

DESCRIPTION

TITLE

PHOTO FRAME

TECHNICAL FIELD

[0001]

The present invention relates to a photo frame comprising a plate member defining a plane for receiving a photograph on a front surface or a back surface thereof, and a holder attached to the plate member and configured to hold the photograph along the plane.

BACKGROUND ART

[0002]

Structures in which a fragrance is associated with a photograph displayed in a photo frame have been proposed, for example, as disclosed in Patent Literature 1 and Patent Literature 2. In Patent Literature 1, an aromatic is contained in a container. The container is assembled into a window hole bored in a back plate of a picture frame. Fragrance components of the aromatic are diffused from small holes of the container. In Patent Literature 2, a thin plate aromatic body is inserted into a picture frame. The aromatic body has a thin plate absorbent of a fragrance component sandwiched between cardboards. A surface of the cardboard is covered with a blocking film of polyvinyl chloride film. When replenishing the fragrance component, the aromatic body is removed from the picture frame. The aromatic body is immersed in a solution of the fragrance component.

LIST OF CITATIONS

Patent Literature

[0003]

[Patent Literature 1] JP H03-114413 A

[Patent Literature 2] JP 2001-54452 A

[Patent Literature 3] JP 3161407 U

SUMMARY OF INVENTION

PROBLEM TO BE SOLVED BY THE INVENTION

[0004]

If a different fragrance can be selected according to the mood of the moment, a photograph gives further enjoyment to an observer. In Patent Literature 1, when replacing the aromatic, the picture frame is opened around a hinge. After opening, the container is removed from the back plate. The aromatic can be replaced in accordance with the opening and closing of the container. Troublesome work is required for such a trivial enjoyment as switching scents. In Patent Literature 2, when switching scents, the entire aromatic body (= absorbent + cardboard + vinyl chloride film) is replaced. A new aromatic body is immersed in a solution of a different fragrance component. Troublesome work is required for such a trivial enjoyment as switching scents.

[0005]

An object of the present invention is to provide a photo frame that diffuses a fragrance and allows the fragrance to be easily switched.

MEANS TO SOLVE THE PROBLEM

[0006]

According to one aspect of the present invention, there is provided a photo frame comprising: an elongated sheet containing a fragrance component; a plate member defining a first plane for receiving a photograph on a front surface or a back surface thereof, and defining a second plane for receiving the sheet on the back surface; a first holder attached to the plate member and configured to hold the photograph along the first plane; and a second holder detachably attached to the plate member and configured to hold the sheet along the second plane.

[0007]

When the second holder is removed from the plate member, the sheet can be separated from the plate member independently. Since the sheet is an absorbent of the fragrance component itself, the fragrance component just needs to permeate the sheet. For example, as with perfume, the fragrance component just needs to be sprayed onto the sheet. The fragrance component can be replenished quickly and easily. Then, the fragrance can be easily switched to another fragrance by replacing the sheet alone. As with perfume, a different fragrance component just needs to be sprayed onto a new sheet. Moreover, since the photograph and the sheet are individually held on the first plane and the second plane, the sheet is placed apart from the photograph. Contact between the photograph and the sheet can be favorably avoided. The fragrance component can be prevented from permeating the photograph from the sheet.

[0008]

The plate member may be a resin plate that defines the first plane and the second

plane on the back surface and has a transparent region covering at least an image of the photograph. An observer can observe the image of the photograph through the transparent region. The plate member can protect the image of the photograph while ensuring visibility of the image. Here, upon removal of the second holder, the first holder can be maintained on the plate member. When replacing the sheet, the photograph can continue to be held on the plate member as it is. Displacement of the photograph can be avoided when replacing the sheet.

[0009]

The second holder may be a slider that is guided by a pair of rails extending linearly in parallel on two sides of the second plane, and that is configured to be displaced between a first position where the sheet is held along the second plane and a second position where the sheet is separated from the second plane. Since the rails are placed on the back surface of the plate member, the front surface of the plate member can be maintained as a smooth surface. The visibility of the image can be favorably maintained. Depending on the displacement of the second holder, the sheet can be removed from the plate member. Here, an outwardly facing surface flush with the rails can be formed on the second holder. In this way, a shape of the back surface can be adjusted in the plate member.

[0010]

The plate member may be made of a transparent material, and an opaque film covering at least an edge of the photograph may be formed on the front surface of the plate member. The plate member can be molded from a single piece of transparent material. The plate member can be molded by a simple process. Inexpensive molding can be realized. On the other hand, since the edge of the photograph is hidden by the opaque film, the image can be favorably emphasized.

[0011]

The first holder may be a slider that is guided by a pair of rails extending in parallel on two sides of the first plane, and that is configured to be displaced between a first position where the photograph is held along the first plane and a second position where the photograph is separated from the first plane. Since the rails are placed on the back surface of the plate member, the front surface of the plate member can be maintained as a smooth surface. The visibility of the image can be favorably maintained. Depending on the displacement of the first holder, the photograph can be removed from the plate member. Here, an outwardly facing surface flush with the rails can be formed on the first holder. In this way, a shape of the back surface can be adjusted in the plate member.

[0012]

The plate member may define the first plane on the front surface and define the

second plane on the back surface, wherein the first holder may be disposed on the front surface of the plate member and hold the photograph between the first holder and the plate member, and the second holder may be disposed on the back surface of the plate member and hold the sheet between the second holder and the plate member. The photograph and the sheet are physically separated by the plate member. Contact between the photograph and the sheet can be favorably avoided. The fragrance component can be prevented from permeating the photograph from the sheet. Moreover, the photograph can be kept away from a path of the vaporized fragrance component. Transfer of the fragrance component from the sheet to the photograph can also be favorably prevented.

[0013]

The sheet may be positioned inside a contour of the photograph projected onto the back surface in a direction orthogonal to the front surface of the plate member. Since the sheet is placed behind the photograph, even if both the first holder and the plate member are molded from a single piece of transparent material, the sheet can be hidden by the photograph from the front side. The image of the photograph can stand out favorably.

[0014]

The plate member may have a quadrangular contour. The plate member can be held by being sandwiched between wall surfaces extending in parallel facing each other. The photo frame not only functions as a photo stand by being combined with other members, but also can be assembled into products of other forms to add the enjoyment of viewing photographs to the products.

EFFECT OF THE INVENTION

[0015]

As described above, according to the present invention, it is possible to provide a photo frame that diffuses a fragrance and allows the fragrance to be easily switched.

BRIEF EXPLANATION OF FIGURES

[0016]

[Fig. 1] Fig. 1 is a perspective view schematically illustrating a photo stand according to a first embodiment of the present invention.

[Fig. 2] Fig. 2 is a view illustrating a cross section of a photo frame along the line 2-2 in Fig. 1.

[Fig. 3] Fig. 3 is a view illustrating an enlarged partial cross section of the photo frame along the line 3-3 in Fig. 1.

[Fig. 4] Fig. 4 is an enlarged partial sectional view of the photo frame corresponding

to Fig. 2.

[Fig. 5] Fig. 5 corresponds to Fig. 2 and is a view illustrating a cross section of a photo frame according to a modification.

[Fig. 6] Fig. 6 corresponds to Fig. 3 and is a view illustrating an enlarged partial cross section of a photo stand according to a modification.

[Fig. 7] Fig. 7 corresponds to Fig. 3 and is a view illustrating an enlarged partial cross section of a photo stand according to another modification.

[Fig. 8] Fig. 8 corresponds to Fig. 3 and is a view illustrating an enlarged partial cross section of a photo stand according to still another modification.

[Fig. 9] Fig. 9 includes (A) a front view and (B) a rear view schematically illustrating a photo stand according to a second embodiment of the present invention.

[Fig. 10] Fig. 10 is a view illustrating an enlarged partial cross section of a photo frame along the line 10-10 in Fig. 9.

[Fig. 11] Fig. 11 corresponds to Fig. 2 and is a sectional view schematically illustrating a photo frame according to a third embodiment of the present invention.

[Fig. 12] Fig. 12 is a perspective view schematically illustrating the appearance of a product packaging unit according to an embodiment of the present invention.

[Fig. 13] Fig. 13 is a perspective view schematically illustrating an inner box contained within a lower outer box.

[Fig. 14] Fig. 14 is a perspective view illustrating the appearance of the inner box according to the embodiment of the present invention.

[Fig. 15] Fig. 15 is a perspective view schematically illustrating the structure of the inner box when an upper box component is opened.

[Fig. 16] Fig. 16 is an enlarged perspective view schematically illustrating the structure of a hinge.

[Fig. 17] Fig. 17 is a vertical sectional view along the line 17-17 in Fig. 14.

[Fig. 18] Fig. 18 is a vertical sectional view along the line 18-18 in Fig. 15.

[Fig. 19] Fig. 19 is a circuit diagram of a light irradiation circuit according to a first specific example.

[Fig. 20] Fig. 20 is a block diagram schematically illustrating the structure of an audio playback unit.

[Fig. 21] Fig. 21 corresponds to Fig. 18 and is a view illustrating a relation between a recording switch and a protection component.

[Fig. 22] Fig. 22 corresponds to an enlarged partial vertical sectional view along the line 22-22 in Fig. 14.

[Fig. 23] Fig. 23 corresponds to Fig. 22 and is a view schematically illustrating the structure of a plate member according to a modification.

[Fig. 24] Fig. 24 is a circuit diagram of a light irradiation circuit according to a second specific example.

EMBODIMENTS

[0017]

Embodiments of the present invention will be explained below with reference to the accompanying drawings.

[0018]

Fig. 1 schematically illustrates a photo stand according to a first embodiment of the present invention. A photo stand 101 includes a photo frame 103 that diffuses a fragrance while presenting an image of a photograph PC through a transparent plate 102, and an auxiliary member 104 that holds the photo frame 103 in an erecting posture on a horizontal plane PL. For the photograph PC, a photographic print printed on paper, an instant film including a white margin around an image, or the like can be used. Here, the auxiliary member 104 includes a flat plate 105 that receives the photo frame 103, and a leg plate 106 connected to a lower edge of the flat plate 105 and overlaid on the horizontal plane PL. The flat plate 105 and the leg plate 106 can be bent and formed from, for example, a single metal plate (e.g., a stainless steel plate). Therefore, the leg plate 106 is continuous from the lower end of the flat plate 105 at a front end. The flat plate 105 needs to be at least a magnetic body. Since the front end of the leg plate 106 is located forward of the center of gravity of the flat plate 105 and the photo frame 103, and the rear end of the leg plate 106 is located rearward of the center of gravity of the flat plate 105 and the photo frame 103, the leg plate 106 can support the flat plate 105 in the erecting posture on the horizontal plane PL. Here, the flat plate 105 tilts backward at a specific angle around the lower end.

[0019]

As depicted in Fig. 2, the photo frame 103 includes a plate member 111 that defines, on a back surface, a first plane 107 for receiving the photograph PC and a second plane 109 for receiving a sheet 108. The second plane 109 is placed without overlapping the first plane 107. The second plane 109 is separated from the first plane 107. The plate member 111 can be formed of, for example, a transparent body as a whole. The transparent body can be molded from, for example, a hard acrylic resin. The plate member 111 is formed of a material that blocks ventilation (air-impermeable material). Here, an opaque film 112 covering at least an edge of the photograph PC is formed on a front surface of the plate member 111. For example, the opaque film 112 extends to an outer edge of the plate member 111 throughout the entire circumference while surrounding a window 113 that displays the image of the photograph PC. Therefore, the plate member 111 forms a transparent region (transparent plate 102) covering at least the image of the photograph PC corresponding to the window 113. An observer can observe the image of the photograph PC through the transparent region. The opaque film 112 can be formed of, for example, a colored coating film.

[0020]

The photo frame 103 includes a first holder 114 attached to the plate member 111 and configured to hold the photograph PC along the first plane 107. The first holder 114 is a slider that is guided by a pair of first rails 116 extending in parallel on two sides of the first plane 107, and that is configured to be displaced between a first position where the photograph PC is held along the first plane 107 and a second position where the photograph PC is separated from the first plane 107. Therefore, the first holder 114 is detachably attached to the plate member 111.

[0021]

The first rail 116 linearly extends horizontally. A first smooth surface 117 is defined on the back surface of the plate member 111 between the first rails 116. The first rail 116 defines a guide path in contact with the first smooth surface 117. In defining the guide path, the first rail 116 forms a restriction edge 116a for accepting the first holder 114 between the first rail 116 and the first smooth surface 117. The restriction edge 116a allows horizontal movement of the first holder 114 along the guide path while restricting separation of the first holder 114 from the first plane 107 except for the horizontal movement. Here, the first plane 107 is defined on an inner surface of a recess 118 formed in the first smooth surface 117. The recess 118 is closed by the first holder 114 overlapping the first smooth surface 117 at the first position, and defines a photograph chamber for containing the photograph PC between the first holder 114 and the first plane 107. A contour of the recess 118 may be aligned with a contour of the photograph PC.

[0022]

The first holder (slider) 114 is formed as a flat plate that blocks the guide path at the first position. An upper edge of the flat plate engages with the restriction edge 116a of the upper first rail 116. A lower edge of the flat plate engages with the restriction edge 116a of the lower first rail 116. The first holder (slider) 114 can be molded from, for example, a hard acrylic resin. The first holder 114 is formed of a material that blocks ventilation (air-impermeable material).

[0023]

The photo frame 103 includes a second holder 115 attached to the plate member 111 and configured to hold the sheet 108 along the second plane 109. The second holder 115 is a slider that is guided by a pair of second rails 121 extending in parallel on two sides of the second plane 109, and that is configured to be displaced between a first position where the sheet 108 is held along the second plane 109 and a second position where the sheet 108 is separated from the second plane 109. Therefore, the second holder 115 is detachably attached to the plate member 111.

[0024]

The second rail 121 linearly extends horizontally. A second smooth surface 122 is defined on the back surface of the plate member 111 between the second rails 121. The second rail 121 defines a guide path in contact with the second smooth surface 122. In defining the guide path, the second rail 121 forms a restriction edge 121a for accepting the second holder 115 between the second rail 121 and the second smooth surface 122. The restriction edge 121a allows horizontal movement of the second holder 115 along the guide path while restricting separation of the second holder 115 from the second plane 109 except for the horizontal movement. Here, the second plane 109 is defined on an inner surface of a recess 123 formed in the second smooth surface 122. The recess 123 is closed by the second holder 115 overlapping the second smooth surface 122 at the first position, and defines a sheet chamber for containing the sheet 108 between the second holder 115 and the second plane 109.

[0025]

The second holder (slider) 115 is formed as a flat plate that blocks the guide path at the first position. An upper edge of the flat plate engages with the restriction edge 121a of the upper second rail 121. A lower edge of the flat plate engages with the restriction edge 121a of the lower second rail 121. The second holder (slider) 115 can be molded from, for example, a hard acrylic resin. The second holder 115 is formed of a material that blocks ventilation (air-impermeable material).

[0026]

The sheet 108 contains a fragrance component. The sheet 108 is formed to be elongated in a horizontal direction. A contour of the recess 123 may be set to match a contour of the sheet 108. The sheet 108 has an absorbent capacity to hold a solvent/vehicle of the fragrance component. For example, perfume can permeate into the sheet 108. For the sheet 108, for example, a paper material whose color changes in response to absorption of the fragrance component may be used. For example, litmus paper can change color in response to pH which changes in response to absorption of the fragrance component.

[0027]

As depicted in Fig. 3, a magnet 124 is fixed to the back surface of the plate member 111 at a position offset from the guide paths defined by the first rail 116 and the second rail 121. When the photo frame 103 is received by the flat plate 105 of the auxiliary member 104, the magnet 124 comes into surface contact with a front surface of the flat plate 105. The photo frame 103 is held on the flat plate 105 by the magnetic force. The magnet 124 protrudes from one plane including the back surface of the plate member 111 at a predetermined height. The magnet 124 forms a gap Hs between the second holder 115 and

the flat plate 105 of the auxiliary member 104. The gap Hs is open to the atmosphere at an outer periphery of the plate member 111.

[0028]

As depicted in Fig. 4, the second holder 115 has a through hole 125 connecting the sheet chamber to an outer space. The fragrance component of the sheet 108 can be diffused from the through hole 125 into the outer space. The gap Hs between the second holder 115 and the flat plate 105 connects the through hole 125 to the atmosphere. Alternatively, the through hole may be bored in the plate member 111 to connect the sheet chamber to the outer space.

[0029]

Alternatively, as depicted in Fig. 5, the first plane 107 and the second plane 109 may be formed flush with the back surface of the plate member 111. Here, the first plane 107 is included in the first smooth surface 117. A recess 118 is bored in the first holder 114 at a position overlapping the first plane 107. The first smooth surface 117 (first plane 107) closes the recess 118 at the first position of the first holder 114. Thus, a photograph chamber for containing the photograph PC is defined between the first holder 114 and the first plane 107. Similarly, the second plane 109 is included in the second smooth surface 122. A recess 123 is bored in the second holder 115 at a position overlapping the second plane 109. The second smooth surface 122 (second plane 109) closes the recess 123 at the first position of the second holder 115. Thus, a sheet chamber for containing the sheet 108 is defined between the second holder 115 and the second plane 109. Similarly, the second holder 115 has a through hole 125 connecting the sheet chamber to the outer space. The fragrance component of the sheet 108 can be diffused from the through hole 125 into the outer space. The gap Hs between the second holder 115 and the flat plate 105 connects the through hole 125 to the atmosphere.

[0030]

As depicted in Fig. 6, the auxiliary member 104 may further include a positioning piece 126 placed between the flat plate 105 and the leg plate 106 to receive the lower edge of the photo frame 103. When the lower edge of the photo frame 103 is applied to the positioning piece 126, the lower edge of the photo frame 103 can be placed horizontally. The position of the photo frame 103 can be set prior to fixing based on the magnetic force. The positioning piece 126 may protrude forward from the front surface of the flat plate 105. When the flat plate 105 and the leg plate 106 are formed from a single metal plate, the positioning piece 126 can be established by bending between the flat plate 105 and the leg plate 106. Since the front end of the leg plate 106 is located forward of the center of gravity of the flat plate 105 and the photo frame 103, and the rear end of the leg plate 106 is located rearward of the center of gravity of the flat plate 105 and the photo frame 103, the

leg plate 106 can support the flat plate 105 in the upright position on the horizontal plane PL.

[0031]

Next, the operation of the photo stand 101 according to the first embodiment will be described. The photo stand 101 is installed on a horizontal plane PL of a desk, shelf, or other furniture. The leg plate 106 of the auxiliary member 104 is overlaid on the horizontal plane PL. The flat plate 105 is placed in the upright position on the horizontal plane PL. The photo frame 103 is fixed to the flat plate 105. The magnet 124 couples the photo frame 103 to the flat plate 105. The image of the photograph PC is presented forward through the transparent plate 102. An observer can enjoy viewing the image. Since the photo frame 103 is coupled to the auxiliary member 104 by magnetic force, the photo frame 103 can be easily removed from the auxiliary member 104.

[0032]

The fragrance component is diffused from the sheet 108. The fragrance component flows out from the through hole 125 into the outer space of the sheet chamber. The fragrance component passes through the gap Hs between the second holder 115 and the flat plate 105 and diffuses into the atmosphere from the outer periphery of the photo frame 103. In this way, the observer can enjoy the fragrance while viewing the image. The sensitivity of vision can be enhanced by the sensitivity of smell. When past visual information is associated with a fragrance in the memory of the observer, the observer can be immersed in a revived sense of presence.

[0033]

When replacing the photograph PC, the photo frame 103 is removed from the auxiliary member 104. In the photo frame 103, the first holder 114 is removed from the plate member 111. The first holder 114 is driven along the guide path from the first position to the second position. The photograph chamber is opened. The photograph PC is taken out from the recess 118. In this way, the photograph PC can be separated from the plate member 111 independently.

[0034]

A new photograph PC is set in the recess 118. The photograph PC is overlaid on the first plane 107. The image of the photograph PC is aligned with the transparent plate 102. The first holder 114 is attached to the plate member 111. The first holder 114 is driven along the guide path from the second position to the first position. The first holder 114 closes the photograph chamber. In this way, the photograph PC can be replaced.

[0035]

A user of the photo stand 101 can replenish the sheet 108 with the fragrance component. When replenishing the fragrance component, the photo frame 103 is removed from the auxiliary member 104. In the photo frame 103, the second holder 115 is removed from the plate member 111. The second holder 115 is driven along the guide path from the first position to the second position. The sheet chamber is opened. The sheet 108 is taken out from the recess 123. In this way, the sheet 108 can be separated from the plate member 111 independently. When replenishing the fragrance component, the user may immerse the sheet 108 in a liquid containing the fragrance component, or may spray the liquid containing the fragrance component (e.g., perfume) onto the sheet 108.

[0036]

The sheet 108 is set in the recess 123. The sheet 108 is overlaid on the second plane 109. The second holder 115 is attached to the plate member 111. The second holder 115 is driven along the guide path from the second position to the first position. The second holder 115 closes the sheet chamber. In this way, the sheet 108 can be replenished with the fragrance component. Even if the fragrance disappears once, the user can enjoy the fragrance again according to the replenishment. Even if the fragrance weakens, the fragrance can be strengthened according to the replenishment.

[0037]

When the second holder 115 is removed from the plate member 111, the sheet 108 can be separated from the plate member 111 independently. Since the sheet 108 is an absorbent of the fragrance component itself, the fragrance component just needs to permeate the sheet 108. For example, as with perfume, the fragrance component just needs to be sprayed onto the sheet. The fragrance component can be replenished quickly and easily. Then, the fragrance can be easily switched to another fragrance by replacing the sheet 108 alone. As with perfume, a different fragrance component just needs to be sprayed onto a new sheet 108.

[0038]

Moreover, since the photograph PC and the sheet 108 are individually held on the first plane 107 and the second plane 109, the sheet 108 is placed apart from the photograph PC. Contact between the photograph PC and the sheet 108 can be favorably avoided. The fragrance component can be prevented from permeating the photograph PC from the sheet 108.

[0039]

The plate member 111 of the present embodiment is a resin plate that defines the first plane 107 and the second plane 109 on the back surface and has a transparent region covering the image of the photograph PC. An observer can observe the image of the

photograph PC through the transparent region. The plate member 111 can protect the image of the photograph PC while ensuring visibility of the image. Here, upon removal of the second holder 115, the first holder 114 can be maintained on the plate member 111. When replacing the sheet 108, the photograph PC can continue to be held on the plate member 111 as it is. Displacement of the photograph PC can be avoided when replacing the sheet 108.

[0040]

In the present embodiment, the second holder 115 is a slider that is guided by a pair of second rails 121 extending linearly in parallel on two sides of the second plane 109, and that is configured to be displaced between a first position where the sheet 108 is held along the second plane 109 and a second position where the sheet 108 is separated from the second plane 109. Since the second rails 121 are placed on the back surface of the plate member 111, the front surface of the plate member 111 can be maintained as a smooth surface. The visibility of the image can be favorably maintained. Depending on the displacement of the second holder 115, the sheet 108 can be removed from the plate member 111. Here, an outwardly facing surface flush with the second rails 121 can be formed on the second holder 115. In this way, a shape of the back surface can be adjusted in the plate member 111.

[0041]

As described above, the plate member 111 is formed of a transparent body. An opaque film 112 that covers and hides the edge of the photograph PC is formed on the front surface of the plate member 111. The plate member 111 can be molded from a single piece of transparent material. The plate member 111 can be molded by a simple process. Inexpensive molding can be realized. On the other hand, since the edge of the photograph PC is hidden by the opaque film 112, the image can be favorably emphasized.

[0042]

The first holder 114 is a slider that is guided by a pair of first rails 116 extending in parallel on two sides of the first plane 107, and that is configured to be displaced between a first position where the photograph PC is held along the first plane 107 and a second position where the photograph PC is separated from the first plane 107. Since the first rails 116 are placed on the back surface of the plate member 111, the front surface of the plate member 111 can be maintained as a smooth surface. The visibility of the image can be favorably maintained. Depending on the displacement of the first holder 114, the photograph PC can be removed from the plate member 111. Here, an outwardly facing surface flush with the first rails 116 can be formed on the first holder 114. In this way, a shape of the back surface can be adjusted in the plate member 111.

[0043]

As depicted in Fig. 7, in place of the aforementioned auxiliary member 104, an auxiliary member 131 may be a shaft body 132 attached to the plate member 111 and extending rearward from the back surface of the plate member 111. The shaft body 132 has, for example, a screw shaft 133 having an axis orthogonal to the back surface of the plate member 111. The shaft body 132 may be formed, for example, into a cylindrical body coaxial with the screw shaft 133. The screw shaft 133 is screwed into the back surface of the plate member 111. In this way, the shaft body 132 can be detachably fixed to the plate member 111 according to the coupling of the screw. The shaft body 132 can be molded from a metal material such as aluminum, for example.

[0044]

According to the shaft body 132, the photo frame 103 is supported by the horizontal plane PL at the rear lower end of the plate member 111, and the shaft body 132 is supported by the horizontal plane PL at the rear end. Since the rear lower end of the plate member 111 is located forward of the center of gravity of the photo frame 103 and the rear end of the shaft body 132 is located rearward of the center of gravity of the photo frame 103, the shaft body 132 can support the photo frame 103 in the upright position on the horizontal plane PL. Here, the photo frame 103 tilts backward at a specific angle around the rear lower end.

[0045]

As depicted in Fig. 8, in place of the aforementioned auxiliary members 104 and 131, an auxiliary member 134 may be a heavy object 135 installed on the horizontal plane PL. The heavy object 135 may be formed into a rectangular parallelepiped from, for example, stainless steel or other lumps of metal having a specific gravity of 7 or more. A linear groove 136 extending horizontally is formed on an upper surface of the heavy object 135. For example, the lower end of the photo frame 103 can be inserted into the groove 136 from above. At this time, the center of gravity of the heavy object 135 and the photo frame 103 is placed within a contact area between the heavy object 135 and the horizontal plane PL. As a result, the heavy object 135 can hold the photo frame 103 in the upright position on the horizontal plane PL.

[0046]

Fig. 9 schematically illustrates a photo stand according to a second embodiment. A photo stand 141 includes a photo frame 143 that diffuses a fragrance while presenting an image of a photograph PC through a transparent plate 142, and an auxiliary member 144 that holds the photo frame 143 in an erecting posture on a horizontal plane PL. For the photograph PC, a photographic print printed on paper, an instant film including a white margin around an image, or the like can be used. The transparent plate 142 can be formed

of, for example, a glass plate. The photograph PC is overlaid on a back surface of the transparent plate 142. A frame 146 defining a window 145 that displays the image of the photograph PC is overlaid on a front surface of the transparent plate 142. The frame 146 can be molded from an opaque hard resin material or wood. The frame 146 covers and hides an edge of the transparent plate 142 over the entire circumference of the transparent plate 142. An observer can observe the image of the photograph PC through the transparent plate 142.

[0047]

As depicted in Fig. 10, the photo frame 143 includes a plate member 153 defining, on a front surface, a first plane 151 for receiving the photograph PC, and defining, on a back surface, a second plane 152 for receiving an elongated sheet 108 containing a fragrance component. The second plane 152 is separated from the first plane 151. The plate member 153 can be formed of, for example, an opaque body as a whole. The plate member 153 can be molded from, for example, an opaque hard resin material or wood. The plate member 153 is formed of a material that blocks ventilation (air-impermeable material). When the plate member 153 is fitted into the frame 146 from behind, the first plane 151 presses the photograph PC against the back surface of the transparent plate 142. In this way, the photograph PC is held along the first plane 151. The frame 146 and the transparent plate 142 cooperatively constitute a first holder according to the present invention.

[0048]

A fastener 154 that holds the plate member 153 fitted into the frame 146 is attached to the frame 146. The fastener 154 is displaced between a first position where the fastener 154 engages with the back surface of the fitted plate member 153 from behind and a second position where the fastener 154 rotates from the first position around a rotation axis 155 to disengage from the plate member 153. When all fasteners 154 disengage from the plate member 153 at the second position, the plate member 153 can be removed from the frame 146. The photograph PC can be replaced in accordance with the removal of the plate member 153.

[0049]

The photo frame 143 further includes a second holder 156 detachably attached to the plate member 153 and configured to hold the sheet 108 along the second plane 152. The second holder 156 is a slider that is guided by a pair of slide rails 157 extending in parallel on two sides of the second plane 152, and that is configured to be displaced between a first position where the sheet 108 is held along the second plane 152 and a second position where the sheet 108 is separated from the second plane 152. The slide rail 157 linearly extends horizontally. A smooth surface 158 is defined on the back surface of

the plate member 153 between the slide rails 157. The slide rail 157 defines a guide path in contact with the smooth surface 158. In defining the guide path, the slide rail 157 forms a restriction edge 157a for accepting the second holder 156 between the slide rail 157 and the smooth surface 158. The restriction edge 157a allows horizontal movement of the second holder 156 along the guide path while restricting separation of the second holder 156 from the second plane 152 except for the horizontal movement. At this time, an access passage 159 continuous from the guide path and open at the periphery of the frame 146 is defined in the frame 146. The second holder 156 passes through the access passage 159 upon displacement in the horizontal direction.

[0050]

Here, the second plane 152 is defined on an inner surface of a recess 161 formed in the smooth surface 158. The recess 161 is closed by the second holder 156 overlapping the smooth surface 158 at the first position, and defines a sheet chamber for containing the sheet 108 between the second holder 156 and the second plane 152. The second holder (slider) 156 is formed as a flat plate that blocks the guide path at the first position. An upper edge of the flat plate engages with the restriction edge 157a of the upper slide rail 157. A lower edge of the flat plate engages with the restriction edge 157a of the lower slide rail 157.

[0051]

The second holder (slider) 156 can be molded from, for example, a hard acrylic resin. The second holder 156 is formed of a material that blocks ventilation (air-impermeable material). The second holder 156 has a through hole 162 connecting the sheet chamber to an outer space. The fragrance component of the sheet 108 can be diffused from the through hole 162 into the outer space.

[0052]

The auxiliary member 144 includes a support leg 164 attached to the plate member 153 and displaced between a first position where the support leg 164 overlaps the plate member 153 and a second position where the support leg 164 rotates from the first position around a rotation axis 163 to separate from the plate member 153 at a determined angle around the rotation axis 163 (by a predetermined angle). The support leg 164 can be formed of, for example, a polygonal flat plate overlapping the plate member 153. The support leg 164 defines a first edge 164a extending linearly parallel to the lower edge of the frame 146 at a position apart from the rotation axis 163, and a second edge 164b extending linearly parallel to the side edge of the frame 146 at a position apart from the rotation axis 163.

[0053]

Similar to a general photo stand, when the support leg 164 at the second position is supported by the horizontal plane PL at the first edge 164a while the lower edge of the frame 146 is supported by the horizontal plane PL, the support leg 164 can hold the photo frame 143 in a vertically erecting posture on the horizontal plane PL. At this time, the frame 146 tilts backward at a specific angle around the lower edge. The lower edge of the frame 146 is located forward of the center of gravity of the photo frame 143, and the first edge 164a of the support leg 164 is located rearward of the center of gravity of the photo frame 143. When the support leg 164 at the second position is supported by the horizontal plane PL at the second edge 164b while the side edge of the frame 146 is supported by the horizontal plane PL, the support leg 164 can hold the photo frame 143 in a horizontally erecting posture on the horizontal plane PL. At this time, the frame 146 tilts backward at a specific angle around the side edge. The side edge of the frame 146 is located forward of the center of gravity of the photo frame 143, and the second edge 164b of the support leg 164 is located rearward of the center of gravity of the photo frame 143.

[0054]

Similar to a general photo stand, the photo frame 143 may include a first keyhole member 166 and a second keyhole member 167 for hanging on a wall. The first keyhole member 166 and the second keyhole member 167 are attached to the frame 146. Alternatively, the first keyhole member 166 and the second keyhole member 167 may be attached to the back surface of the plate member 153. The first keyhole member 166 has a long hole 166a extending in a vertical direction relative to the vertical frame 146, and an entrance hole 166b having an enlarged diameter and continuing to a lower end of the long hole 166a in a gravitational direction. Similarly, the second keyhole member 167 has a long hole 167a extending in a vertical direction relative to the horizontal frame 146, and an entrance hole 167b having an enlarged diameter and continuing to a lower end of the long hole 167a in the gravitational direction. A metal fitting (not shown) on the wall may include a shaft body extending perpendicularly horizontally from the wall and guided along the long holes 166a, 167a, and an enlarged head coupled to a tip of the shaft body, allowed to enter and exit the entrance holes 166b, 167b, and prevented from coming off from the long holes 166a, 167a.

[0055]

Next, the operation of the photo stand 141 according to the second embodiment will be described. The photo stand 141 is installed on a horizontal plane PL of a desk, shelf, or other furniture. For example, in the case of a portrait photograph PC, the lower edge of the frame 146 and the first edge 164a of the support leg 164 are supported by the horizontal plane PL. At the time of such installation, the support leg 164 is restricted to the second position around the rotation axis 163. The frame 146 is placed in the erecting posture on the horizontal plane PL. The image of the photograph PC is presented forward through the

transparent plate 142. An observer can enjoy viewing the image. In the case of a landscape photograph PC, the side edge of the frame 146 and the second edge 164b of the support leg 164 are supported by the horizontal plane PL.

[0056]

The fragrance component is diffused from the sheet 108. The fragrance component flows out from the through hole 162 into the outer space of the sheet chamber. The fragrance component diffuses into the atmosphere. In this way, the observer can enjoy the fragrance while viewing the image. The sensitivity of vision can be enhanced by the sensitivity of smell. When past visual information is associated with a fragrance in the memory of the observer, the observer can be immersed in a revived sense of presence.

[0057]

When replacing the photograph PC, the plate member 153 is removed from the frame 146. Upon removal, the fastener 154 is driven from the first position to the second position around the rotation axis 155. The plate member 153 is separated from the photograph PC in accordance with the removal. The second holder 156 is maintained on the plate member 153. The photograph PC is peeled off from the back surface of the transparent plate 142. The transparent plate 142 can remain on the frame 146.

[0058]

A new photograph PC is set in the frame 146 from behind. The photograph PC is overlaid on the transparent plate 142. The image of the photograph PC is aligned with the window 145 of the frame 146. The plate member 153 is attached to the frame 146. Upon attachment, the fastener 154 is driven from the second position to the first position around the rotation axis 155. In this way, the photograph PC can be replaced.

[0059]

A user of the photo stand 141 can replenish the sheet 108 with the fragrance component. When replenishing the fragrance component, the coupling between the plate member 153 and the frame 146 can be maintained. The second holder 156 is removed from the plate member 153. The second holder 156 is driven along the guide path from the first position to the second position. The sheet chamber is opened. The sheet 108 is taken out from the recess 161. In this way, the sheet 108 can be separated from the plate member 153 independently. When replenishing the fragrance component, the user may immerse the sheet 108 in a liquid containing the fragrance component, or may spray the liquid containing the fragrance component (e.g., perfume) onto the sheet 108.

[0060]

The sheet 108 is set in the recess 161. The sheet 108 is overlaid on the second plane

152. The second holder 156 is attached to the plate member 153. The second holder 156 is driven along the guide path from the second position to the first position. The second holder 156 closes the sheet chamber. In this way, the sheet 108 can be replenished with the fragrance component. Even if the fragrance disappears once, the user can enjoy the fragrance again according to the replenishment. Even if the fragrance weakens, the fragrance can be strengthened according to the replenishment.

[0061]

When the second holder 156 is removed from the plate member 153, the sheet 108 can be separated from the plate member 153 independently. Since the sheet 108 is an absorbent of the fragrance component itself, the fragrance component just needs to permeate the sheet 108. For example, as with perfume, the fragrance component just needs to be sprayed onto the sheet. The fragrance component can be replenished quickly and easily. Then, the fragrance can be easily switched to another fragrance by replacing the sheet 108 alone. As with perfume, a different fragrance component just needs to be sprayed onto a new sheet 108.

[0062]

The plate member 153 of the present embodiment defines the first plane 151 on the front surface and defines the second plane 152 on the back surface. The transparent plate 142 of the first holder is disposed on the front surface of the plate member 153 and holds the photograph PC between the transparent plate 142 and the plate member 153. The second holder 156 is disposed on the back surface of the plate member 153 and holds the sheet 108 between the second holder 156 and the plate member 153. The photograph PC and the sheet 108 are physically separated by the plate member 153. Contact between the photograph PC and the sheet 108 can be favorably avoided. The fragrance component can be prevented from permeating the photograph PC from the sheet 108. Moreover, the photograph PC can be kept away from a path of the vaporized fragrance component. Transfer of the fragrance component from the sheet 108 to the photograph PC can also be favorably prevented.

[0063]

The support leg 164 and the keyhole members 166, 167 may be attached to a magnetic flat plate. For example, the photo frame 103 can be fixed to the flat plate according to the magnetic force of the magnet 124. For example, in the case of a portrait photograph PC, the lower end of the flat plate and the first edge 164a of the support leg 164 need only be supported by the horizontal plane PL. At the time of such installation, the support leg 164 is restricted to the second position around the rotation axis 163. The frame 146 is placed in the erecting posture on the horizontal plane PL. The image of the photograph PC is presented forward through the transparent plate 102. An observer can

enjoy viewing the image. In the case of a landscape photograph PC, the side edge of the flat plate and the second edge 164b of the support leg 164 need only be supported by the horizontal plane PL.

[0064]

Fig. 11 schematically illustrates a photo frame utilized for a photo stand according to a third embodiment. A photo frame 173 of the present embodiment can form a photo stand 101 by being combined with the aforementioned auxiliary member 104. The photo frame 173 includes a plate member 176 defining, on a front surface, a first plane 174 for receiving the photograph PC, and defining, on a back surface, a second plane 175 for receiving the sheet 108. The second plane 175 is separated from the first plane 174. The plate member 176 can be formed of, for example, a transparent body as a whole. The transparent body can be molded from, for example, a hard acrylic resin. Alternatively, the plate member 176 may be formed from an opaque material. The plate member 176 is formed of a material that blocks ventilation (air-impermeable material).

[0065]

The photo frame 173 further includes a first holder 177 detachably attached to the plate member 176 and configured to hold the photograph PC along the first plane 174, and a second holder 178 detachably attached to the plate member 176 and configured to hold the sheet 108 along the second plane 175. The first holder 177 is overlaid on the front surface of the plate member 176 and holds the photograph PC between the first holder 177 and the plate member 176. The first holder 177 can be formed of, for example, a transparent body as a whole. The transparent body can be molded from, for example, a hard acrylic resin. An observer can observe the image of the photograph PC through the first holder 177. Here, a contour of the first holder 177 is overlaid on a contour of the plate member 176. Therefore, the first holder 177 and the plate member 176 can be recognized as one rectangular parallelepiped.

[0066]

In attaching the first holder 177, a first magnetic body 181 is fixed to the front surface of the plate member 176 at a position offset from the first plane 174 (photograph PC). A first magnet 182 that exerts a magnetic force individually acting on the first magnetic body 181 is fixed to a back surface of the first holder 177. The first magnet 182 is embedded in the back surface of the first holder 177. When the first holder 177 is received on the front surface of the plate member 176, the first magnetic body 181 comes into surface contact with the first magnet 182. The first magnetic body 181 needs only have a contour that overlaps the first magnet 182 when the first holder 177 is overlaid on the plate member 176. The first holder 177 is fixed to the plate member 176 by the magnetic force. The photograph PC is sandwiched between the overlaid plate member 176 and first holder

177. The first magnetic body 181 and the first magnet 182 may be formed of a transparent material. The first magnetic body 181 may be embedded in the front surface of the plate member 176.

[0067]

The second holder 178 is overlaid on the back surface of the plate member 176 and holds the sheet 108 between the second holder 178 and the plate member 176. The sheet 108 is positioned inside a contour of the photograph PC projected onto the back surface of the plate member 176 in a direction orthogonal to the front surface of the plate member 176. The second holder 178 can be formed of, for example, a transparent body as a whole. The transparent body can be molded from, for example, a hard acrylic resin. The second holder 178 is formed of a material that blocks ventilation (air-impermeable material). Here, a contour of the second holder 178 is overlaid on the contour of the first holder 177 and the plate member 176. Therefore, the first holder 177, the plate member 176, and the second holder 178 can be recognized as one rectangular parallelepiped. Alternatively, the second holder 178 may be formed from an opaque material.

[0068]

In attaching the second holder 178, a second magnet 183 is fixed to the back surface of the plate member 176. The second magnet 183 is placed inward of a contour of the first magnetic body 181 projected in a direction orthogonal to the front surface of the plate member 176. A second magnetic body 184 coupled to the corresponding second magnet 183 based on the magnetic force acting from the second magnet 183 is fixed to a front surface of the second holder 178. The second magnet 183 is embedded in the back surface of the plate member 176. When the second holder 178 is received on the back surface of the plate member 176, the second magnetic body 184 comes into surface contact with the second magnet 183. The second magnetic body 184 needs only have a contour that overlaps the second magnet 183 when the second holder 178 is overlaid on the plate member 176. The second holder 178 is fixed to the plate member 176 by the magnetic force. The sheet 108 is sandwiched between the overlaid plate member 176 and second holder 178. The second magnetic body 184 and the second magnet 183 may be formed of a transparent material. A gap is formed between the back surface of the plate member 176 and the front surface of the second holder 178 based on the thickness of the sheet 108 and the thickness of the second magnetic body 184. As long as the gap is ensured, the second magnetic body 184 may be embedded in the front surface of the second holder 178.

[0069]

A third magnet 185 is fixed to a back surface of the second holder 178. The third magnet 185 is placed inward of a contour of the second magnetic body 184 projected in a direction orthogonal to the front surface of the second holder 178. The third magnet 185 is

embedded in the back surface of the second holder 178. When the photo frame 173 is received by the flat plate 105 of the auxiliary member 104, the third magnet 185 comes into surface contact with the front surface of the flat plate 105. The photo frame 173 is held on the flat plate 105 by the magnetic force. Here, the second holder 178 can be configured similarly to the plate member 176. If the plate member 176 and the second holder 178 are made common, the manufacturing cost can be reduced.

[0070]

Next, the operation of the photo frame 173 according to the third embodiment will be described. The photo frame 173 can be connected to the auxiliary member 104 of the photo stand 101 in place of the aforementioned photo frame 103. The photo stand 101 is installed on a horizontal plane PL of a desk, shelf, or other furniture. The leg plate 106 of the auxiliary member 104 is overlaid on the horizontal plane PL. The flat plate 105 is placed in the erecting posture on the horizontal plane PL. The photo frame 173 is fixed to the flat plate 105. The magnet 185 couples the photo frame 173 to the flat plate 105. The image of the photograph PC is presented forward through the first holder 177. An observer can enjoy viewing the image. Since the photo frame 173 is coupled to the auxiliary member 104 by magnetic force, the photo frame 173 can be easily removed from the auxiliary member 104.

[0071]

The fragrance component is diffused from the sheet 108. The fragrance component passes through the gap between the plate member 176 and the second holder 178 and diffuses into the atmosphere from the outer periphery of the photo frame 173. The observer can enjoy the fragrance while viewing the image. The sensitivity of vision can be enhanced by the sensitivity of smell. When past visual information is associated with a fragrance in the memory of the observer, the observer can be immersed in a revived sense of presence.

[0072]

When replacing the photograph PC, the photo frame 103 is removed from the auxiliary member 104. In the photo frame 103, the first holder 114 is removed from the plate member 111. The first holder 114 is driven along the guide path from the first position to the second position. The photograph chamber is opened. The photograph PC is taken out from the recess 118. In this way, the photograph PC can be separated from the plate member 111 independently.

[0073]

A new photograph PC is overlaid on the first plane 174 of the plate member 176. The image of the photograph PC is aligned. The first holder 177 is attached to the plate member 176. The first holder 177 is overlaid on the front surface of the plate member 176.

The first holder 177 covers the photograph PC. The first holder 177 is fixed to the plate member 176 according to the magnetic force of the first magnet 182. In this way, the photograph PC can be replaced.

[0074]

A user of the photo stand 101 can replenish the sheet 108 with the fragrance component. When replenishing the fragrance component, the photo frame 173 is removed from the auxiliary member 104. In the photo frame 173, the second holder 178 is removed from the plate member 176. The second holder 178 is coupled to the plate member 176 by the magnetic force of the second magnet 183, so the second holder 178 can be easily removed from the plate member 176. The sheet 108 is removed from the second plane 175. The sheet 108 can be separated from the plate member 176 independently. When replenishing the fragrance component, the user may immerse the sheet 108 in a liquid containing the fragrance component, or may spray the liquid containing the fragrance component (e.g., perfume) onto the sheet 108.

[0075]

The sheet 108 is overlaid on the second plane 175 of the plate member 176. The sheet 108 is aligned. The second holder 178 is attached to the plate member 176. The second holder 178 is overlaid on the back surface of the plate member 176. The second holder 178 covers the sheet 108. The second holder 178 is fixed to the plate member 176 according to the magnetic force of the second magnet 183. In this way, the sheet 108 can be replenished with the fragrance component. Even if the fragrance disappears once, the user can enjoy the fragrance again according to the replenishment. Even if the fragrance weakens, the fragrance can be strengthened according to the replenishment.

[0076]

When the second holder 178 is removed from the plate member 176, the sheet 108 can be separated from the plate member 176 independently. Since the sheet 108 is an absorbent of the fragrance component itself, the fragrance component just needs to permeate the sheet 108. For example, as with perfume, the fragrance component just needs to be sprayed onto the sheet. The fragrance component can be replenished quickly and easily. Then, the fragrance can be easily switched to another fragrance by replacing the sheet 108 alone. As with perfume, a different fragrance component just needs to be sprayed onto a new sheet 108.

[0077]

The plate member 176 of the present embodiment defines the first plane 174 on the front surface and defines the second plane 175 on the back surface. The first holder 177 is overlaid on the front surface of the plate member 176 and holds the photograph PC

between the first holder 177 and the plate member 176. The second holder 178 is overlaid on the back surface of the plate member 176 and holds the sheet 108 between the second holder 178 and the plate member 176. The photograph PC and the sheet 108 are physically separated by the plate member 176. Contact between the photograph PC and the sheet 108 can be favorably avoided. The fragrance component can be prevented from permeating the photograph PC from the sheet 108. Moreover, the photograph PC can be kept away from a path of the vaporized fragrance component. Transfer of the fragrance component from the sheet 108 to the photograph PC can also be favorably prevented.

[0078]

In the present embodiment, the sheet 108 is positioned inside a contour of the photograph PC projected onto the back surface of the plate member 176 in a direction orthogonal to the front surface of the plate member 176. Since the sheet 108 is placed behind the photograph PC, even if both the first holder 177 and the plate member 176 are molded from a single piece of transparent material, the sheet 108 can be hidden by the photograph PC from the front side. The image of the photograph PC can stand out favorably.

[0079]

Fig. 12 schematically illustrates a product packaging unit according to an embodiment of the present invention. A product packaging unit 191 includes an outer box 192. The outer box 192 is formed of a lower outer box 193 and an upper outer box 194 that covers the lower outer box 193 from above. As depicted in Fig. 13, the lower outer box 193 includes a bottom plate 193a shaped in a rectangle or square and four side plates 193b respectively standing at right angles from four sides of the bottom plate 193a. An accommodation space of rectangular parallelepiped is defined inside the lower outer box 193. An inner box (product packaging box) 11 is contained within the accommodation space. The bottom plate 193a and the side plates 193b are each a flat paper plate. The bottom plate 193a and the side plates 193b, as well as the side plates 193b with each other are coupled along respective edges. The lower outer box 193 has a seamless, continuous appearance along the edges.

[0080]

The upper outer box 194 includes a top panel 194a shaped in a rectangle or square and four side plates 194b respectively extending downward from four sides of the top panel 194a. The top panel 194a is supported by upper ends of the side plates 193b of the lower outer box 193 and closes an opening 195 of the lower outer box 193 surrounded by the side plates 193b. The side plates 194b of the upper outer box 194 surround the side plates 193b of the lower outer box 193. The top panel 194a and the side plates 194b are each a flat paper plate. The top panel 194a and the side plates 194b, as well as the side

plates 194b with each other are coupled along respective edges. An upper surface of the upper outer box 194 may be printed with, for example, a logo of a distributor or a manufacturer. The upper outer box 194 has a seamless, continuous appearance along the edges. The upper outer box 194 is entirely opaque. In addition, the top panel 194a may be made of a transparent resin material.

[0081]

As depicted in Fig. 14, the inner box 11 includes a lower box component 12 and an upper box component 13 placed on the lower box component 12 to form a rectangular parallelepiped box in combination with the lower box component 12. The lower box component 12 includes a hard molded resin body having a bottom plate 14a shaped in a rectangle or square and four side walls 14b respectively standing at right angles from four sides of the bottom plate 14a, and a covering paper 15 adhered to outer surfaces of the hard molded resin body so as to decorate the hard molded resin body. The upper box component 13 includes a hard molded resin body having a top panel 16a that receives the photo frame 103 within a recess 61 shaped in a rectangle or square and side walls 16b respectively extending downward from four sides of the top panel 16a to mate their lower ends with respective upper ends of the side walls 14b of the lower box component 12 to form side walls of the inner box 11, and a covering paper 17 adhered to outer surfaces of the hard molded resin body so as to decorate the molded resin body. The covering papers 15, 17 may be a sueded paper, a cloth-like paper, or the like. The covering paper 17 covers an inner surface of the recess 61. The inner surface of the recess 61 is neatly covered with the covering paper 17. The upper box component 13 is formed of a material that blocks ventilation (air-impermeable material) at least in a region that partitions off the recess 61.

[0082]

The photo frame 103 is fitted to a contour of the recess 61 and fixed within the recess 61. The plate member 111 is fitted into the recess 61. Upon fitting, the plate member 111 comes into contact with an inner wall surface of the recess 61, for example, at an upper end and a lower end in a plan view. The upper end and the lower end (or any one of the upper end and the lower end) in the plan view position the plate member 111 in an upper-lower direction in the plan view. The front surface of the plate member 111 defines a flat surface 63. A space above the flat surface 63 is surrounded by an enclosure 64. The enclosure 64 has a wall surface 64a erecting from a horizontal plane including the flat surface 63 along the contour of the recess 61. For each side of the contour, the wall surface 64a is continuous from the inner wall surface of the recess 61 in one vertical plane. The wall surface 64a can guide the plate member 111 downward in a vertical direction. In this way, the plate member 111 and the enclosure 64 cooperate to form a tray on an upper surface of the upper box component 13. The plate member 111 forms an entire bottom plate of the tray. Here, the recess 61 defines a space 65 that is adjacent to an outer

periphery of the plate member 111 and is open on a horizontal plane including the flat surface 63. The space 65 is located outside a left end and a right end in the plan view. The space 65 may be located at either the left end or the right end. The space 65 is open with a dimension that prevents the drop of a small object anticipated when the tray is utilized.

[0083]

As depicted in Fig. 15, a cushioning material 18 is fitted in a space of rectangular parallelepiped surrounded by the side walls 14b of the lower box component 12. The cushioning material 18 includes, for example, a sponge and a cloth 18a wrapping the sponge. A slit 19 is formed in the cushioning material 18. A ring (jewelry) 21 is inserted into the slit 19, for example. The elasticity of the cushioning material 18 serves to hold the ring 21 in the slit 19.

[0084]

The ring 21 includes an annular member 22 made from platinum having an inside diameter corresponding to the size of a finger, for example, and a diamond stone 23 fixed to the mount of the annular member 22. The diamond stone 23 may be a single stone or a plurality of stones. The diamond stone 23 exhibits a blue fluorescence equal to or stronger than strong blue, namely, strong blue or very strong blue. The diamond stone 23 exhibits a transparent brilliance under visible light (the natural light or from a normal electric light), while it shines blue under ultraviolet radiation. The diamond stone 23 is thus supported in the lower box component 12. When a plurality of diamonds 23 are arranged, the blue fluorescence of all diamonds 23 (or for each design-coherent group) may be unified to the strong blue or the very strong blue.

[0085]

A ceiling member 24 is fitted in a space of rectangular parallelepiped surrounded by the side walls 16b of the upper box component 13. The ceiling member 24 includes a dressing top panel 24a shaped in a rectangle or square to form the ceiling surface of the inner box 11, and four side lining panels 24b respectively continuous from four sides of the dressing top panel 24a to cover over inside surfaces of the four side walls 16b. Here, the four side lining panels 24b are not adhered to the inside surfaces of the side walls 16b, and the ceiling member 24 is detachably set inside the upper box component 13.

[0086]

As depicted in Fig. 16, the upper box component 13 is coupled to the lower box component 12 through a hinge 26 for swinging movement between an opened position and a closed position. The hinge 26 includes a first hinge blade 27 overlaid and fixed on the inside surface of the side wall 16b of the upper box component 13 and having a plurality of tubes 27a, a second hinge blade 28 overlaid and fixed on the inside surface of the

corresponding side wall 14b of the lower box component 12 and having a plurality of tubes 28a alternated in series with the tubes 27a of the first hinge blade 27, and a single hinge pin 29 commonly inserted into the tubes 27a of the first hinge blade 27 and the tubes 28a of the second hinge blade 28. The first hinge blade 27 and the second hinge blade 28 rotate relative to each other around the hinge pin 29. A central axis of the hinge pin 29 corresponds to a rotation axis of the upper box component 13 when opened or closed.

[0087]

A plate spring 31 is connected to the hinge 26. As depicted in Fig. 17, the plate spring 31 is formed in a bent plate keeping generatrices in parallel with the axis of the hinge pin 29. The opposite ends of the plate spring 31 are respectively coupled to the first hinge blade 27 and the second hinge blade 28 at positions spaced from the hinge pin 29. The first hinge blade 27 is positioned beside the second hinge blade 28 along a common provisional plane, and the intermediate section of the plate spring 31 gets furthest inward from the hinge pin 29, when the upper box component 13 takes the closed position where the lower end of the upper box component 13 is mated with the upper end of the lower box component 12. As the upper box component 13 displaces around the hinge pin 29 toward the opened position from the closed position, the outside angle reduces between the first hinge blade 27 and the second hinge blade 28 so that the intermediate section of the plate spring 31 gets closer to the hinge pin 29. As depicted in Fig. 18, when the intermediate section of the plate spring 31 is in contact with the hinge pin 29, a further displacement of the upper box component 13 is restrained around the hinge pin 29 relative to the lower box component 12, and the opened position of the upper box component 13 is defined. The plate spring 31 exerts the driving force to urge the upper box component 13 toward the closed position when an opening angle is smaller than a predetermined intermediate opening angle around the hinge pin 29. The plate spring 31 exerts the driving force to urge the upper box component 13 toward the opened position when the opening angle is larger than the predetermined intermediate opening angle. A hinge cover 32 covers the hinge 26 and the plate spring 31. The hinge cover 32 is formed of a material equivalent to that of the cloth 18a of the cushioning material 18, for example.

[0088]

A light-emitting diode (LED) lamp (light source) 33 configured to emit ultraviolet radiation based on a predetermined directivity D_v is embedded in the dressing top panel 24a for the upper box component 13. The LED lamp 33 emits an ultraviolet light of, for example, long-wavelength UV-A (optimally, a wavelength ranging from 395 nm to 405 nm). Preferably, the LED lamp 33 emits only radiation other than visible light. Preferably, the LED lamp 33 has a narrow directivity D_v . The LED lamp 33 has a directivity D_v such that the emitted ultraviolet radiation is blocked by the lower box component 12 over the entire irradiation area.

[0089]

A battery 35 is connected to the LED lamp 33. The battery 35 is contained within a battery chamber 34 defined between the top panel 16a of the resin molded body and the dressing top panel 24a. A thin button cell may be utilized as the battery 35, for example. Here, for example, button cells are connected in series. Current is supplied to the LED lamp 33 from the battery 35.

[0090]

A switch 36 configured to control the supply of current to the LED lamp 33 and the termination of the current is established in the hinge 26 and the plate spring 31. A first contact 37 is fixed to an intermediate section of the plate spring 31 while being electrically insulated from the plate spring 31. The hinge 26 functions as a second contact establishing the switch 36 in combination with the first contact 37. Accordingly, the hinge 26 is formed of an electrically conductive material. The first contact 37 is formed of an electrically conductive material such as copper, for example. An insulator is interposed between the first contact 37 and the plate spring 31, for example. The first contact 37 is placed on a surface facing the hinge pin 29 in the plate spring 31. The first contact 37 is in contact with the hinge 26 at the opened position of the upper box component 13, and is spaced apart from the hinge 26 at positions other than the opened position.

[0091]

In fixing the photo frame 103, a magnetic body 66 can be incorporated in the upper box component 13. The magnetic body 66 includes, for example, a thin plate forming a bottom surface of the recess 61. The thin plate may be, for example, a stainless steel plate. The magnet 124 of the photo frame 103 comes into surface contact with the surface of the magnetic body 66. The magnetic force of the magnet 124 couples the photo frame 103 to the magnetic body 66. The photo frame 103 is fixed in the recess 61 by the function of the magnet 124. The photo frame 103 can be favorably held within the recess 61 regardless of the opening and closing of the upper box component 13.

[0092]

As depicted in Fig. 19, in the inner box 11, a light irradiation circuit 38 according to a first specific example including the LED lamp 33, the battery 35, and the switch 36 is established. The LED element of the LED lamp 33 is connected in series with the battery 35 in the light irradiation circuit 38. A time-delay normally open contact (hereinafter referred to as "timer contact") 39 is connected in series with the LED lamp 33. The switch 36 and a timer 41 are connected in parallel with the LED lamp 33 and the timer contact 39. When the switch 36 is closed, the timer 41 starts to operate, and the timer contact 39 closes after a predetermined time (hereinafter referred to as a "first time") has elapsed. As a result,

the LED lamp 33 is energized. When the switch 36 opens, the timer 41 is reset, and the timer contact 39 opens. As a result, the LED lamp 33 turns off.

[0093]

As depicted in Fig. 20, an audio playback unit 45 that plays back recorded audio is incorporated in the inner box 11. The audio playback unit 45 includes an audio circuit 48 that acquires an audio signal from a microphone 46 and supplies the audio signal to a speaker 47. The audio circuit 48 is connected to the battery 35. The audio circuit 48 operates by receiving a voltage of the battery 35.

[0094]

The microphone 46 detects vibrations in the air based on audio and converts the vibrations into an audio signal (electric signal). The generated audio signal is recorded in, for example, a memory 49. As the memory 49, for example, an EEPROM can be utilized. The memory 49 may be a memory that allows writing of an audio signal only once. The microphone 46 is supported by the upper box component 13 or the lower box component 12. Here, for example, the microphone 46 is contained within a space defined between the top panel 16a and the dressing top panel 24a. The top panel 16a or the dressing top panel 24a may have a through hole that is formed corresponding to a position of the microphone 46 and connects outside air to the microphone 46.

[0095]

The speaker 47 generates vibrations in the air based on the audio signal and plays back the corresponding audio. The played-back audio stimulates auditory sense of an observer. In this way, the observer can hear the audio. The speaker 47 is supported by the upper box component 13 or the lower box component 12. Here, for example, the speaker 47 is contained within the space defined between the top panel 16a and the dressing top panel 24a. The top panel 16a or the dressing top panel 24a may have a through hole that is formed corresponding to a position of the speaker 47 and connects outside air to the speaker 47.

[0096]

The audio playback unit 45 is connected to a hold circuit 51 that holds the audio playback until a predetermined time (hereinafter referred to as "second time") has elapsed since the start of ultraviolet radiation. The hold circuit 51 connects the switch 36 to the audio circuit 48. The audio circuit 48 and the light irradiation circuit 38 share the battery 35 and the switch 36. The hold circuit 51 measures (the first time + the second time) from the close of the switch 36. Here, when the predetermined second time has elapsed since the start of ultraviolet radiation, the audio circuit 48 extracts the audio signal from the memory 49 and supplies the audio signal to the speaker 47.

[0097]

A recording switch 52 is connected to the audio circuit 48. When the recording switch 52 is closed, the audio circuit 48 acquires the audio signal from the microphone 46 and stores the audio signal in the memory 49. As depicted in Fig. 21, a button of the recording switch 52 can be installed on an inner wall surface of the upper box component 13. Here, the recording switch 52 is closed as long as the button is continuously pressed. When the button is released from a pressing operation, the recording switch 52 is opened. By disposing the button inside the upper box component 13, the recording switch 52 can be protected from misoperation only by positioning the upper box component 13 at the closed position. The upper box component 13 functions as a protection component that protects the recording switch 52 from objects other than components of the inner box 11. In this way, unintended audio recording (deletion of audio due to overwriting) can be prevented. Alternatively, the recording switch 52 may be interlocked with the close of the switch 36. As a result, when the recording switch 52 is operated in a state where the upper box component 13 reaches the opened position, the audio can be recorded in the memory 49.

[0098]

The LED lamp 33, the timer contact 39, the timer 41, the audio circuit 48, the memory 49, and the hold circuit 51 may be mounted on a common printed circuit board, for example. The first contact 37 of the switch 36, the first hinge blade 27 or the second hinge blade 28 of the hinge 26, the battery 35, the microphone 46, the speaker 47 and the like need only be electrically connected to wiring patterns on the printed circuit board by wires such as vinyl coated wires. The printed circuit board may be contained within the battery chamber 34, for example.

[0099]

Next, the operation of the inner box 11 will be described. As depicted in Fig. 14, when the upper box component 13 is located at the closed position, the lower edge of the upper box component 13 is mated with the upper edge of the lower box component 12. The upper box component 13 covers over the ring 21 and hides the diamond stone 23. An observer of the inner box 11 looks at the exterior of the closed inner box 11. The diamond stone 23 is placed out of sight of the observer.

[0100]

At this time, as depicted in Fig. 17, the intermediate section of the plate spring 31 gets furthest from the hinge pin 29. Accordingly, the first contact 37 of the switch 36 is spaced from the hinge 26, namely, the second contact. The switch 36 opens. The LED lamp 33 is maintained in an off state. The operation of the audio circuit 48 is maintained in a stopped state.

[0101]

When the observer manipulates the upper box component 13 toward the opened position around the hinge pin 29 against the elasticity of the plate spring 31, the lower end of the upper box component 13 gets remote from the upper end of the lower box component 12. A visible light streams in through a gap between the upper box component 13 and the lower box component 12 toward the diamond stone 23. The diamond stone 23 is gradually exposed. The diamond stone 23 is exposed to the radiation of the visible light. Accordingly, the diamond stone 23 exhibits a transparent brilliance.

[0102]

When the opening angle of the upper box component 13 increases beyond the predetermined intermediate opening angle, the plate spring 31 drives the upper box component 13 toward the opened position. As a result, the upper box component 13 reaches the opened position of maximum opening angle. The upper box component 13 is held at the opened position of maximum opening angle according to the elasticity of the plate spring 31. The flat surface 63 of the upper box component 13 is located at a higher position as a distance from the rotation axis increases. As depicted in Fig. 15, the observer can visually recognize the diamond stone 23 without blockage of the upper box component 13. The diamond stone 23 shines clear and white (transparent) under a visible light (the natural light or from a normal electric light).

[0103]

When the upper box component 13 reaches the opened position, as depicted in Fig. 18, the intermediate section of the plate spring 31 is urged against the hinge pin 29 under the elasticity of the plate spring 31. In this way, the first contact 37 comes into contact with the hinge 26, namely, the second contact. The switch 36 closes. When the first time has elapsed after the close (ON operation) of the switch 36, the LED lamp 33 lights up. The LED lamp 33 starts emitting ultraviolet radiation toward the diamond stone 23. The diamond stone 23 shines blue.

[0104]

After the diamond 23 has been observed shining with a clear brilliance for a while following the opening of the upper box component 13, the diamond 23 changes from clear to blue. A visual performance effect is in this manner accomplished in response to the opening action of the upper box component 13. Since the plate spring 31 exerts the driving force for positioning the upper box component 13 at the opened position, the diamond 23 is prevented from starting to change the color at an intermediate position between the closed position and the opened position, and the observer can reliably witness the change in the color of the diamond 23.

[0105]

When the second time has elapsed from the start of ultraviolet irradiation, the audio circuit 48 plays back the recorded audio. For example, in the case of a present, the audio of a giver (for example, "Will you marry me?" or "Let's stay together from now on") can be delivered to the observer. Since the audio playback is delayed relative to the visual effect of the diamond stone 23, the visual effect of the diamond stone 23 and an audio performance effect sequentially act on the observer. The observer can be aware of an auditory effect (including language processing) of the audio after being aware of the visual effect of the diamond stone 23. The audio performance effect is superimposed on the visual effect. According to the insight of the present inventor, since a person cannot be aware of a plurality of senses at the same time, a synergistic effect of visual and audio can be strengthened by delaying the audio playback from the visual effect, compared to when the audio performance effect progresses simultaneously with the visual effect. This type of performance effect allows the observer of the inner box 11 to experience an emotion that cannot be tasted elsewhere.

[0106]

When the switch 36 is opened, the LED lamp 33 turns off. The audio circuit 48 ends supplying the audio signal. The audio playback ends.

[0107]

Prior to giving the present, the audio of the giver is recorded in advance on the inner box 11. For recording, the upper box component 13 is positioned at the opened position. The giver speaks (for example, "Will you marry me?" or "Let's stay together from now on") into the microphone 46 while pressing the recording switch 52. The audio circuit 48 operates in accordance with the close of the recording switch 52. The audio is converted into the audio signal by the microphone 46. The audio signal is stored in the memory 49. When the finger is released from the button of the recording switch 52, the audio recording ends.

[0108]

Here, the cloth 18a of the cushioning material 18 may be colored in black or dark blue. According to such coloring, even when the visible light adjacent to an ultraviolet region is slightly mixed into the light beam of the LED lamp 33, the visible light illuminating the cloth 18a is not noticeable. The light beam from the LED lamp 33 can be excluded from the vision of the observer.

[0109]

For example, it is assumed that a man and a woman visit a jewelry store to purchase

jewelry. The interior of a jewelry store is filled with a fragrance specific to the jewelry store or a brand. Here, the sheet 108 of the photo frame 103 can contain the fragrance component that evokes the fragrance in the store. Thus, the fragrance in the jewelry store is associated with the inner box 11. When the ring 21 is purchased in the jewelry store, the purchase scene can be associated with the fragrance. The fragrance is strongly retained in the memory of the man and the woman.

[0110]

When the inner box 11 is taken out of the outer box 192, the fragrance of the jewelry store wafts around the inner box 11. As depicted in Fig. 22, the fragrance component of the sheet 108 leaks out from the through hole 125 into the space 65. The leaked fragrance component is diffused upward over the upper box component 13 from the space 65. The woman can enjoy the fragrance every time the inner box 11 is taken out. If the woman receives the ring 21 as a present, the woman recalls the joy felt when receiving the present every time the woman approaches the inner box 11 at home. The inner box 11 can create an opportunity to recall the joy felt when receiving the present. The man can make a strong impression on the woman.

[0111]

The inner box 11 can be displayed in the room as a fragrance source. The woman can frequently see the inner box 11 in the room. In this way, the woman can frequently recall the joy felt when receiving the present. The man can make a strong impression on the woman.

[0112]

The enclosure 64 serves to form the tray on the upper surface of the upper box component 13. A small object such as the ring 21 or a key holder can be placed on the plate member 111. The enclosure 64 serves to hold the small object on the plate member 111. Since such a tray is utilized on a daily basis, the woman can frequently see the inner box 11. The emotions felt when receiving the present can be imprinted strongly on the memory of the woman. One who observes the inner box 11 can be left with a strong impression of the ring 21, the brand, and the jewelry store at the time of purchase.

[0113]

The plate member 111 is secured to the magnetic body 66 by the magnetic force of the magnet 124. Access to the outer periphery of the plate member 111 is permitted from the space 65. By applying the external force to the outer periphery of the plate member 111, the plate member 111 can be easily pulled up from the recess 61. The photo frame 103 can be easily removed from the upper box component 13. As described above, since the sheet 108 can be taken out of the photo frame 103, the sheet 108 can be replenished with

the fragrance component. Alternatively, the sheet 108 may be replaced with one sufficiently containing the fragrance component. In this way, the woman can enjoy the fragrance from the inner box 11 anytime. The space 65 may extend narrowly along the left edge or the right edge of the plate member 111 and be formed in a size sufficient to accept, for example, the insertion of the ring 21. In this case, for the removal of the photo frame 103, a rigid tool needs only be inserted into the space 65.

[0114]

For example, in the jewelry store, the purchase scene can be captured by an instant camera. The purchase scene can be developed on the spot on the instant film (photograph PC). The plate member 111 serves to hold the instant film within the recess 61. In this way, the photograph PC can be easily attached to the inner box 11. An observer can enjoy the image of the instant film through the transparent plate 102. The image can serve to further intensify the emotions felt when receiving the present.

[0115]

The inner box 11 according to the present embodiment produces a change in the color of the diamond stone 23 from transparency to blue fluorescence. The owner of the ring 21 uses the inner box 11 when enjoying the change in the color of the diamond stone 23. In this way, the inner box 11 continues to be owned together with the ring 21. Opportunities for the inner box 11 to be taken out increase. Opportunities to see the image of the instant film increase. With a general product, the packaging box is often discarded once the product starts to be used.

[0116]

Similarly, the inner box 11 according to the present embodiment plays back the recorded audio. Since the audio performance effect is realized in this way, the owner of the ring 21 does not throw away the inner box 11 but keeps the inner box 11 and enjoys the audio performance effect. In this way, the inner box 11 continues to be owned together with the ring 21. The opportunities for the inner box 11 to be taken out further increase. The opportunities to see the image of the instant film further increase.

[0117]

In the present embodiment, the plate member 111 of the photo frame 103 has a quadrangular contour. The plate member 111 can be held by being sandwiched between wall surfaces extending in parallel facing each other within the recess 61. The photo frame 103 not only functions as the photo stand 101 by being combined with the auxiliary member 104, but also can be assembled into the inner box 11 of the product packaging unit 191 to add the enjoyment of viewing the photograph PC to the product packaging unit 191. The photo frame 173 can be used in place of the photo frame 103 for the inner box 11 of

the product packaging unit 191.

[0118]

As depicted in Fig. 23, in incorporating the photo frame 103, a through hole 137 extending from the sheet chamber and opening to the front surface of the plate member 111 may be formed in the plate member 111. A lower end of the through hole 137 overlaps the sheet 108 inward of the contour of the sheet 108. The fragrance component of the sheet 108 can be diffused upward over the plate member 111 from the through hole 137. The fragrance wafts around the inner box 11. Here, the magnet 124 can be embedded in the back surface of the plate member 111. The back surface of the plate member 111 can be finished flush.

[0119]

Fig. 24 schematically illustrates the configuration of a light irradiation circuit according to a second specific example. The light irradiation circuit 43 includes an NPN transistor TR1 connected to the battery 35. The LED element of the LED lamp 33 is connected between a positive terminal of the battery 35 and a collector C of the NPN transistor TR1. The switch 36 and a first resistor R1 are connected in series between the positive terminal of the battery 35 and a base B of the NPN transistor TR1. A capacitor C1 is connected between the base B of the NPN transistor TR1 and a negative terminal of the battery 35. A second resistor R2 is connected in parallel with the first resistor R1 and the capacitor C1. An emitter E of the NPN transistor TR1 is connected to the negative terminal of the battery 35. In this light irradiation circuit 43, when the switch 36 is closed, the voltage applied to the base B of the NPN transistor TR1 gradually increases due to the action of the time constant circuit R1, C1. When the voltage reaches a predetermined value at the base B of the NPN transistor TR1 during the voltage increase, the current flows into the collector C. Thereafter, when a predetermined time has elapsed, the voltage applied to the base B of the NPN transistor TR1 is maintained constant. When the switch 36 is opened, the charge of the capacitor C1 is discharged through the second resistor R2.

[0120]

The hold circuit 51 of the audio playback unit 45 holds the audio playback until a predetermined time (hereinafter referred to as "third time") has elapsed after the ultraviolet radiation reaches the maximum intensity. The audio circuit 48 and the light irradiation circuit 43 share the battery 35 and the switch 36. The hold circuit 51 measures a time from the close of the switch 36 until the ultraviolet radiation reaches the maximum intensity (hereinafter referred to as a "gradual increase time"), and the third time. The gradual increase time can be specified by voltage characteristics of the light irradiation circuit 43. The gradual increase time corresponds to a time from the close of the switch 36 until the voltage applied to the base B of the NPN transistor TR1 starts to be maintained at the

maximum value. Here, when the predetermined third time has elapsed from the time when the ultraviolet radiation reaches the maximum intensity, the audio circuit 48 extracts the audio signal from the memory 49 and supplies the audio signal to the speaker 47.

[0121]

The LED lamp 33, the NPN transistor TR1, the capacitor C1, the first and second resistors R1 and R2, the audio circuit 48, the memory 49, and the hold circuit 51 may be mounted on a common printed circuit board, for example. The first contact 37 of the switch 36, the first hinge blade 27 or the second hinge blade 28 of the hinge 26, the battery 35, the microphone 46, the speaker 47 and the like need only be electrically connected to wiring patterns on the printed circuit board by wires such as vinyl coated wires. The printed circuit board may be contained within the battery chamber 34, for example.

[0122]

In the light irradiation circuit 43 according to the second specific example, after the upper box component 13 reaches the opened position and the switch 36 closes, a predetermined value of voltage is applied from the battery 35 to the base B of the NPN transistor TR1 after the lapse of the first time subsequent to the close (ON operation) of the switch 36. Current flows into the collector C of the NPN transistor TR1, and the LED lamp 33 starts to light up. Therefore, the observer of the inner box 11 can observe the diamond 23 exhibiting a clear brilliance for a while after the upper box component 13 is opened.

[0123]

The voltage applied to the base B of the NPN transistor TR1 gradually increases due to the action of the time constant circuit R1, C1. The amount of current flowing through the LED lamp 33 gradually increases. The light intensity of the ultraviolet radiation from the LED lamp 33 to the diamond stone 23 increases. The diamond stone 23 gradually changes color from transparency to blue. The visual performance effect is in this manner accomplished in response to the opening action of the upper box component 13. Since the plate spring 31 exerts the driving force for positioning the upper box component 13 at the opened position, the diamond stone 23 is prevented from starting to change the color at an intermediate position between the closed position and the opened position, and the observer can reliably witness the change in the color of the diamond stone 23.

[0124]

When the second time has elapsed from the start of ultraviolet irradiation, that is, when the third time has elapsed since the diamond stone 23 starts to shine blue to the maximum extent, the audio circuit 48 plays back the recorded audio. For example, in the case of a present, the audio of the giver (for example, "Will you marry me?" or "Let's stay together from now on") can be delivered to the observer. Since the audio playback is

delayed relative to the visual effect of the diamond stone 23, the visual effect of the diamond stone 23 and the audio performance effect sequentially act on the observer. The observer can be aware of the auditory effect (including language processing) of the audio after being aware of the visual effect of the diamond stone 23. The audio performance effect is superimposed on the visual effect. According to the insight of the present inventor, since a person cannot be aware of a plurality of senses at the same time, a synergistic effect of visual and audio can be strengthened by delaying the audio playback from the visual effect, compared to when the audio performance effect progresses simultaneously with the visual effect. This type of performance effect allows the observer of the inner box 11 to experience an emotion that cannot be tasted elsewhere.

[0125]

When the switch 36 is opened, the LED lamp 33 turns off. The audio circuit 48 ends supplying the audio signal. The audio playback ends. The charge of the capacitor C1 is discharged through the second resistor R2.

[0126]

The LED lamp 33 may be supported by the lower box component 12 instead of the upper box component 13. In addition, the diamond stone 23 may be mounted on each of a plurality of mounts forming a chain of a necklace. The mount is formed of a metal material such as platinum or gold. One diamond stone 23 may be fixed to each mount, or a plurality of diamond stones 23 may be fixed thereto. In addition, the diamond stone 23 may be treated on a pendant, a bracelet, a pierced earring, a ring, an anklet. The diamond stones may be uniform in size or mixed in size.

[0127]

In the aforementioned inner box 11, a tact switch having a plunger that is pushed down by the upper box component 13 when the upper box component 13 reaches the opened position may be used for the switch 36. The light irradiation circuit 38 according to the first specific example and the light irradiation circuit 43 according to the second specific example may be replaced with electronic circuits of other configurations as long as they realize the same functions as described above. Further, the action of the switch 36 may be interlocked not only with the upper box component 13 positioned at the opened position as described above, but also with the upper box component 13 positioned at the closed position. In addition, the functions of the light irradiation circuits 38, 43, the audio circuit 48, and the hold circuit 51 may be realized by software executed by a microprocessor (MPU).

Reference Signs List

[0128]

102: transparent region (transparent plate), 103: photo frame, 107: first plane, 108: sheet, 109: second plane, 111: plate member, 112: opaque film, 114: first holder, 115: second holder, 116: first rail, 121: second rail, 142: component of first holder (transparent plate), 143: photo frame, 146: component of first holder (frame), 151: first plane, 152: second plane, 153: plate member, 156: second holder, 157: rail (slide rail), 173: photo frame, 174: first plane, 175: second plane, 176: plate member, 177: first holder, 178: second holder, PC: photograph

CLAIMS

[Claim 1]

A photo frame comprising:
an elongated sheet containing a fragrance component;
a plate member defining a first plane for receiving a photograph on a front surface or a back surface thereof, and defining a second plane for receiving the sheet on the back surface;
a first holder attached to the plate member and configured to hold the photograph along the first plane; and
a second holder detachably attached to the plate member and configured to hold the sheet along the second plane.

[Claim 2]

The photo frame according to claim 1, wherein the plate member is a resin plate that defines the first plane and the second plane on the back surface and has a transparent region covering at least an image of the photograph.

[Claim 3]

The photo frame according to claim 2, wherein the second holder is a slider guided by a pair of rails extending linearly in parallel on two sides of the second plane and configured to be displaced between a first position where the sheet is held along the second plane and a second position where the sheet is separated from the second plane.

[Claim 4]

The photo frame according to claim 3, wherein the plate member is made of a transparent material, and an opaque film covering at least an edge of the photograph is formed on the front surface of the plate member.

[Claim 5]

The photo frame according to claim 4, wherein the first holder is a slider guided by a pair of rails extending in parallel on two sides of the first plane and configured to be displaced between a first position where the photograph is held along the first plane and a second position where the photograph is separated from the first plane.

[Claim 6]

The photo frame according to claim 1, wherein the plate member defines the first plane on the front surface and the second plane on the back surface,
the first holder is disposed on the front surface of the plate member and holds the

photograph between the first holder and the plate member, and

the second holder is disposed on the back surface of the plate member and holds the sheet between the second holder and the plate member.

[Claim 7]

The photo frame according to claim 6, wherein the sheet is positioned inside a contour of the photograph projected onto the back surface in a direction orthogonal to the front surface of the plate member.

[Claim 8]

The photo frame according to claim 1, wherein the plate member has a quadrangular contour.