**Appeal decision**

Appeal No. 2015-22651

Kyoto, Japan
Appellant KYOCERA CORPORATION

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The case of appeal against the examiner's decision of refusal No. 2012-33277, entitled "Electronic Device" (the application published on September 27, 2012, Japanese Unexamined Patent Application Publication No. 2012-185815) has resulted in the following appeal decision:

**Conclusion**

The appeal of the case was groundless.

**Reason**

**1. History of the procedures**

The application was filed on February 17, 2012 (priority date: February 18, 2011), and a decision of refusal was made on September 25, 2015 (mailing date: 29th of the same month). In response to the decision, a request for appeal was filed on December 24, 2015; after that, reasons for refusal were notified by the body on June 24, 2016, and amendment was made and a written opinion was submitted on August 26, 2016.

**2. The Invention**

The invention relating to Claim 1 of the present application (hereinafter referred to as "the Invention") is acknowledged as follows, as described in the scope of claims of

the written amendment dated August 26, 2016.
"[Claim 1]
An electronic device including:
a touch panel,
vibration unit(s) arranged on a rear surface of the touch panel and vibrating the touch panel,
and a support member having an opening for placing the touch panel therein;
wherein, an elastic installation member is disposed between an outer edge of the touch panel and an opening inner side surface of the support member along the entire outer edge of the touch panel so as to expand and contract and to block outside air,
and the thickness of the elastic installation member is more reduced around a center between the outer edge and the opening inner side surface."

**3. Cited Document 1 and Cited Invention**

**(1) Regarding Cited Document 1 and Cited Invention**

Japanese Unexamined Patent Application Publication No. 2009-111847 (hereinafter, referred to as "Cited Document 1") that was cited in the reasons for refusal dated June 24, 2016 and published before the priority date of the application includes the following description with drawings. (The underlines indicate parts to which attention is especially focused; the same shall apply hereinafter.)

(1) [Claim 5]
"[Claim 5]
An electronic device provided with an actuator for vibrating the window material in the inner side face of the window material, which is described in Claim 4."

(2) Paragraphs [0012]-[0025] ([First embodiment])
"[0012]
[First embodiment]
Figure 1 is a perspective view indicating a cell phone 1 as an electronic device related to the first embodiment of the present invention, Figure 2 is an exploded perspective view of the cell phone 1, and Figure 3 is a perspective view indicating a state in which the cell phone 1 is cut at the III-III cutting line shown in Figure 1. The cell phone 1 substantially comprises an upper case 10, a lower case 20, an O-ring 31, fastening screws 30 for fastening the upper case 10 and the lower case 20, and the like.

[0013]

The O-ring 31 is composed of an elastic material such as rubber and is annularly arranged along an outer periphery between the rear surface of the upper case 10 and the front surface of the lower case 20. As shown in Figure 3, the O-ring 31 abuts on the rear surface of the upper case 10 and the outer periphery of the front surface of the lower case 20 by tightening the fastening screws 30 so as to seal a gap between the upper case 10 and the lower case 20.

[0014]

The upper case 10 comprises a frame material 11, a key part seal material 13, a window material 14, and a window part seal material 15. The frame material 11 is provided with through holes 16 at positions where key operation parts are arranged, and the through holes 16 are closed with the key part seal material 13 from the rear surface side of the frame material 11. The key part seal material 13 is composed of an elastic material such as rubber.

[0015]

In addition, the frame material 11 is provided with an opening 17 at a position where a display unit is provided. An inner edge of the opening 17 is provided with the window part seal material 15. The window part seal material 15, which is composed of an elastic material such as rubber, secures the window material 14 inside the opening 17.

[0016]

The window material 14 is composed of glass, a transparent resin, or the like. At the rear surface of the window material 14, a display device 22 housed in the lower case 20 is arranged so that a display unit is formed by the window material 14 and the display device 22. Since light radiated from the display device 22 penetrates through the window material 14 and is radiated to the outside, images on the display device 22 can be seen from the outside.

[0017]

In addition, at the rear surface of the window material 14, an actuator 18 vibrating the window material 14 is installed as shown in FIG. 3. The actuator 18 makes the window material 14 function as a vibration plate of a panel speaker. Since the window material 14 is supported by the frame material 11 via the window part seal material 15 composed of an elastic material, it can be vibrated independently of the frame material 11.

[0018]

The upper case 10 is formed by insert molding, in which the frame material 11 and the window material 14 are integrally formed by the window part seal material 15.

The upper case 10 is fastened to the lower case 20 by the fastening screws 30. In addition, the key part seal material 13 may also be integrally formed by insert molding together with the frame material 11, the window material 14, and the window part seal material 15.

[0019]

The lower case 20 has a recessed part 21 formed in the front surface thereof; and in the recessed part 21, a display device 22 and a main substrate, etc. (not illustrated) are housed.

[0020]

Here, a mold used for insert molding of the upper case 10 is described.

For insert molding of the upper case 10, a lower mold 40 and an upper mold 50 are used as shown in FIG. 4 (a) to (d). On an upper surface of the lower mold 40 and a lower surface of the upper mold 50, annular grooves 41 and 51 for forming the window part seal material 15 are provided. In addition, in order to also integrally form the key part seal material 13 by insert molding, a recessed part (not illustrated) for forming the key part seal material 13 is formed on each of the upper surface of the lower mold 40 and the lower surface of the upper mold 50.

[0021]

A procedure for insert molding is described below by reference to FIG. 4 (a) to (d).

First, the window material 14 is mounted on the lower mold 40 so that an outer periphery of the window material 14 is arranged on the groove 41, as shown in FIG. 4 (a). In addition, the frame material 11 is mounted on the lower mold 40 so that the peripheral edge portion of the opening 17 of the frame material 11 is arranged on the groove 41.

[0022]

Then, the upper mold 50 is mounted on the frame material 11 and the window material 14 so as to sandwich them between the upper mold 50 and the lower mold 40, as shown in FIG. 4 (b).

After that, an elastic material 15a that is a raw material of the window part seal material 15 is injected into the grooves 41 and 51 and hardened, as shown in FIG. 4 (c). In order to also integrally form the key part seal material 13 by insert molding, the elastic material is injected into the recessed part for forming the key part seal material 13 and hardened.

[0023]

When the injected elastic material has hardened, the upper mold 50 is lifted and

a molding is taken out as shown in FIG. 4 (d).

Thus, the upper case 10 shown in FIG. 5 is obtained.

[0024]

In the upper case 10 thus formed, the frame material 11, the window material 14, and the window part seal material 15 are integrally formed by insert molding, and therefore a gap between the frame material 11 and the window material 14 can be easily and securely filled to achieve complete waterproofing. Furthermore, an assembly problem which may occur in bonding with a double-sided tape does not occur and the procedure does not depend on the thermal characteristics.

[0025]

In addition, since insert molding is performed in a state where the window material 14 is arranged at the inside of the opening 17 of the frame material 11, the thickness of the upper case 10 can be reduced in comparison with the case where bonding is performed with an edge part of the opening 17 of the frame material 11 and the outer periphery of the window material 14 overlapped. Furthermore, if the key part seal material 13 is also integrally formed by insert molding, the through holes 16 can be easily and securely filled to allow complete waterproofing. In addition, the process of adhering the key part seal material 13 to the frame material 11 becomes unnecessary, thereby allowing the assembly process of the cell phone 1 to be simplified."

(3) Paragraphs [0026] to [0029] (<First modified example> to <Fourth modified example>)

"[0026]

<First modified example>

In FIG. 5, the shape is such that the window part seal material 15 projects both on the front surface side and rear surface side of the upper case 10; however, the shape may be such that the window part seal material 15 projects only on the rear surface side by omitting the groove 51 from the upper mold 50, as shown in FIG. 6. Such molding allows the front surface of the upper case 10 to be formed flat and the thickness of the upper case 10 to be reduced.

[0027]

<Second modified example>

The shape may also be such that the window part seal material 15 does not project on either the front surface or the rear surface, by omitting the groove 41 from the lower mold 40 and omitting the groove 51 from the upper mold 50 as shown in FIG. 7. Such molding allows both surfaces of the upper case 10 to be formed flat and the

thickness of the upper case 10 to be further reduced.

[0028]

<Third modified example>

Furthermore, the frame material 11, the window material 14, the resin film 14a, and the window part seal material 15 may be integrally formed by insert molding with a resin film 14a attached on the surface of the window material 14 as shown in FIG. 8. As the resin film 14a, there can be used a protection film for preventing glass scattering in breakage of glass, a film for privacy protection, and so on.

[0029]

<Fourth modified example>

In the above embodiment, the frame material 11, the window material 14, and the window part seal material 15 are integrally formed by insert molding. However, the present invention is not limited to that embodiment, and as shown in FIG. 9, the frame material 11, the display device 22, and the window part seal material 15 may be integrally formed by insert molding, by arranging the display device 22 itself, which is formed integrally with the window material 14, at the inside of the opening 17 of the frame material 11. The display device 22 may include an input device such as a touch sensor."

Consequently, by especially referring to descriptions (2) on the underlines of [First embodiment] (paragraphs [0012] to [0025]), it is acknowledged in the light of related drawings and technical common sense that the following invention (hereinafter, referred to as the "Cited Invention) is described in Cited Document 1.

"A cell phone 1 as an electronic device,

the cell phone 1 substantially comprising an upper case 10, a lower case 20, an O-ring 31, fastening screws 30 for fastening the upper case 10 and the lower case 20, and the like,

wherein the upper case 10 comprises a frame material 11, a key part seal material 13, a window material 14, and a window part seal material 15,

the frame material 11 is provided with an opening 17 at a position where a display unit is provided and an inner edge of the opening 17 is provided with the window part seal material 15,

the window part seal material 15, which is composed of an elastic material such as rubber, secures the window material 14 at the inside of the opening 17,

the window material 14 is composed of glass, a transparent resin, or the like,

at the rear surface side of the window material 14, a display device 22 housed in the lower case 20 is arranged to form a display unit by the window material 14 and the display device 22,

at the rear surface of the window material 14, an actuator 18 vibrating the window material 14 is installed, the actuator 18 makes the window material 14 function as a vibration plate of a panel speaker, and the window material 14 is supported by the frame material 11 via the window part seal material 15 composed of an elastic material, allowing the window material to be vibrated independently of the frame material 11,

the upper case 10 is formed by insert molding, in which the frame material 11 and the window material 14 are integrally formed by the window part seal material 15,

the frame material 11, the window material 14, and the window part seal material 15 are integrally formed by insert molding and therefore, a gap between the frame material 11 and the window material 14 can be easily and securely filled to allow complete waterproofing."

**4. Comparison**

The invention relating to Claim 1 (hereinafter referred to as the "Invention") and the Cited Invention are compared.

(1) The "window material 14" of the Cited Invention is "composed of glass, a transparent resin, or the like. At the rear surface side of the window material 14, a display device 22 housed in the lower case 20 is arranged to form a display unit by the window material 14 and the display device 22," and it can be said that the "window material 14" is a display panel. Therefore, it can be said that the "window material 14" and the "touch panel" of the Invention are common in terms of being a "panel."

(2) The "actuator 18" of the Cited Invention is described as "at the rear surface of the window material 14, an actuator 18 vibrating the window material 14 is installed, the actuator 18 makes the window material 14 function as a vibration plate of a panel speaker," and therefore, the actuator and the "vibration unit(s) arranged on a rear surface of the touch panel and vibrating the touch panel to exhibit touch feeling" of the Invention are common in terms of being "vibration unit(s) arranged on the rear surface of the panel and vibrating the panel."

(3) The "frame material 11" of the Cited Invention is described as "the frame material

11 is provided with an opening 17 at a position where a display unit is provided" and "the window part seal material 15 ... secures the window material 14 at the inside of the opening 17" and therefore, the frame material and the "support member having an opening for placing the touch panel therein" of the Invention are common in terms of being "a support member having an opening for placing the panel therein."

(4) The "cell phone 1 as an electronic device" of the Cited Invention corresponds to the "electronic device" of the Invention.

(5) The "window part seal material 15" of the Cited Invention is one which "is composed of an elastic material such as rubber and secures the window material 14 at the inside of the opening 17." The feature that "the window part seal material 15" "secures the window material 14 at the inside of the opening 17" is nothing else that the "window part seal material 15" is spanned between the opening 17 and the window material 14; and therefore, the "window part seal material 15" corresponds to the "elastic installation member" of the Invention. The feature of the "window part seal material 15" of the Cited Invention that "the window material 14 is supported by the frame material 11 via the window part seal material 15 composed of an elastic material, allowing the window material to be vibrated independently of the frame material 11" and "the frame material 11, the window material 14, and the window part seal material 15 are integrally formed by insert molding and therefore, a gap between the frame material 11 and the window material 14 can be easily and securely filled to allow complete waterproofing" and the feature of the "elastic installation member" of the Invention that "an elastic installation member is disposed between an outer edge of the touch panel and an opening inner side surface of the support member along the entire outer edge of the touch panel so as to expand and contract and to block outside air" are common in terms of "disposing an elastic installation member between the outer edge and an opening inner side surface of the support member along the entire outer edge of the panel so as to expand and contract and to block outside air."

Therefore, the corresponding features and different features between the Invention and the Cited Invention are as follows:

**<Corresponding Features>**

"An electronic device including:

a panel;

vibration unit(s) arranged on the rear surface of the panel and vibrating the panel;

and a support member having an opening for placing the panel therein;

wherein, an elastic installation member is disposed between an outer edge of the panel and an opening inner side surface of the support member along the entire outer edge of the touch panel so as to expand and contract and to block outside air."

**<Different Feature 1>**

In the Invention, such configuration is employed that the panel is a "touch panel," "... includes a touch panel, vibration unit(s) arranged on a rear surface of the touch panel and vibrating the touch panel, and a support member having an opening for placing the touch panel therein," and "an elastic installation member is disposed between an outer edge of the touch panel and an opening inner side surface of the support member along the entire outer edge of the touch panel so as to expand and contract and to block outside air"; whereas, in the Cited Invention, the panel is a "window material 14" and is not a "touch panel."

**<Different Feature 2>**

In the Invention, the vibration unit(s) are "vibration unit(s) arranged on a rear surface of the touch panel and vibrating the touch panel to exhibit touch feeling"; whereas, in the Cited Invention, the vibration unit(s) are an actuator 18 that "makes the window material 14 function as a vibration plate of a panel speaker," and "to exhibit touch feeling" is not specified.

**<Different Feature 3>**

The "elastic installation member" of the Invention has the feature of "the thickness of the elastic installation member is more reduced around a center between the outer edge and the opening inner side surface"; whereas, for the "window part seal material 15" of the Cited Invention, it is not specified that "the thickness ... is more reduced around a center between the outer edge and the opening inner side surface."

**5. Judgment by the body**

**Regarding <Different Feature 1>**

In an electronic device such as a cell phone, providing a "touch panel" even protecting a display unit on a front surface of the display unit so as to add a touch input function is a well-known art as described in <Cited Documents 5-7> below.

**<Cited Document 5: Unexamined Japanese Patent Application Laid-Open Specification No. 2010-157037>**

(Refer to FIG. 2 and descriptions of: paragraph [0021] "[First embodiment] As shown in FIGS. 1-3, the cell phone 1 with a protective panel 4, an example of the panel member, includes, as being housed within a casing 2 formed of a synthetic resin and having a display window 2A on the front surface thereof, a display device 3 having a display unit 3A such as of liquid crystal, organic EL, etc., the protective panel 4 for covering and protecting the surface of this display device 3 and a plurality of input keys 5, etc."; and paragraph [0024] "The protective panel 4 can be chosen between one having the so-called touch input function configured such that X-Y coordinates as its operational position are detected based on a touch operation on the protective panel 4 and one not having the touch input function. Moreover, the panel having the touch input function can be chosen from the resistive film type, capacitance type, electromagnetic induction type, etc.").

**<Cited Document 6: Unexamined Japanese Patent Application Laid-Open Specification No. 2008-216733>**

(Refer to FIG. 1 and descriptions of: paragraph [0002] "At present, various electronic devices including cell phones using display elements such as liquid crystal displays (LCDs) as display panels that are display element main bodies are configured so that, to protect the display element from water, dust, or external forces, the display panel is not directly exposed but a window material such as a transparent plastic plate is provided on the outside, and a gap is formed between the window material and the display panel."; and paragraph [0046] "In the embodiment described above, the window material 2 may be configured so as to commonly serve as a touch panel. ....")

**<Cited Document 7: Unexamined Japanese Patent Application Laid-Open Specification No. 2008-181365>**

(Refer to FIG. 6 and the description of paragraph [0004] "... a display window 3 is formed on the front case 1, and a touch panel 4 composed of a transparent material is mounted directing its surface side to the display window 3. 5 is a cushion material provided between an inner surface of the front case 1 and a surface of the touch panel, and 6 is a display device such as LCD, etc. arranged opposed to the touch panel. In addition, a cushion material 7 is provided between the display device 6 and the touch panel 4. 8 is a frame fixed to the rear case 2 by screws (not illustrated). 9 is a vibration element such as a force reactor, etc. attached on one end side of the touch panel 4.")

On the other hand, in Cited Document 1, paragraph [0029] describes as <Fourth modified example> of [First embodiment] "The display device 22 may include an input device such as a touch sensor" for the case where the display device 22 itself which is formed integrally with the window material 14 is arranged at the inside of the opening 17 of the frame material 11. Therefore, it can be said that it is disclosed in Cited Document 1 that the touch input function is added as <Fourth modified example>.

Accordingly, a person skilled in the art could have easily conceived of such a configuration related to the above <Different Feature 1> as an "electronic device that includes a touch panel, vibration parts arranged on a rear surface of the touch panel and vibrating the touch panel, and a support member having an opening for placing the touch panel therein; wherein, an elastic installation member is disposed between an outer edge of the touch panel and an opening inner side surface of the support member along the outer edge of the touch panel so as to expand and contract and to block outside air" by adopting a well-known art of providing a "touch panel" for touch input in front of the display unit so as to add the touch input function and by using the "window material 14" as a "touch panel" in the Cited Invention.

**Regarding <Different Feature 2>**

As for vibrating a panel by means of an actuator, both generating "a sound" and generating "a tactile sense" by vibration are well-known arts and are commonly practiced as described in, for example, <Cited Document 5>, <Cited Document 8>, and <Japanese Unexamined Patent Application Publication No. 2002-149312> which are cited in reasons for refusal dated June 24, 2016.

In addition, as described in <Cited Document 8> and <Japanese Unexamined Patent Application Publication No. 2002-149312>, it is a well-known art that an identical vibration device is used for generating both "a sound" and "a tactile sense."

**<Cited Document 5: Unexamined Japanese Patent Application Laid-Open Specification No. 2010-157037>**

(Refer to descriptions of: paragraph [0004] "Then, as disclosed in, e.g., Patent Document 1 and Patent Document 2, there has been developed a force-feedback type touch panel device configured to allow the operator to feel the operation from his/her finger through vibration of the movable plate and/or the support substrate"; and paragraph [0007] "Further, also in a panel-like speaker as disclosed in Patent Document 3, an acoustic vibration plate acting also as a panel is vibrated by a vibration driver, thereby to output a sound.")

**<Cited Document 8: Unexamined Japanese Patent Application Laid-Open Specification No. 2005-228161>**

(Refer to descriptions of: paragraphs [0003] and [0004] "However, when using the above-mentioned panel-shaped input device as an input switch, for example, there is a problem in which a flat switch such as a touch panel does not provide click feeling, which is obtained with a mechanical switch, when being pressed and it is difficult to recognize that a user has pressed it. To solve such a problem, Patent Document 1 ... (omitted) ... In Patent Document 2, for example, as shown in FIG. 2, such a configuration of the device 10 is disclosed that the vibration plate 12 having a projection surface 11 is vibrated by an electromagnetic force between a movable coil 13 provided on the vibration plate 12 and the magnet 15 provided on a coupling housing 14 to provide a tactile stimulus to a finger or the like which touches the projection surface 11 of the vibration plate 12;" paragraph [0007] "However, the touch panel input device described in Patent Document 1, ... (omitted) ... That is, since the upper movable plate 3 cannot take a large amount of displacement mechanically, it is difficult to provide such a click feeling that the panel is raised by pressing; there is also a problem that since vibration is generated by the piezoelectric substrate 2, driving at a low voltage is difficult"; paragraph [0009] "Accordingly, the present invention has been made to solve these problems and aims to provide a flat plate vibration device capable of providing a vibration of a large stroke to a flat plate with a configuration having a coil and magnetic field generating means"; and paragraph [0060] "Further, the flat plate vibration device

according to the present invention can give an arbitrary vibration onto the touch panel by providing a current of a desired waveform and strength to the coil in response to the input information from the touch panel, thereby enabling a desired sound to be generated by the vibration of the touch panel." )

**<Unexamined Japanese Patent Application Laid-Open Specification No. 2002-149312>**

(Paragraph [0075] "It should be noted that, when the audio signal of the audio band is applied to the coil 121 of the vibration actuator 115, for example, the case 115a of the vibration actuator 115 and the body case 101 of the PDA 10 in which the vibration actuator 115 is disposed, and the like are vibrated, thereby enabling generation of a sound according to the audio signal. In other words, the vibration actuator 115 can also be used as a sound source. In this case, it is preferable to adopt a configuration in which a vibration generated from the vibration actuator 115 in response to the application of the audio signal is transmitted; for example, a liquid crystal display panel 103a and the body case 101, and the like are used as an acoustic loudspeaker mechanism, and the magnitude of the sound generated from the vibration actuator 115 is amplified. Thus, a single component serving as both the vibration generator and the sound source enables the installation space of components to be significantly saved in small electronic devices such as cell phones and pagers."

Although the Cited Invention is one that vibrates the window material 14 (panel) by the actuator to generate a sound, it is obvious for a person skilled in the art who has contacted Cited Document 1 that the vibration of the window material 14 (panel) by the actuator of the Cited Invention can be diverted to the generation of a tactile sense.

As described above, considering that both generating "a sound" and generating "a tactile sense" by vibrating the panel by the actuator are well-known arts and are commonly practiced, a person skilled in the art could have easily conceived of the configuration related to the above <Different Feature 2> in which the "actuator 18" vibrating the window material 14 (panel) is diverted for generating "a tactile sense" so as to make the vibration unit serve as "a vibration unit exhibiting a tactile sense" in considering the "window material 14" as a "touch panel" of a well-known art in the Cited Invention.

**Regarding <Different Feature 3>**

In the Cited Invention, it is acknowledged that the specific thickness and shape as a member of the "window part seal material 15" are matters of design which a person skilled in the art could appropriately select, in consideration of various conditions such as strength required as a seal material, easy deformation due to vibration, etc.

Further, in Cited Document 1, referring to FIGS 5 to 7 and paragraphs [0026] to [0027], a shape in which only the front surface of the window part seal material 15 is formed flat as shown in FIG. 6 and a shape in which both the surfaces of the window part seal material 15 are formed flat as shown in FIG. 7 are listed as <First modified example> and <Second modified example> for [First embodiment] in addition to the shape having projections on both the front surface side and the rear surface side of the window part seal material 15. Thus, it can be said that the specific thickness and shape of the "window part seal material 15" of the Cited Invention could have been appropriately selected by a person skilled in the art, in consideration of various conditions.

On the other hand, changing the outer shape of a part of the member such as making the part thinner than the other parts so as to more easily deform the part is a well-known art as described in <Cited Documents 5, and 8-9> below in addition to <Cited Document 3: Japanese Unexamined Patent Application Publication No. 2005-228040> (refer to FIGS. 1 to 3 and descriptions about a "pad 6" having a "thin wall part 6c" in paragraphs [0019] and [0023]) and < Cited Document 4: Japanese Unexamined Patent Application Publication No. 2001-090838> (refer to FIGS. 1, 2, and 4 and descriptions about a "recessed groove 7" (arcuate surface 8) formed on a "packing P" in paragraphs [0017] to [0020]) which are cited in the examiner's decision of refusal.

**<Cited Document 5: Unexamined Japanese Patent Application Laid-Open Specification No. 2010-157037>**

(Refer to FIG. 10 and descriptions of: paragraphs [0062] and [0063] "The reduced-rigidity portion of the protective panel 4 need not be formed along the entire peripheral edge portion 4A of the protective panel 4. For instance, it will suffice to form such portion at least at a portion of the peripheral edge portion 4A of the protective panel 4, e.g., to form it as a very small area at a corner of the protective panel or an area even smaller or shorter than the length of one side thereof. Even when the reduced-rigidity portion having reduced rigidity is formed only at a portion of the peripheral edge

portion 4A of the protective panel 4, this can facilitate vibration of the portion alone of the protective panel 4. Moreover, by varying the position and the size of the reduced-rigidity portion of the protective panel, it becomes possible to generate various modes of vibration depending on the intended use. The method of forming a portion of the protective panel as a reduced-rigidity portion is not limited to formation of the recessed groove portion 4a in the protective panel 4. Alternatively, the method can be, e.g., simply varying the thickness of the protective panel 4, utilizing the property of the material of the protective panel 4 without changing the thickness thereof, etc."; and paragraph [0069] "(5) Instead of forming the recessed groove portion 4a formed on the rear surface of the panel member 4 only along one side of the peripheral edge portion 4A of the panel member 4, it is possible to provide the recessed groove portion 4a along two or three sides thereof or along the entire perimeter thereof as shown in FIG. 10. In this case, preferably, the recessed groove portion 4a should be provided to extend to the peripheral edge of the panel member 4, in order to secure a greater area of oscillation of the panel member 4. Further, depending on the need, the recessed groove portion 4a may be provided at a plurality of portions of the panel member 4, so as to be readily capable of changing the degree of oscillation of the panel member.")

**<Cited Document 8: Unexamined Japanese Patent Application Laid-Open Specification No. 2005-228161>**

(Refer to FIG. 4 (a) and (b), and description of paragraph [0045] "On the fixing member 101, a protruded convex portion 101b may be formed in the center of a substantially rectangular outer periphery as shown in FIG. 4 (a). By being formed in this manner, as compared with a flat one, it is possible to provide a large displacement with a small force or stress due to vertical movement of the touch panel 102. Moreover, as shown in FIG. 4, (b), the fixing member 101 may be bonded to the touch panel 102 and frame base 104 with a water-resistant adhesive 107a, such as a silicon-based adhesive or the like, and may also be fixed to the cover 108 to protect the entire device through a waterproofing elastic member 107b, such as silicon rubber or the like. By adopting such a configuration, even when impurities such as water and dust enter from the outside or the input surface side of the touch panel 102 of the flat plate vibration device 100, the impurities can be prevented from entering the rear surface side of the touch panel 102 where a coil part 103 and magnetic field generation means 105 are provided.")

**<Cited Document 9: Unexamined Japanese Patent Application Laid-Open Specification No. 2000-217192>**

Refer to FIG. 8, (a) and descriptions of: paragraph [0015] "According to the present invention, the edge is thinner in the substantial vicinity of its center and becomes thicker toward the vibration plate and frame; that is, toward an inner and outer peripheries. Therefore, its rigidity is low in the vicinity of the center of the edge, and higher in the vicinity of the inner and outer peripheries. Since the rigidity in the vicinity of the center is low, the part in the vicinity of the center of the edge is easily deformed as long as the vibration amplitude of the vibration plate is within a fixed range, so that the linearity of the displacement of the vibration plate with respect to the drive current applied to the voice coil is maintained;" and paragraph [0055] "The present invention is not limited to the above embodiments, and can be modified in various ways. FIG. 8 shows various modified examples of the edge cross-sectional shape. The entirety of the edge 81 in FIG. 8 (a) is generally flat, the edge 82 in FIG. 8 (b) is a mountain shape, the edge 83 in FIG. 8 (c) has two rolled parts 83a and 83b of continuous projection and depression forms, the edge 85 in FIG. 8 (d) is a trapezoidal shape, the edge 86 in FIG. 8 (e) has two continuous corrugated parts 86a and 86b, the edge 87 in FIG. 8 (f) has three continuous corrugated parts 87a, 87b, and 87c, the edge 88 of FIG. 8 (g) has a recessed part 88a in the center and has small-radial-shaped rolled parts 88b and 88c of inner and outer peripheries, the edge 89 in FIG. 8 (h) has a recessed part 89a in the center and has rolled parts 89b and 89c of inner and outer peripheries, and the edge 90 in FIG. 8 (i) has a recessed part 90a in the center and has corrugated parts 90b and 90c of inner and outer peripheries. Any of the edges 81 to 90 is thin in its center and becomes thicker toward the inner and outer peripheries, and has both the advantage of being soft and easy to deform within a fixed range of the vibration amplitude of the vibration plate and the advantage of being hard to stretch even when the vibration amplitude becomes larger, not generating an abnormal sound.")

Consequently, a person skilled in the art could have easily conceived of a configuration related to <Different Feature 3> above by adopting the well-known art of changing the outer shape of a part of a member such as making the part thinner than the other parts so as to easily deform the part and by then selecting a method of changing the outer shape of the elastic material of the Cited Invention so as to make the vicinity of its center thinner in the Cited Invention.

In addition, the effect of the Invention falls within a scope that can be predicted by a person skilled in the art based on Cited Invention and the well-known arts.

**6. Closing**

The Invention could be easily made by a person skilled in the art based on the Cited Invention and the well-known arts; thus, the appellant should not be granted a patent for the Invention in accordance with the provisions of Article 29(2) of the Patent Act.

Accordingly, the present application should be rejected without examining other claims.

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

October 11, 2016

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| Chief administrative judge: | WADA, Shiro |
| Administrative judge: | INABA, Kazuo |
| Administrative judge: | YAMADA, Masafumi |