overlaps with at least a part of the specific printing section, and a space is provided between the mounting surface of the substrate and the specific electronic component, in the specific mounting area, and wherein

D the specific printing section is made visible through the space."

(2) Described matters in the publications

(2-1) Publication 1

In Japanese Unexamined Patent Application Publication No. H10-190172 that was cited in the decision to dismiss the amendment as of Jul. 31, 2018, and is a publication distributed before the application of the present application (hereinafter, referred to as "Publication 1"), there are described the following matters together with drawings (the underlines were added by the body).

A "[0001]

[Field of the Invention] The present invention relates to a silk print indication structure of a printed circuit board constituting an electronic device circuit.

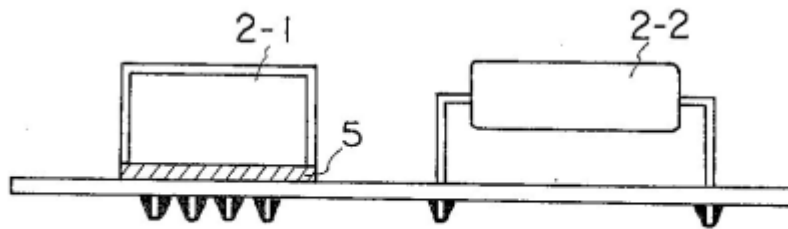
[0002]-[0003]

(omitted)

[0004] Due to this, regarding the non-insulated electronic component 2-1, work to prevent contact by inserting an insulating paper 5 beneath that, or to prevent contact by attaching the non-insulated electronic component 2-1 in a half-raised manner becomes necessary. In addition, a heat generating electronic component 2-2 generates high heat due to its part characteristics, and thus is attached in a half-raised manner as shown in FIG. 5 in order

to dissipate such heat."

B "[FIG. 5]



"

C "[0023] As shown in FIG. 1, on the printed circuit board 1, a transformer 2-1 that is a non-insulated electronic component, a resistor 2-2 that is a heat generating electronic component, an IC 2-3 that is an automatically-inserted electronic component, a transistor 2-4 that is a manually-inserted electronic component, a connector 2-5 and a switch 2-6 that are retrofitted electronic components, and the like are mounted, and the respective electronic components 2-1, 2-2, 2-3, 2-4, 2-5, 2-6 are connected by patterns 3, 3-1, and 3-2 to form a circuit function.

[0024] Then, on the printed circuit board 1, the display sections 4-1, 4-2, 4-3, 4-4, and 4-5 of the electronic components 2-1, 2-2, 2-3, 2-4, 2-5, and 2-6 are indicated by silk print at positions where the electronic components 2-1, 2-2, 2-3, 2-4, 2-5, and 2-6 are arranged, respectively.

[0025] In this case, the display section 4-1 of the transformer 2-1 that is a non-insulated electronic component is made to be of silk print indication of double lines including a line slightly larger than the projection frame of the outer shape of the transformer 2-1, and another line drawn about 1 mm outside the former, and is made to be indication of the whole area between the two lines is painted out in a planar fashion by silk print.

[0026] In addition, the display section 4-2 of the resistor 2-2 that is a heat generating electronic component is made to be of silk print indication of double lines including a line slightly larger than the projection frame of the outer shape of the resistor 2-2, and another line drawn about 1 mm outside the former.

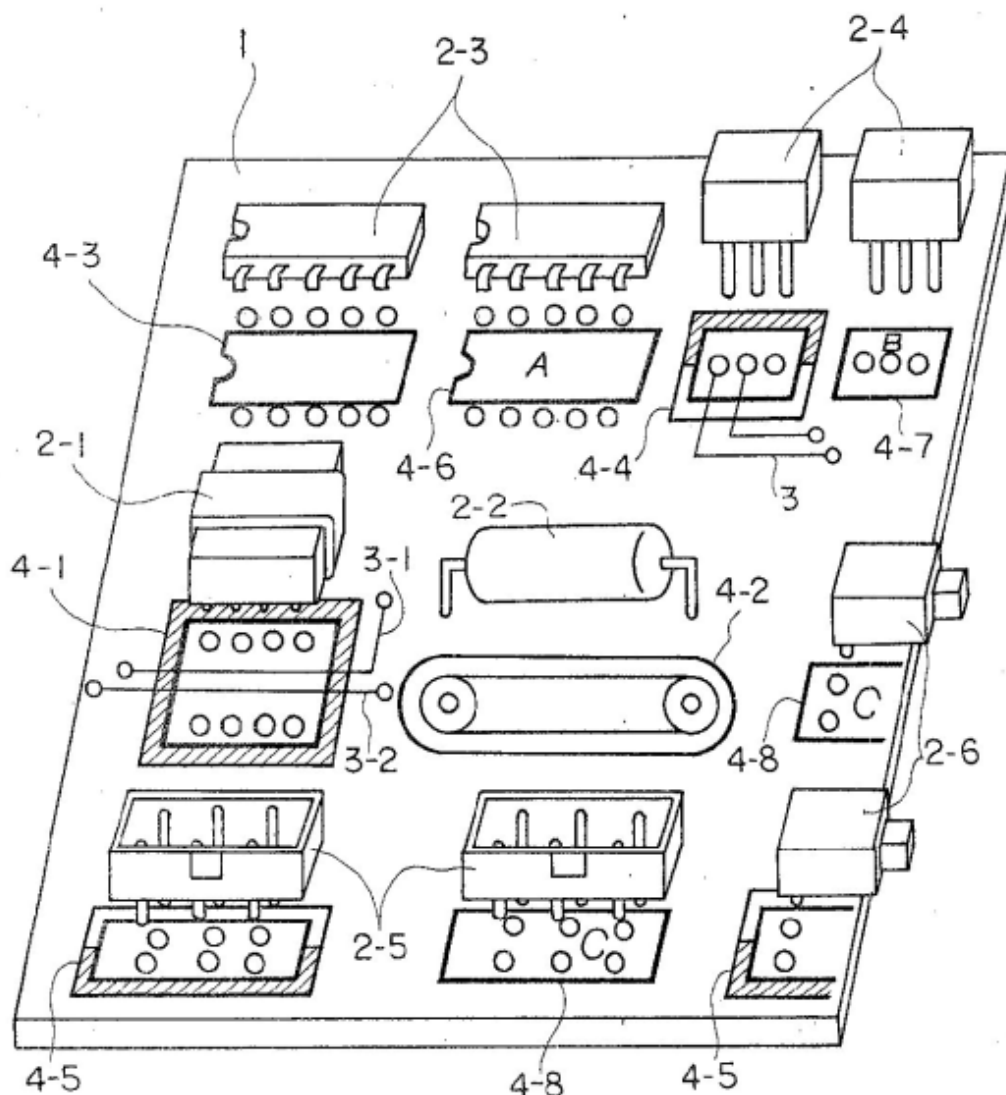
[0027] The display section 4-3 of the IC 2-3 that is an automatically-inserted electronic

component is made to be silk print indication of one line that is slightly larger than the projection frame of the outer shape of the IC 2-3. The display section 4-4 of the transistor 2-4 that is a manually-inserted electronic component is made to be of silk print indication of double lines including a line slightly larger than the projection frame of the outer shape of the transistor 2-4, and another line drawn about 1 mm outside the former, and is made to be indication in which the upper side half of the area between the two lines is painted out in a planar fashion by silk print.

[0028] The display section 4-5 of the connector 2-5 and the switch 2-6 that are retrofitted electronic components is made to be of silk print indication of double lines including a line slightly larger than the projection frame of the outer shape of the connector 2-5 and the switch 2-6, and another line drawn about 1 mm outside the former, and is made to be indication in which the lower half of an area between the two lines is painted out in a planar fashion by silk print.

[0029] In this way, it is arranged such that the display sections 4-1, 4-2, 4-3, 4-4, and 4-5 can be confirmed even if the electronic components 2-1, 2-2, 2-3, 2-4, 2-5, and 2-6 are mounted, respectively. In addition, in display sections for each assembly step, it is also possible to distinguish the assembly steps from each other by writing letters inside a display section of a component outer shape by silk print, such as: a letter A in the display section of the IC 2-3 that is an automatically-inserted electronic component as shown in the symbol 4-6; a letter B in the display section of the transistor 2-4 that is a manually-inserted electronic component as shown in the symbol 4-7; a letter C in the display section of the switch 2-6 and the connector 2-5 that are retrofitted electronic components as shown in the symbol 4-8, and so on. Furthermore, without being limited to letters, distinction may be made by inserting a sign or marking. Also, distinction may be made by changing the color of silk print."

D "[FIG. 1]



- | | | | |
|-----|-----------------|-----|--------------------|
| 1 | プリント配線板 | 4-1 | 非絶縁電子部品のシルク印刷の表示部 |
| 2-1 | トランス（非絶縁電子部品） | 4-2 | 発熱電子部品のシルク印刷の表示部 |
| 2-2 | 抵抗（発熱電子部品） | 4-3 | 自動挿入電子部品のシルク印刷の表示部 |
| 2-3 | IC（自動挿入電子部品） | 4-4 | 手挿入電子部品のシルク印刷の表示部 |
| 2-4 | トランジスタ（手挿入電子部品） | 4-5 | 後付け電子部品のシルク印刷の表示部 |
| 2-5 | コネクタ（後付け電子部品） | 4-6 | 自動挿入電子部品のシルク印刷の表示部 |
| 2-6 | スイッチ（後付け電子部品） | 4-7 | 手挿入電子部品のシルク印刷の表示部 |
| 3 | 導体パターン | 4-8 | 後付け電子部品のシルク印刷の表示部 |
| 3-1 | 導体パターン | | |
| 3-2 | 導体パターン | | |

プリント配線板 Printed circuit board

トランス（非絶縁電子部品） Transformer (non-insulated electronic component)

抵抗（発熱電子部品） Resistor (heat generating electronic component)
 IC（自動挿入電子部品） IC (automatically-inserted electronic component)
 トランジスタ（手挿入電子部品） Transistor (manually inserted electronic component)
 コネクタ（後付け電子部品） Connector (retrofitted electronic component)
 スイッチ（後付け電子部品） Switch (retrofitted electronic component)
 導体パターン Conductor pattern
 非絶縁電子部品のシルク印刷の表示部 Display section of silk print of non-insulated electronic component
 発熱電子部品のシルク印刷の表示部 Display section of silk print of heat generating electronic component
 自動挿入電子部品のシルク印刷の表示部 Display section of silk print of automatically-inserted electronic component
 手挿入電子部品のシルク印刷の表示部 Display section of silk print of manually inserted electronic component
 後付け電子部品のシルク印刷の表示部 Display section of silk print of retrofitted electronic component

"

E "[0035] In addition, the resistor 2-2 that is a heat generating electronic component is mounted at the section of the display section 4-2 of that heat generating electronic component. In this case, the heat generating electronic component display section 4-2 is made to be slightly larger than the outer shape of the resistor 2-2, and its display method is different from that of the display section of electronic components other than the heat generating electronic component. Therefore, even after the resistor 2-2 is mounted, the heat generating electronic component display section 4-2 can be confirmed visually."

F From the described matters of the above-mentioned A, C, E and the illustration contents of the above B and D, the following recognized matters are derived.

(A) In the above A [0001], there is described as "a printed circuit board constituting an electronic device circuit", and, since this "printed circuit board" is one "constituting an electronic device circuit", it can be said that the "electronic device" includes a "printed circuit board".

In the above C [0023], it is described that "on the printed circuit board 1, a transformer 2-1 that is a non-insulated electronic component, a resistor 2-2 that is a heat generating electronic component, an IC 2-3 that is an automatically-inserted electronic component, a transistor 2-4 that is a manually-inserted electronic component, a connector 2-5 and a switch 2-6 that are retrofitted electronic components, and the like are mounted".

Therefore, it can be said that there is described, in Publication 1, "an electronic device including the printed circuit board 1 on which electronic components such as the transformer 2-1, the resistor 2-2, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6 are mounted".

(B) In the above C [0024], it is described that "on the printed circuit board 1, the display sections 4-1, 4-2, 4-3, 4-4, and 4-5 of the electronic components 2-1, 2-2, 2-3, 2-4, 2-5, and 2-6 are indicated by silk print at positions where the electronic components 2-1, 2-2, 2-3, 2-4, 2-5, and 2-6 are arranged, respectively", and, from the statement contents of the above C [0025]-[0028] ("a line slightly larger than the projection frame of the outer shape") and the illustration contents of the above D [FIG. 1], it can be read that each of "the display sections 4-1, 4-2, 4-3, 4-4, and 4-5" includes a line slightly larger than the projection frame of the outer shape of the respective electronic component, and, in the area surrounded with the line, the respective electronic component is mounted.

Therefore, it can be said that it is described in Publication 1 that "on the printed circuit board 1, the display sections 4-1, 4-2, 4-3, 4-4, and 4-5 are formed, each display section includes a line slightly larger than the projection frame of the outer shape of the respective electronic component, and in the area surrounded with the line, the respective electronic component is mounted".

(C) In the above C [0026], it is described that "the display section 4-2 of the resistor 2-2 is made to be of silk print indication of double lines including a line slightly larger than the projection frame of the outer shape of the resistor 2-2, and another line drawn about 1 mm outside the former", and, therefore, it can be said that "the display section 4-2 of the resistor 2-2" is a "double line" made up of "a line slightly larger than the projection frame of the outer shape of the resistor 2-2" and "another line drawn about 1 mm outside the former", and this double line is one that is made by "silk print".

In addition, in the above E [0035], it is described that "the resistor 2-2 that is a heat generating electronic component is mounted at the section of the display section 4-2 of that heat generating electronic component. In this case, the heat generating electronic component display section 4-2 is made to be slightly larger than the outer shape of the

resistor 2-2, and its display method is different from that of the display section of electronic components other than the heat generating electronic component", and, referring also to illustration content of the above-mentioned D [FIG. 1], it can be said that the display section 4-2 is displayed by a display method that is different from that of the electronic components other than the resistor 2-2, and the resistor 2-2 is mounted in an area surrounded with the double line of the display section 4-2.

Furthermore, in the above-mentioned A [0004], it is described that "a heat generating electronic component 2-2 generates high heat due to its part characteristics, and thus is attached in a half-raised manner as shown in FIG. 5 in order to dissipate such heat", and, referring also to the illustration content of the above B [FIG. 5], it can be read that the resistor 2-2 is attached away from the surface of the printed circuit board 1, and a gap exists between the resistor 2-2 and the surface of the printed circuit board 1.

Therefore, it can be said that it is described in Publication 1 that "the display section 4-2 of the resistor 2-2 is of a double line made up of a line slightly larger than the projection frame of the outer shape of the resistor 2-2, and another line drawn about 1 mm outside the former, this double line is made by silk print and displayed by a display method that is different from that of electronic components other than the resistor 2-2, the resistor 2-2 is mounted in an area surrounded with the double line of the display section 4-2, the resistor 2-2 is attached away from the surface of the printed circuit board 1, and a gap exists between the resistor 2-2 and the surface of the printed circuit board 1".

(D) In the above C [0029], it is described that "it is arranged such that the display sections ... 4-2 ... can be confirmed even if the electronic components ... 2-2 ... are mounted, respectively", and, it is described in the above E [0035] that "the heat generating electronic component display section 4-2 is made to be slightly larger than the outer shape of the resistor 2-2, and is of a display method that is different from that of the display section of electronic components other than the heat generating electronic component. Therefore, even after the resistor 2-2 is mounted, the heat generating electronic component display section 4-2 can be confirmed visually." Therefore, it can be said that it is described in Publication 1 that "the display section 4-2 can be confirmed by visual contact even after the resistor 2-2 is mounted".

G When the recognized matters of the above-mentioned (A)-(D) are taken together, it is recognized that the following invention is described in Publication 1 (hereinafter, referred to as "Invention described in Publication").

(reference letters a-e were added by the body for separately describing the constitution of

the Invention described in Publication.)

[Invention described in Publication]

"e An electronic device, comprising,

a a printed circuit board 1 on which electronic components such as a transformer 2-1, a resistor 2-2, an IC 2-3, a transistor 2-4, a connector 2-5, and a switch 2-6 are mounted, wherein,

b display sections 4-1, 4-2, 4-3, 4-4, and 4-5 are formed, on the printed circuit board 1, each display section includes a line slightly larger than the projection frame of the outer shape of the respective electronic component, and each electronic component is mounted on an area surrounded with the respective line, wherein

c the display section 4-2 of the resistor 2-2 is of a double line made up of a line slightly larger than the outer shape of the projection frame of the resistor 2-2 and another line drawn about 1 mm outside the former, this double line is one that is drawn by silk print, and is displayed by a display method that is different from that of electronic components other than the resistor 2-2, the resistor 2-2 is mounted in an area surrounded with the double line of the display section 4-2, the resistor 2-2 is attached away from the surface of the printed circuit board 1, and a gap exists between the resistor 2-2 and the surface of the printed circuit board 1, and wherein

d the display section 4-2 can be confirmed by visual contact even after the resistor 2-2 is mounted."

(2-2) Publication 2

In Japanese Unexamined Patent Application Publication No. H10-56246 (hereinafter, referred to as "Publication 2") that is cited in the decision to dismiss the amendment as of Jul. 31, 2018, and is a publication distributed before the application of the present application, there are described the following matters together with drawings (underlines were added by the body).

A "[0019] As shown in FIG. 1, electronic components such as a connector 2-1, a light-emitting diode 2-2, an IC 2-3, and an electronic component 2-4 covered by a metal case are mounted on the printed circuit board 1, and the electronic components 2-1, 2-2,

2-3, and 2-4 are connected, respectively, by patterns 3 and 3-1 to form a circuit function. [0020] Then, display sections 4 and 8 of the electronic components 2-1, 2-2, 2-3, and 2-4 are displayed by silk print at positions at which these electronic components 2-1, 2-2, 2-3, and 2-4 are placed, on the printed circuit board 1.

[0022] In addition, the retrofitting display section 8 by silk print for the connector 2-1, the light-emitting diode 2-2, and the electronic component 2-4, which are retrofitted electronic components to be retrofitted after automatic soldering, is made to be slightly larger than the projection frame of the outer shape of the connector 2-1, the light-emitting diode 2-2, and the electronic component 2-4, and, further, the inside of that is painted out planarly by silk print."

B "[0028] In addition, the connector 2-1, the light-emitting diode 2-2, and the electronic component 2-4, which are retrofitted electronic components to be retrofitted after automatic soldering, are mounted on the retrofitting display section 8, the inside of which is painted out in a planar fashion. In this case, the retrofitting display section 8 is made to be slightly larger than the outer shape of the connector 2-1, the light-emitting diode 2-2, and the electronic component 2-4, and, thus, the retrofitting display section 8 can be confirmed by visual contact even after the connector 2-1, the light-emitting diode 2-2, and the electronic component 2-4 are mounted."

C From the above described matters A and B, it is recognized that the following technical matter is described in Publication 2 (hereinafter, referred to as "Described Matter in Publication 2").

[Described Matter in Publication 2]

"That, in the printed circuit board 1 on which the electronic components 2-1, 2-2, and 2-4 are mounted, the display section 8 of the electronic components 2-1, 2-2, and 2-4 is displayed by silk print at the positions where these electronic components are arranged, the display section 8 is made to be slightly larger than each of the outer shapes of the projection frames of these electronic components, and, furthermore, its inside is painted out by silk print planarly, and the display section 8 can be confirmed by visual contact even after these electronic components are mounted."

(2-3) Publication 3

In Japanese Unexamined Patent Application Publication No. H10-313156 (hereinafter, referred to as "Publication 3") that is a publication distributed before the

application of the present application, the following matters are described together with drawings (underlines were added by the body).

A "[0014]

[Embodiments of the invention] FIG. 1 is a block configuration diagram indicating a first embodiment of a printed wiring board according to the present invention, and, on the surface 1a of the printed wiring board 1, arrangement positions and symbols and the like of electronic components to be mounted are displayed by silk print as a marker of mounted components.

[0015] In other words, on the surface 1a of the printed wiring board 1, a marker 11 of an integrated circuit IC of a rectangular shape is given in a longitudinal direction at a position of left side in the figure, and, in the right side of that, a marker 12 of a diode D1, a marker 13 of a transformer T2, a marker 14 of capacitors C1 and C2, and a marker 15 of a resistor R2 are given respectively from top to bottom in the figure. To each of the markers 11-15, the shape and the component number of each mounted component are given."

B "[0019] In these embodiments, when an operator attaches an integrated circuit 5 at the time of assembly operation, it is possible to attach the integrated circuit 5 in a manner tilting in the side of the transformer T2 by inserting the lead wire 5L at the position of the integrated circuit IC shown by the marker 11, and, then, bending the lead wire 5L in a direction indicated by tilting indication markers 16-18.

[0020] In addition, by displaying the tilting indication markers 16-18 in the side opposite to the tilting side of the integrated circuit 5, the markers 16-18 do not hide beneath the integrated circuit 5 even after mounting the integrated circuit 5, and, therefore, it is possible, in visual inspection, to check a mounting state of the integrated circuit 5 while looking at the markers 16-18."

C By the above described matters A and B, it is recognized that the following technical matter is described in Publication 3 (hereinafter, referred to as "Described Matter in Publication 3").

[Described Matter in Publication 3]

"That, on the surface 1a of the printed wiring board 1, an arrangement position and a symbol and the like of the integrated circuit 5 to be mounted are displayed by silk print as the marker 11, and, on the occasion of attaching the integrated circuit 5, the integrated circuit 5 is attached in a manner tilting in the side of the transformer T2 by inserting the

lead wire 5L at the position of the integrated circuit 5 shown by the marker 11, and, then, bending the lead wire 5L in a direction indicated by the tilting indication markers 16-18."

(3) Comparison

The Amended Invention and Invention described in Publication will be compared.

Note that the headers are made to be (a)-(e), and to correspond to the separate description of Invention described in Publication.

(a) "Electronic components such as the transformer 2-1, the resistor 2-2, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6" of Invention described in Publication correspond to "a plurality of electronic components" of the Amended Invention, and "the printed circuit board 1" of Invention described in Publication corresponds to "substrate" of the Amended Invention.

In addition, while, on "the printed circuit board 1" of Invention described in Publication, "electronic components are mounted", this "mounted (tosai)" corresponds to "mounted (jissou)" of the Amended Invention, and, therefore, "the printed circuit board 1 on which electronic components such as the transformer 2-1, the resistor 2-2, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6 are mounted" of Invention described in Publication corresponds to "a substrate on which a plurality of electronic components are mounted" of the Amended Invention.

In addition, since "game machine" of the Amended Invention "comprises a substrate on which a plurality of electronic components are mounted", it can be said that it is an "electronic device".

Therefore, the constitution A of Invention described in Publication and the constitution A of the Amended Invention are common in a point of being "an electronic device comprising a substrate on which a plurality of electronic components are mounted".

(b) Since "each electronic component is mounted on an area surrounded with" "a line slightly larger than the projection frame of the outer shape of an electronic component" included in "display section" that is "formed" on "the printed circuit board 1" of Invention described in Publication, it can be said that, in "the printed circuit board 1" of Invention described in Publication, an "area" on which "the respective electronic component" is "mounted" is formed.

Then, since "the resistor 2-2" is "mounted" on "an area surrounded with" "a line slightly larger than the projection frame of the outer shape" of "the resistor 2-2" among

"electronic components such as the transformer 2-1, the resistor 2-2, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6", "the resistor 2-2" of Invention described in Publication corresponds to "specific electronic component" of the Amended Invention, and "an area surrounded with" "a line slightly larger than the projection frame of the outer shape of" "the resistor 2-2" of Invention described in Publication corresponds to "specific mounting area" of the Amended Invention.

In Invention described in Publication, among "electronic components such as the transformer 2-1, the resistor 2-2, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6", "the transformer 2-1, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6" that are electronic components different from "the resistor 2-2" correspond to "electronic components different from the specific electronic component" of the Amended Invention, and, in "an area surrounded with" "a line slightly larger than the projection frame of the outer shape of" "the transformer 2-1, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6", each of "the transformer 2-1, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6" is "mounted". Therefore, "an area surrounded with" "a line slightly larger than the projection frame of the outer shape of" "the transformer 2-1, the IC 2-3, the transistor 2-4, the connector 2-5, and the switch 2-6" of Invention described in Publication corresponds to "another mounting area" of the Amended Invention.

Accordingly,

"the display sections 4-1, 4-2, 4-3, 4-4, and 4-5 are formed on the printed circuit board 1, each display section includes a line slightly larger than the projection frame of the outer shape of the respective electronic component, and each electronic component is mounted on an area surrounded with the respective line," that is the constitution b of Invention described in Publication corresponds to

"on a mounting surface of the substrate, a specific mounting area on which a specific electronic component among the plurality of electronic components is mounted, and another mounting area on which an electronic component different from the specific electronic component among the plurality of electronic components is mounted are formed, on a mounting surface of the substrate" that is the constitution B of the Amended Invention.

(c) In Invention described in Publication, "the display section 4-2 of the resistor 2-2 is of a double line made up of a line slightly larger than the projection frame of the outer shape of the resistor 2-2 and another line drawn about 1 mm outside the former, this double line is one that is drawn by silk print", and, therefore, "the display section 4-2" of Invention

described in Publication corresponds to "specific printing section" of the Amended Invention.

Then, since "the display section 4-2" of Invention described in Publication is "displayed by a display method that is different from that of electronic components other than the resistor 2-2", it is for the purpose of indicating "the resistor 2-2", and corresponds to "a specific printing section that indicates the specific electronic component" of the Amended Invention. In addition, while "the display section 4-2" of Invention described in Publication is formed on "the printed circuit board 1", the "specific printing section" of the Amended Invention is formed on "specific mounting area" formed on "a mounting surface of a substrate", and, therefore, the two are common in a point of being formed on "a mounting surface of a substrate".

In addition, "an area surrounded with" "a line slightly larger than the projection frame of the outer shape of" "the resistor 2-2" in "double line" of "the display section 4-2" of Invention described in Publication corresponds to "specific mounting area" of the Amended Invention (refer to the above-mentioned (b)), and, since "the resistor 2-2 is mounted in this area, the resistor 2-2 is attached away from the surface of the printed circuit board 1, and a gap exists between the resistor 2-2 and the surface of the printed circuit board 1", this matter corresponds to "the specific electronic component is mounted in such a way that a space is provided between the mounting surface of the substrate and the specific electronic component" of the Amended Invention.

Therefore, the constitution c of Invention described in Publication and the constitution C of the Amended Invention are common in a point that "in a mounting surface of the substrate, a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted on the specific mounting area in such a way having a space between mounting surface of the substrate and the specific electronic component".

(d) "The display section 4-2" of Invention described in Publication is one that "can be confirmed by visual contact" "even after the resistor 2-2 is mounted", and this corresponds to "the specific printing section" "is made visible" of the Amended Invention.

Therefore, the constitution d of Invention described in Publication and the constitution D of the Amended Invention are common in a point that "the specific printing section is made visible".

(e) As examined in the above (a), "game machine" of the Amended Invention is one "comprising a substrate on which a plurality of electronic components are mounted", and

thus it can be said that it is an "electronic device".

Therefore, the constitution e of Invention described in Publication and the constitution E of the Amended Invention are common in a point of being an "electronic device".

From the comparison of the above (a)-(e), the Amended Invention and Invention described in Publication are identical in the points of

"E' An electronic device, comprising,

A' a substrate on which a plurality of electronic components are mounted, wherein

B a specific mounting area on which a specific electronic component among the plurality of electronic components is mounted, and another mounting area on which an electronic component different from the specific electronic component among the plurality of electronic components is mounted are formed on a mounting surface of the substrate, wherein

C' a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted on the specific mounting area in such a way that a space is provided between the mounting surface of the substrate and the specific electronic component in a mounting surface of the substrate, and wherein

D' the specific printing section is made visible."

, and differ in the following Different Features 1-4.

[Different Feature 1]

A point that a location at which "a specific printing section that indicates the specific electronic component is formed" is a "specific mounting area" in the Amended Invention (constitution C), whereas, in Invention described in Publication, it is outside the area that corresponds to "specific mounting area".

[Different Feature 2]

A point that, in the Amended Invention, "specific electronic component" to be "mounted" on "specific mounting area" is mounted in such a way that it "overlaps with at least a part of the specific printing section" (constitution C), whereas, in Invention described in Publication, such specification is not made.

[Different Feature 3]

A point that, in the Amended Invention, "the specific printing section" is made visible "through the space" (constitution D), whereas, in Invention described in

Publication, such specification is not made.

[Different Feature 4]

A point that, in the Amended Invention, "electronic device" is specified as "game machine" (constitution A and E), whereas, in Invention described in Publication, it is not specified as "game machine".

(4) Judgment

Different Features 1-4 mentioned above will be discussed below.

(4-1) Regarding Different Feature 1

There is disclosed in Described Matter in Publication 2 mentioned above that "in the printed circuit board 1 on which the electronic components 2-1, 2-2 and 2-4 are mounted, the display section 8 of the electronic components 2-1, 2-2 and 2-4 is displayed by silk print at the positions where these electronic components are arranged", and "the display section 8" corresponds to "a specific printing section that indicates the specific electronic component" of the Amended Invention.

In addition, in Described Matter in Publication 2 mentioned above, "the display section 8 is made to be slightly larger than each of the outer shapes of the projection frames of these electronic components, and, furthermore, its inside is painted out by silk print planarly", and it can be said that the display section 8 exists also in areas on which the electronic components 2-1, 2-2 and 2-4 are mounted, and, therefore, this matter corresponds to "in the specific mounting area, a specific printing section that indicates the specific electronic component is formed" of the Amended Invention.

Here, Invention described in Publication and Described Matter in Publication 2 mentioned above are common in a point that a display section formed on a printed circuit board by printing along the projection frame of the outer shape of an electronic component indicates the mounting location of the electronic component, and, can be confirmed by visual contact even after the mounting, and thus it could have been achieved with ease by a person skilled in the art to make a location at which "a specific printing section that indicates the specific electronic component is formed" be a "specific mounting area" of the constitution C of the Amended Invention concerning Different Feature 1 mentioned above, by constituting in such a way that an area surrounded with a line slightly larger than the projection frame of the outer shape of the resistor 2-2 of Invention described in Publication is made to be painted out planarly by applying the above-mentioned Described Matter in Publication 2 to the inside of the relevant area.

(4-2) Regarding Different Feature 2

Since "the display section 8" of Described Matter in Publication 2 mentioned above "is made to be slightly larger than each of the outer shapes of the projection frames of these electronic components, and, furthermore, its inside is printed out by silk print planarly", it is obvious, as examined in the above-mentioned (4-1), that, when it is constituted in such a way that an area surrounded with a line slightly larger than the outer shape of the projection frame of the resistor 2-2 of Invention described in Publication is made to be painted out planarly by applying the above-mentioned Described Matter in Publication 2 to the inside of the relevant area, the resistor 2-2 in question is mounted in such a way that it overlaps with at least a part of a display section painted out planarly.

Therefore, the matter that the "specific electronic component" to be "mounted" on the "specific mounting area" is mounted in such a way "that it overlaps with at least a part of the specific printing section", which is the constitution C of the Amended Invention concerning Different Feature 2 mentioned above, is nothing but an inevitable conclusion of the matter to make a location at which "a specific printing section that indicates the specific electronic component is formed" be the "specific mounting area" of the constitution C of the Amended Invention concerning Different Feature 1 mentioned above, and, therefore, it could have been achieved with ease by a person skilled in the art from the matter examined in the above-mentioned (4-1).

(4-3) Regarding Different Feature 3

Since, in Invention described in Publication, "the resistor 2-2 is attached away from the surface of the printed circuit board 1, and a gap exists between the resistor 2-2 and the surface of the printed circuit board 1", it is obvious, as examined in the above-mentioned (4-1), that, when it is constituted in such a way that an area surrounded with a line slightly larger than the projection frame of the outer shape of the resistor 2-2 of Invention described in Publication is made to be painted out planarly by applying the above-mentioned Described Matter in Publication 2 to the inside of the relevant area, the display section painted out planarly can be visible through the above "gap" even after mounting of the resistor 2-2.

Therefore, the matter that "the specific printing section" is made visible "through the space" of the constitution D of the Amended Invention concerning Different Feature 3 is nothing but an inevitable conclusion of the matter to make a location at which "a specific printing section that indicates the specific electronic component is formed" be "specific mounting area" of the constitution C of the Amended Invention concerning Different Feature 1 mentioned above, and, therefore, it could have been achieved with

ease by a person skilled in the art from the matter examined in the above-mentioned (4-1).

In addition, making a constitution in such as the Amended Invention concerning Different Features 1-3 mentioned above could have been achieved with ease by a person skilled in the art by applying the above Described Matter in Publication 3 to Invention described in Publication, as will be described below.

That is, in the above Described Matter in Publication 3, there is disclosed that, on the occasion of mounting the integrated circuit 5 on the surface 1a of the printed wiring board 1, the integrated circuit 5 is attached in a tilting manner, by inserting the lead wire 5L at the position of the integrated circuit 5 indicated by the silk-printed marker 11, and bending the lead wire 5L in a direction indicated, and, thus, it can be said that a gap of a degree capable of bending the lead wire 5L is provided between the surface 1a of the printed wiring board 1 and the integrated circuit 5.

Here, "the integrated circuit 5" of the above Described Matter in Publication 3 corresponds to "specific electronic component" of the Amended Invention, the marker 11 made by silk print corresponds to "a specific printing section that indicates the specific electronic component" of the Amended Invention, and an area defined by the marker 11 corresponds to "specific mounting area" of the Amended Invention. Then, since "the integrated circuit 5" is attached in a manner tilting in the side of the transformer T2 by bending the lead wire 5L, it can be said that the integrated circuit 5 is mounted in such a way that it overlaps with at least a part of the silk-printed marker 11, and the marker 11 is visible through the gap even after the mounting.

Consequently, Invention described in Publication and Described Matter in Publication 3 mentioned above are common in a point that a location at which an electronic component is mounted in a manner having a gap between a printed circuit board surface and itself is indicated by a printing section formed on a printed circuit board, and the printing section can be confirmed by visual contact even after the mounting, and thus it could have been achieved with ease by a person skilled in the art to make Invention described in Publication have the constitution of the Amended Invention concerning Different Features 1-3, by applying Described Matter in Publication 3 to the mounting area of the resistor 2-2 of Invention described in Publication, making a silk-printed marker be formed in the mounting area in question (Different Feature 1), mounting the electronic component in such a way that it overlaps with at least a part of the silk-printed marker (Different Feature 2), and making the marker in question visible through the gap between the printed circuit board surface and the electronic component (Different Feature 3).

(4-4) Regarding Different Feature 4

A game machine that includes a substrate on which a plurality of electronic components are mounted is a technology that was well-known before the application of the present application (hereinafter, referred to as "Well-known art") as described in, for example, paragraph [0025] and [FIG. 5] of Japanese Unexamined Patent Application Publication No. H11-76564, paragraphs [0084]-[0090] and [FIG. 14]-[FIG. 17] of Japanese Unexamined Patent Application Publication No. 2015-204961, and paragraph [0016] and [FIG. 3] of Japanese Unexamined Patent Application Publication No. 2000-167203, and, therefore, it could have been achieved with ease by a person skilled in the art to make Invention described in Publication have the constitutions A and E of The Amended Invention concerning Different Feature 4, by applying the above Well-known art to Invention described in Publication to constitute it as a "game machine".

Here, in the appeal, the Appellant alleges that

"In other words, the invention disclosed in Cited Document 1 is just an invention in which, by a display section that is formed by a display method that is different from those of other electronic components outside a line slightly larger than the outer shape of the respective electronic component, to which of a non-insulated electronic component, a heat generating electronic component, an automatically-inserted electronic component, a manually-inserted electronic component, and a retrofitted electronic component, an electronic component to be mounted belongs is determined, or, by a display section that is formed by a display method that is different from those of other electronic components outside a line slightly larger than the outer shape of the respective electronic component, a non-insulated electronic component and a heat generating electronic component are distinguished, and, in addition, by inserting letters and the like inside the display section of the outer shape of each electronic component, at which assembly step the component in question should be mounted is determined, and thus it is not one in which each electronic component (a non-insulated electronic component and a heat generating electronic component, in particular) can be distinguished by a display section formed inside the outer shape of each electronic component after the electronic component is mounted.

A technology made by applying, to Cited Document 1 in which such technical matter is disclosed, the technology disclosed in Cited Document 2 to determine in which assembly step the component should be mounted (whether it is an electronic component to be mounted in advance or it is a retrofitted electronic component) , by whether or not

there is a painting out inside a line formed slightly larger than the outer shape of an electronic component, is just a technology to distinguish, by making painted-out patterns of display sections formed outside lines slightly larger than the outer shapes of respective electronic components be different from each other, and, in conjunction with this, making the inside of a line slightly larger than the outer shape of a retrofitted electronic component be painted out and not making the inside of a line slightly larger than the outer shape of an electronic component other than a retrofitted electronic component be painted out, each electronic component of a non-insulated electronic component, a heat generating electronic component, an automatically-inserted electronic component, a manually-inserted electronic component, and a retrofitted electronic component according to painted-out patterns of display sections formed outside a line slightly larger than the outer shape of each electronic component, and, in addition, determine an electronic component to be mounted in advance or a retrofitted electronic component by whether there is a painting out inside the line slightly larger than the outer shape of each electronic component.

In other words, Cited Document 1 and 2 are just documents in which there is disclosed a technology to form a display section to be formed outside the outer shape of an electronic component for the purpose of distinguishing each electronic component, or to determine in which assembly step the component should be mounted, and, on the other hand, to make a silk print indication inside the outer shape of an electronic component differ only for the purpose of determining in which assembly step the component should be mounted. Therefore, there is no disclosure or suggestion regarding a technology to make a silk print indication inside the outer shape of an electronic component differ for the purpose of distinguishing each electronic component after mounting the electronic components.

As above, it is obvious that it is not expected at all in both of Cited Document 1 and 2 to distinguish electronic components after mounting by silk print indications inside the outer shapes of the electronic components.

In this connection, when a heat generating electronic component (the resistor 2-2) is a retrofitted electronic component, since the inside of the outer shape of the resistor 2-2 is made to be a silk print indication painted out planarly, although this silk print indication can be confirmed by visual contact even after mounting the resistor 2-2, it is only indicated that it is a retrofitted electronic component by the silk print indication, and, also regarding each of retrofitted electronic components other than the resistor 2-2, the inside of the outer shape is made to be a silk print indication painted out planarly. Therefore, it is not possible to determine whether it is a heat generating electronic

component (the resistor 2-2) by the silk print indication.

(Omitted)

Remarkable effects as below are exerted.

1. When a person in charge of a service center of the maker of a game machine indicates a specific electronic component to a staff member such as a salesperson of a game hall by telephone, it is possible to indicate that, by notifying the feature of the specific printing section to the staff member such as a salesperson of a game hall, this specific printing section should be found within the mounting surface of a substrate, and thus communication between the person in charge of the service center and the staff member such as a salesperson of a game hall is made easier.

2. Since it is possible to visually recognize almost all of a specific printing section through a space between a specific electronic component and the mounting surface of a substrate, the specific printing section is made to be found easier from the mounting surface of the substrate.

3. Since a specific electronic component is mounted in such a way that it overlaps with a specific printing section, even in a case where a plurality of electronic components are arranged in a manner being adjacent to each other, it is possible to distinguish the specific electronic component corresponding to the specific printing section with ease without confusion with electronic components other than the specific electronic component." (underlines were added by the body).

However, as has been described in the above-mentioned "(2) Described matters in the publications", in Invention described in Publication (Cited Document 1), it is made such that "the display section 4-2 can be confirmed by visual contact even after the resistor 2-2 is mounted" (constitution d), and, in Publication 2 (Cited Document 2), it is made such that "the display section 8 can be confirmed by visual contact even after these electronic components are mounted", and, therefore, in any of the documents, there is disclosed that confirmation of a printed display section is performed after mounting an electronic component, and, at the time point of this confirmation, a printed display section is visually recognized as one that is along the projection frame of the outer shape of the electronic component. Consequently, it is possible to distinguish each electronic component according to what kind of a projection frame that outer shape has.

In addition, in Invention described in Publication (Cited Document 1), "the display section 4-2 of the resistor 2-2" "is displayed by a display method that is different from that of electronic components other than the resistor 2-2" (constitution c), and thus even if "electronic components other than the resistor 2-2" are also made to be of a silk

print indication for which the inside of the outer shape is painted out planarly, there is a difference between the outer shapes themselves of the resistor 2-2 and those of electronic components other than that, and, therefore, it is possible to distinguish the resistor 2-2 from the electronic components other than that by the silk print indication in question.

Then, also regarding the effects of the above-mentioned 1. to 3. alleged by the Appellant, these are nothing but ones within the range capable of being predicted by a person skilled in the art from Invention described in Publication, Described Matter in Publication 2, or Described Matter in Publication 3 mentioned above, and the Well-known art mentioned above. Therefore, it cannot be said that these are remarkable, and thus the above-mentioned Appellant's allegation cannot be adopted.

Accordingly, since the Amended Invention is an invention that could have been invented by a person skilled in the art with ease based on Invention described in Publication, the Described Matter in Publication 2 or the Described Matter in Publication 3, and the Well-known art, the Appellant should not be granted a patent for that independently under the provisions of Article 29(2) of the Patent Act at the time of the patent application.

4. Closing

From the above, the Amendment violates the provisions of Article 126(7) of the Patent Act as applied mutatis mutandis pursuant to the provisions of Article 17-2(6) of the same Act, and, therefore, it should be dismissed under the provisions of Article 53(1) of the same Act which is applied mutatis mutandis pursuant to the provisions of Article 159(1) of the same Act.

No. 3 Regarding the invention

1. The Invention

Since the Amendment has been dismissed as described in No. 2 mentioned above, the invention according to Claim 1 of the present application (hereinafter, referred to as "the Invention") is an invention which was made by the written amendment submitted on Dec. 25, 2017 and is as follows as described in the above 1. of No. 2 as an invention before the Amendment.

"E A game machine, comprising,

A a substrate on which a plurality of electronic components are mounted, wherein,

B a specific mounting area on which a specific electronic component among the

plurality of electronic components is mounted, and another mounting area on which an electronic component different from the specific electronic component among the plurality of electronic components is mounted are formed, on a mounting surface of the substrate wherein,

C a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted in such a way that it overlaps with at least a part of the specific printing section, in the specific mounting area."

2. Outline of reasons for refusal stated in the Examiner's decision

The reasons for refusal stated in the Examiner's decision are as follows.

The Invention could have been invented with ease by a person having usual knowledge in the technical field of the invention before the application was filed based on the Invention described in the following Cited Document 1 and Cited Document 2 distributed in Japan or abroad before the application was filed, and, therefore, the 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. Japanese Unexamined Patent Application Publication No. 2012-99670

Cited Document 2. Japanese Unexamined Patent Application Publication No. 2000-167203

3. Matters described in Cited Documents

(3-1) Cited Document 1

In the above-mentioned Cited Document 1, there are described the following matters together with drawings (underlines were added by the body).

A "[0002]

Conventionally, there is known a mounting substrate in which a plurality of electric components such as a relay and a transformer are mounted on a printed board, and lead parts in those plurality of electric components are connected to printed wiring by soldering and the like. Such a mounting substrate constitutes an internal circuit in a manner being housed in an interior portion such as an electrical connection box of an automobile, and is arranged in such a way that it controls electric supply and the like of various electrical components depending on an electric signal of a control system."

B "[0017]

FIG. 1 indicates an exploded perspective view of substantial parts of a mounting substrate 10 as the first embodiment of the present invention. The mounting substrate 10 is made to be of a structure in which relays 14a and 14b are mounted on a printed board 12 as a plurality of electric components.

[0018]

The relays 14a and 14b are made to be of a structure substantially similar to those of conventionally publicly known ones, and made to be of a structure in which, from a body 16 of a rectangular block shape, a power terminal 18a as a lead part, a pair of coil terminals 18b and 18b, and a pair of contact terminals 18c and 18c protrude. The relay 14a and the relay 14b have identical outer shapes with each other, and the shape and the size of the body 16 are made to be identical, and, further, the shape, the length, the protrusion position from the body 16, and the like of each terminal 18 are made to be identical with each other. In this way, the relay 14a and the relay 14b are made to be homogeneous electric components which have an identical entire shape with each other, but different resistor values from each other as specifications.

[0019]

On the upper surface 20 of the body 16 of one relay 14a, a component-side coloring area 22 is formed. In the present embodiment, the component-side coloring area 22 is made to be a rectangular marking painted out in white (in the figure of the present specification, it is illustrated in black). In order to secure visibility, it is preferred that the component-side coloring area 22 be formed having a size that occupies an area equal to one-tenth or more of the whole area of the upper surface 20, or, more preferably, one-fifth or more, and it is preferred that the upper surface 20 be formed in a manner being larger than the model number indication 23 and the like of the component indicated on the upper surface 20. The component-side coloring area 22 is preferably formed by silk print and the like, for example. On the other hand, the component-side coloring area 22 is not formed in the relay 14b. By this, it is made possible to distinguish the relay 14a and the relay 14b from each other, by whether there is the component-side coloring area 22 or not, and a component-side distinguishing marking is constituted by the component-side coloring area 22."

C "[0020]

On the other hand, as shown in FIG. 2, in the printed board 12, two relay attaching parts 24a and 24a and one relay attaching part 24b are provided, as attaching areas of electric components. In the common portions between the relay attaching part 24a and the relay attaching part 24b, description will be made citing as the relay attaching

part 24 without distinguishing these in particular.

[0021]-[0022]

(omitted)

[0023]

In contrast a substrate side coloring area 32 is formed in the relay attaching part 24a. In the present embodiment, the substrate side coloring area 32 is made to be of a rectangular marking in which the area within the relay attaching part 24a is painted out in white (in the figure in the present specification, it is illustrated in black). The substrate side coloring area 32 is formed by applying silk print in a reverse manner on the relay attaching part 24a on the surface 30 of the printed board 12. In order to secure visibility, it is preferred that the substrate side coloring area 32 be formed having a size that occupies an area of one-tenth or more of the whole area of the relay attaching part 24a, and, more preferably, one-fifth or more of that. The substrate side coloring area 32 in the present embodiment is made to be formed having a size substantially extending across the whole area of the relay attaching part 24a, and is made to be of a rectangular shape slightly larger than the upper surface 20 of the relay 14a in the top view. In this way, the substrate side coloring area 32 is made to be of a rectangular-shaped marking painted out in white by silk print paint, as with the component-side coloring area 22 as a component-side distinguishing marking provided in the relay 14a. By this, in the present embodiment, a substrate-side distinguishing marking of the relay attaching part 24a that corresponds to the component-side distinguishing marking of the relay 14a is constituted by the substrate side coloring area 32. Then, it is made such that the relay attaching part 24b can be distinguished from the relay attaching part 24a mutually by the matter that the substrate side coloring area 32 is not formed thereon.

[0024]-[0025]

(omitted)

[0026]

Two pieces of the relay attaching part 24a, and one piece of the relay attaching part 24b are provided on the printed board 12 lining up on a straight line. Then, the relays 14a, 14a (in FIG. 1, only one relay is illustrated) are attached to the two relay attaching parts 24a, 24a, respectively, and the relay 14b is attached to the relay attaching part 24b. The relays 14a and 14b are mounted on the relay attaching parts 24a and 24b, respectively, by each of the corresponding terminals 18a-18c being inserted into each of the through-holes 26a-26c formed on the relay attaching parts 24a and 24b to be soldered. As shown in FIG. 3, in the top view of the attaching state of the relay 14a, it is arranged such that the substrate side coloring area 32 of the relay attaching part 24a protrudes

slightly in the side of outer perimeter from the relay 14a."

D "[0027]

According to the mounting substrate 10 of the present embodiment, in the relay 14a and the relay 14b having an identical outer shape with each other and having different specifications, the component-side coloring area 22 is formed in the body 16 of the one relay 14a. By this, the relay 14a and the relay 14b can be easily distinguished by whether or not there is the component-side coloring area 22.

[0028]

Then, as for the relay attaching part 24a and the relay attaching part 24b, the substrate side coloring area 32 of a rectangular shape painted out in white in a manner similar to the component-side coloring area 22 of the relay 14a is formed in the relay attaching part 24a on which the relay 14a is attached. By this, even between the relay attaching part 24a and the relay attaching part 24b having identical formation positions of the through-holes 26a-26c with each other, it is possible to distinguish between the relay attaching part 24a and the relay attaching part 24b easily and accurately according to whether or not there is the substrate side coloring area 32. As a result, it is possible to correctly attach each of the relay 14a and the relay 14b, which have identical outer shapes, to the relay attaching part 24a and the relay attaching part 24b that are corresponding relay attaching parts, respectively, to prevent false assembly.

[0029]

In particular, by the substrate side coloring area 32 of the relay attaching part 24a being formed in a manner that the silk print is reversed, the relay attaching part 24a is painted out in white. By this, distinguishment from the relay attaching part 24b is made to be carried out with ease by visual contact. Along with this, since both the component-side coloring area 22 and the substrate side coloring area 32 are rectangular figures, these can be recognized more easily than those which are difficult to be read such as a component number. In addition, by forming the substrate side coloring area 32 in a manner reversing the silk print, it is possible to increase types of substrate-side distinguishing marking without increasing the number of silk print paints. Then, since all of the substrate side coloring area 32 and the model number indication 34 of the relay attaching part 24a, and the circuit indication 28b of the relay attaching part 24b are made to be white identically, it is possible to form these efficiently by one-time silk printing in concurrence with other circuit symbols and the like that are silk printed on the surface 30 of the printed board 12.

[0030]

Furthermore, since the substrate side coloring area 32 is made to protrude from the relay 14a in a state that the relay 14a is attached, it is possible to visually recognize the substrate side coloring area 32 even after attaching the relay 14a, and, by confirming whether there is the substrate side coloring area 32, whether the relay 14a is being attached to the proper relay attaching part 24a or not can be distinguished. In particular, since the component-side coloring area 22 and the substrate side coloring area 32 are made to be indications painted out in white, a contrast between the body 16 of the relay 14a and the coloring area 22, and a contrast between the surface 30 of the printed board 12 and the coloring area 32 are clear, and, therefore, it also becomes possible to distinguish between whether there is false assembly or not, automatically by an image recognition device. Furthermore, for the relay attaching part 24a, a model number indication 34 is being formed, and, thus, by whether or not there is the model number indication 34, distinguishment between the relay attaching part 24a and the relay attaching part 24b is made easier."

E "[0038]

In addition, the same sort of electric components may be ones having a similar external appearance to the extent that it is difficult to distinguish between these at first glance, and, without necessarily being limited to ones of identical shapes in which the shapes and the sizes of the bodies, the number of lead parts, and their protrusion positions from the bodies are made to be completely identical, these may be ones of similar shapes having, for example, outer perimeter shapes that are identical and height dimensions that are made to be slightly different, and so on. Furthermore, the same sort of electric components is not limited to such aforementioned relays as a matter of course, various kinds of electric components to be mounted on a printed board conventionally can be adopted arbitrarily. Yet further, the electric components may be of a surface mount type whose lead parts are soldered in a manner being made to overlap the lands formed on a printed board surface, without being limited to ones whose lead parts are inserted into through-holes."

F When the described matters of the above-mentioned A-E are taken together, it is recognized that there is described in Cited Document 1 the following invention (hereinafter, referred to as "Cited Invention").
(reference letters a-e were added by the body for separately describing the constitution of Cited Invention)

[Cited Invention]

"e An electrical connection box and the like of an automobile, (the above A [0002] and E [0038]), comprising,

a a printed board 12, on which a plurality of electric components such as a relay and a transformer are mounted, housed inside the electrical connection box and the like, wherein, (the above A [0002] and E [0038])

b two pieces of a relay attaching part 24a, and one piece of a relay attaching part 24b are provided as an attaching area of an electric component on the printed board 12, a relay 14a is attached to each of the two pieces of the relay attaching part 24a, a relay 14b is attached to the relay attaching part 24b, a component-side coloring area 22 is formed on the upper surface 20 of the relay 14a as a component-side distinguishing marking, and the component-side coloring area 22 is not formed on the relay 14b, wherein (above B [0019], C [0020], and C [0026])

c a substrate side coloring area 32 is formed as a substrate-side distinguishing marking of the relay attaching part 24a corresponding to the component-side distinguishing marking of the relay 14a, in the relay attaching part 24a,

a substrate side coloring area 32:

is a rectangular marking made by painting out inside the relay attaching part 24a in white, and is formed by applying silk print in a reversing manner;

is formed with a size extending across the substantially whole area of the relay attaching part 24a, is made to be of a rectangular shape slightly larger than the upper surface 20 of the relay 14a in top view, and, in the top view of the attaching state of the relay 14a, the substrate side coloring area 32 is arranged in such a way slightly protruding in the side of the outer perimeter from the relay 14a

(the above C [0023], and C [0026])"

(3-2) Cited Document 2

The above-mentioned Cited Document 2 is one of the well-known examples cited in "(4-4) Regarding Different Feature 4" of "(4) Judgment" of "3. Independent requirements for patentability" of [Reason] of the above-mentioned "No. 2 Decision to Dismiss Amendment on The Amendment", in order to indicate that a game machine including a substrate on which a plurality of electronic components are mounted is a well-known technology, and

describes "a printed board for a game machine provided with a plurality of electric components 27-45, and a substrate body 46 on which the plurality of electric components 27-45 are attached".

4. Comparison

The Invention and Cited Invention will be compared.

Note that the headers were made to be (a)-(e), and made to correspond to the separate descriptions of Cited Invention.

(a) "A plurality of electric components such as a relay and a transformer" of Cited Invention correspond to "a plurality of electronic components" of the Invention, and "the printed board 12" of Cited Invention corresponds to "substrate" of the Invention.

In addition, while, on "the printed board 12" of Cited Invention, "a plurality of electric components are mounted", this "mounted (tosai)" corresponds to "mounted (jissou)" of the Invention, and, therefore, "the printed board 12, on which a plurality of electric components such as a relay and a transformer are mounted," of Cited Invention corresponds to "a substrate on which a plurality of electronic components are mounted" of the Invention.

Then, it can be said that, since both "game machine" of the Invention and "electrical connection box and the like of an automobile" of Cited Invention are provided with "a substrate on which a plurality of electronic components are mounted", each of these is an "electronic device".

Therefore, the constitution a of Cited Invention and constitution A of the Invention are common in a point of being

An "electronic device comprising a substrate on which a plurality of electronic components are mounted".

(b) "The relay 14a" of Cited Invention corresponds to "specific electronic component" of the Invention because "the component-side coloring area 22 is formed as a component-side distinguishing marking", and "the relay 14b" of Cited Invention corresponds to "electronic components different from the specific electronic component" of the Invention because "the component-side coloring area 22 is not formed".

In addition, for the reason that "the relay attaching part 24a" of Cited Invention is "provided" on "the printed board 12" "as an attaching area of an electric component", and is one "on which the relay 14a is attached", it corresponds to "a specific mounting

area on which a specific electronic component is mounted" of the Invention.

In a similar way, since "the relay attaching part 24b" of Cited Invention is "provided" on "the printed board 12" "as an attaching area of an electric component", and is one "on which the relay 14b is attached", it corresponds to "another mounting area on which an electronic component different from the specific electronic component is mounted" of the Invention.

Accordingly,

" two pieces of the relay attaching part 24a, and one piece of the relay attaching part 24b are provided as an attaching area of an electric component on the printed board 12, the relay 14a is attached to each of the two pieces of the relay attaching part 24a, the relay 14b is attached to the relay attaching part 24b, the component-side coloring area 22 is formed on the upper surface 20 of the relay 14a as a component-side distinguishing marking, and the component-side coloring area 22 is not formed on the relay 14b," that is the constitution b of Cited Invention corresponds to

" a specific mounting area on which a specific electronic component among the plurality of electronic components is mounted, and another mounting area on which an electronic component different from the specific electronic component among the plurality of electronic components is mounted are formed, on a mounting surface of the substrate," that is the constitution B of the Invention.

(c) Since "the substrate side coloring area 32" of Cited Invention is "a substrate-side distinguishing marking of the relay attaching part 24a corresponding to the component-side distinguishing marking of the relay 14a", and "is formed by applying silk print in a reversing manner", it corresponds to "a specific printing section that indicates the specific electronic component" of the Invention.

Furthermore, since "the substrate side coloring area 32" of Cited Invention "is formed with a size extending across the substantially whole area of the relay attaching part 24a, is made to be of a rectangular shape slightly larger than the upper surface 20 of the relay 14a in top view, and, in the top view of the attaching state of the relay 14a, the substrate side coloring area 32 is arranged in such a way slightly protruding in the side of the outer perimeter from the relay 14a", it is obvious that, in "the relay attaching part 24a", "the relay 14a" is mounted in such a way that it overlaps with at least a part of "the substrate side coloring area 32".

Accordingly,

" the substrate side coloring area 32 is formed as a substrate-side distinguishing marking of the relay attaching part 24a corresponding to the component-side distinguishing

marking of the relay 14a, in the relay attaching part 24a,
the substrate side coloring area 32:

is a rectangular marking made by painting out inside the relay attaching part 24a in white,
and is formed by applying silk print in a reversing manner;

is formed with a size extending across the substantially whole area of the relay attaching part 24a, is made to be of a rectangular shape slightly larger than the upper surface 20 of the relay 14a in top view, and, in the top view of the attaching state of the relay 14a, the substrate side coloring area 32 is arranged in such a way slightly protruding in the side of the outer perimeter from the relay 14a," that is the constitution c of Cited Invention corresponds to

" a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted in such a way that it overlaps with at least a part of the specific printing section, in the specific mounting area," that is the constitution C of the Invention.

(e) As examined in the above-mentioned (a), since both "game machine" of the Invention and "electrical connection box and the like of an automobile" of Cited Invention are provided with "a substrate on which a plurality of electronic components are mounted", it can be said that each of these is an "electronic device".

Therefore, the constitution e of Cited Invention and the constitution E of the Invention are common in a point of being an "electronic device."

Accordingly, by the comparison of the above-mentioned (a)-(e), the Invention and Cited Invention are identical in a point of

"E' An electronic device, comprising,

A' a substrate on which a plurality of electronic components are mounted, wherein

B a specific mounting area on which a specific electronic component among the plurality of electronic components is mounted, and another mounting area on which an electronic component different from the specific electronic component among the plurality of electronic components is mounted are formed, on a mounting surface of the substrate,

C a specific printing section that indicates the specific electronic component is formed, and the specific electronic component is mounted in such a way that it overlaps with at least a part of the specific printing section, in the specific mounting area.", and differ in the following Different Feature.

[Different Feature]

A point that, in the Invention, "electronic device" is specified as being a "game machine" (constitutions A and E), whereas, in Cited Invention, it is not specified as being a "game machine".

5. Judgment

When the aforementioned Different Feature is examined, since a game machine including a substrate on which a plurality of electronic components are mounted is a technology that was well-known before the application of the present application (hereinafter, referred to as "Well-known art") as described in, for example, paragraph [0025] and [FIG. 5] of Japanese Unexamined Patent Application Publication No. H11-76564, paragraphs [0084]-[0090] and [FIG. 14]-[FIG. 17] of Japanese Unexamined Patent Application Publication No. 2015-204961, and paragraph [0016] and [FIG. 3] of Japanese Unexamined Patent Application Publication No. 2000-167203, it could have been achieved with ease by a person skilled in the art to make, by applying the above-mentioned Well-known art to Cited Invention, and constituting it as a "game machine", Cited Invention to have the constitutions A and E of the Invention concerning the aforementioned Different Feature.

In addition, an effect exerted by the Invention is nothing but an effect within a scope that can be predicted by a person skilled in the art from Cited Invention and the above-mentioned Well-known art, and, therefore, it cannot be said that it is a remarkable effect.

No. 4 Closing

As described above, since the Invention could have been invented by a person skilled in the art with ease based on Cited Invention and the above Well-known art, the Appellant should not be granted a patent for that under the provisions of Article 29(2) of the Patent Act.

Accordingly, the present application should be rejected.

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

Jan. 7, 2019

Chief administrative judge: ANKYU, Shiro

Administrative judge: HAMANO, Takashi

Administrative judge: TATSUKI, Norio