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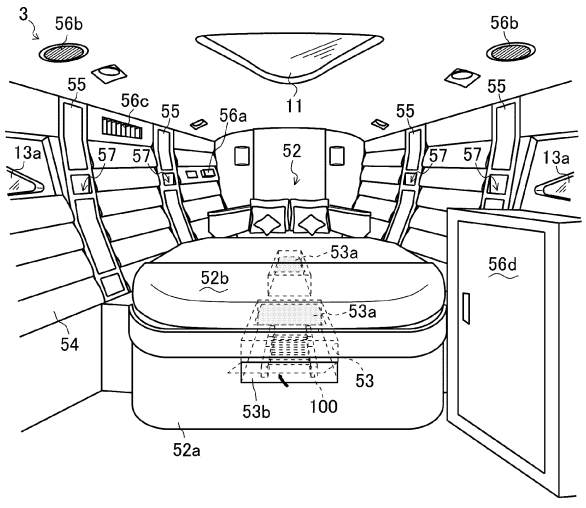
(54) SMALL WATERCRAFT FOR LEISURE USE

(57) A space of an inboard section can be effectively used and thus a compartment can have a larger space (living space) compared with a configuration in which walls (inner wall materials) stand in a vertical direction in the inboard section.

An object is to provide a technique related to a small watercraft. A small watercraft 1 for leisure use that is used for sports, recreations, and the like includes a compartment formed with an inner wall material 54 provided on an inboard section in such a manner as to be curved in accordance with a shape of the inboard section.

Fig. 15



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Description

Technical Field

[0001] The present invention relates to a technique for a small watercraft.

Background Art

[0002] Various conventional techniques related to small watercrafts have been known.

[0003] The small watercrafts include a small watercraft for leisure use that is used for sports, recreations, and the like (see Patent Literature 1).

[0004] For example, the small watercraft for leisure use includes compartments such as a pilot house, an owner room, a guest room, a salon, a galley, a shower room, and a lounge space.

Citation List

Patent Literature

[0005] PTL 1: Japanese Unexamined Patent Application Publication No. 2009-208655

Summary of Invention

Technical Problem

[0006] The small watercraft is formed with a hull and a deck curved to have an inner surface with a curved shape.

[0007] However, even though the hull and the deck each thus have the inner surface with a curved shape, the compartment of the small watercraft is formed with walls (inner wall materials) in an inboard section standing in a vertical direction.

[0008] Thus, there is a problem in that the inboard space of the small watercraft cannot be effectively used, and thus the space of the compartment (living space) is small.

[0009] The present invention is made in view of the situation described above, and an object of the present invention is to provide a technique related to a small watercraft with which, compared with a configuration with an inboard section having standing walls, an inboard space is more effectively used so that a larger space of the compartment can be achieved.

Solution to Problem

[0010] A problem to be solved by the present invention is as described above, and means for solving the problem will now be described.

[0011] A small watercraft for leisure use according to the present invention includes a compartment, in which the compartment is formed with an inner wall material provided on an inboard section in such a manner as to be curved in accordance with a shape of the inboard section.

[0012] According to the present invention, the compartment includes a beam member exposed in the compartment.

[0013] According to the present invention, the compartment includes a lighting device disposed to the beam member.

[0014] According to the present invention, the small watercraft further includes a pilot house, and a windshield disposed on a front side of the pilot house, in which the windshield is disposed across left and right end portions of the pilot house. Advantageous Effects of Invention

[0015] The following effect is obtained as an effect of the present invention.

[0016] With the present invention, an inboard space of a small watercraft is effectively used, so that a space of a compartment can be configured to be large.

Brief Description of Drawings

[0017]

[Fig. 1] Fig. 1 is a perspective view of a small watercraft according to an embodiment of the present invention.

[Fig. 2] Fig. 2 is a perspective view of the small watercraft.

[Fig. 3] Fig. 3 is a left side view of the small watercraft.

[Fig. 4] Fig. 4 is a right side view of the small watercraft.

[Fig. 5] Fig. 5 is a plan view of the small watercraft.

[Fig. 6] Fig. 6 is a bottom view of the small watercraft.

[Fig. 7] Fig. 7 is a front view of the small watercraft.

[Fig. 8] Fig. 8 is a rear view of the small watercraft.

[Fig. 9] Fig. 9 is a schematic side view illustrating an internal structure of the small watercraft.

[Fig. 10] Fig. 10 is a schematic plan view illustrating an internal structure of the small watercraft.

[Fig. 11] Fig. 11(a) is a schematic view illustrating a state where a flap door of a rear deck of the small watercraft has turned, and Fig. 11 (b) is an enlarged view illustrating another embodiment of the flap door of the rear deck of the small watercraft.

[Fig. 12] Fig. 12 is a perspective view illustrating a state where a transom gate of the small watercraft has rotated.

[Fig. 13] Fig. 13 is a diagram illustrating a pilot house of the small watercraft.

[Fig. 14] Fig. 14(a) is a perspective view illustrating analog meters of a control panel of the small watercraft, and Fig. 14(b) is an enlarged front view of the analog meter of the control panel of the small watercraft.

[Fig. 15] Fig. 15 is a diagram illustrating an owner room of the small watercraft.

[Fig. 16] Fig. 16(a) is a perspective view illustrating

a structure of a lighting device in the owner room of the small watercraft, Fig. 16(b) is a cross-sectional view illustrating a structure of the lighting device in the owner room of the small watercraft, and Fig. 16(c) is a cross-sectional view illustrating a structure of the lighting device including a light distribution plate in the owner room of the small watercraft.

[Fig. 17] Fig. 17 is a diagram illustrating a salon of the small watercraft.

[Fig. 18] Fig. 18 is a diagram illustrating a galley of the small watercraft.

[Fig. 19] Fig. 19 is a diagram illustrating a guest room of the small watercraft.

[Fig. 20] Fig. 20 is a diagram illustrating a lounge space of the small watercraft.

[Fig. 21] Fig. 21 is an enlarged perspective view illustrating a state where a movable roof of the small watercraft is open.

[Fig. 22] Fig. 22 is a diagram illustrating a state where a movable portion of the movable roof of the small watercraft is moving.

[Fig. 23] Fig. 23 is a perspective view illustrating a stem portion of the small watercraft.

Description of Embodiments

[0018] A small watercraft 1 according to an embodiment of the present invention is described with reference to Figs. 1 to 23.

[0019] As illustrated in Figs. 1 to 8, the small watercraft 1 is a small watercraft for leisure use, and is used for sports, recreations, and the like. For example, the small watercraft 1 has an overall length of approximately 12 m, a weight of approximately 10 tons, and a complement of 12 persons. The small watercraft 1 includes an engine (not illustrated), and is configured to obtain thrust by driving a propeller (not illustrated) with the engine serving as a power source.

[0020] As illustrated in Figs. 1 to 10, the small watercraft 1 includes a deck 1b on an upper side of a hull 1a and a cabin 1c on an upper side of the deck 1b. The small watercraft 1 includes a lounge space 8 and a pilot house 2 that are in the cabin 1c. The small watercraft 1 has a width of the deck 1b smaller than a width of the hull 1a, and side portions of the deck 1b positioned more on the inner side than side portions of the hull 1a. The hull 1a and the deck 1b of the small watercraft 1 are mainly made of an FRP material. Outer shapes of the hull 1a and the deck 1b are formed by spraying gelcoat on a mold coated with a release agent (wax), and after the gelcoat is dried (cured), stacking layers of glass fiber roving, unsaturated polyester resin, and the like until a designed thickness is achieved.

[0021] Configurations of components of the small watercraft 1 are described in detail below.

[0022] The hull 1a of the small watercraft 1 is provided with the deck 1b, the cabin 1c, an engine room 1d, a radar arm 1e, a pair of left and right air introduction ports 1f, 1f, a rear deck 1g, and a transom gate 1h.

[0023] The deck 1b covers an upper part of the hull 1a and forms a compartment and the like. The deck 1b is provided with a plurality of windows (a front roof window 11, a rear roof window 12, and a pair of left and right side windows 13, 13) for daylighting in the compartment in the inboard section and a mooring device 22.

[0024] The front roof window 11 and the rear roof window 12 are widows for daylighting in the inboard section. The front roof window 11 is disposed at a portion of the deck 1b more on the front side than the cabin 1c and on a bow side of the deck 1b, in a non-openable (fixed) state. The front roof window 11 is disposed at a portion that is separated from the bow by a distance corresponding to approximately one fifth of the hull length.

[0025] The rear roof window 12 is disposed at a portion of the deck 1b more on the front side than the cabin 1c and on a stem side of the deck 1b, in an openable state. The rear roof window 12 is separated from the bow by a distance corresponding to approximately two fifths of the hull length. The rear roof window 12 can be opened by an opening angle that is larger than 90° about a stem side portion. The rear roof window 12 is configured to be tightly closable with a plurality of unillustrated fasteners. The rear roof window 12 in an opened state can be used for ventilating the compartment, for going to and coming back from a bow deck (deck 1b), or for other like purposes. More specifically, an unillustrated ladder supporting unit is formed on a window frame of the rear roof window 12. The rear roof window 12 is configured in such a manner that, in the opened state, a ladder 100 can be supported by the ladder supporting unit.

[0026] The ladder 100 to be used is configured to be extendable and retractable, and is contained in a container box 53 in an owner room 3 described later (see Fig. 15). The ladder 100 is configured to be taken out from a side surface opening 53b of the container box 53 to be used. The present embodiment is not limited to the ladder 100, and a gangway may be used.

[0027] As illustrated in Figs. 1 to 4, 9, 15, 17, and 18, the side windows 13, 13 of the small watercraft 1 are disposed on left and right side portions of the deck 1b. The side window 13 is disposed to extend from an approximately center portion in a bow and stem direction to a portion that is separated from the bow by a distance corresponding to one fifth of the hull length. The pair of left and right side windows 13 each have an inboard section side divided into two sections of a bow side window 13a and a stem side window 13b. The pair of left and right side windows 13 each have the bow side window 13a serving as a window for the owner room 2 and the stem side window 13b serving as a window for a salon 4 and a galley 5.

[0028] The small watercraft 1, divided into the bow side and the stem side at the cabin 1c (pilot house 2), is relatively longer on the bow side. Thus, the small watercraft 1 can have a space large enough to dispose the front roof window 11 and the rear roof window 12 (a space

large enough to dispose two roof windows on the deck 1b arranged in the bow and stem direction). Thus, the small watercraft 1 can have the pair of left and right side windows 13 that are large in the bow and stem direction.

[0029] As illustrated in Figs. 1 to 10, the cabin 1c protrudes beyond the deck 1b to cover the rear side of the deck 1b, whereby the pilot house 2 and the lounge space 8 are formed. A person can go into and come out from the cabin 1c through a gateway 1c of the rear deck 1g. The cabin 1c includes a windshield 14, a pair of left and right side windows 15, 15, a movable roof 16, and a window door 45 serving as the gateway 1i of the rear deck 1g. The cabin 1c has an opening formed in a roof portion.

[0030] As illustrated in Figs. 1, 5, 7, and 13, the windshield 14 of the cabin 1c is disposed across left and right end portions of the pilot house 2.

[0031] The windshield 14 has a left and right direction width that is approximately the same as a left and right direction width of the pilot house 2. Thus, the small watercraft 1 features a better view from a helmsman seat 21 a in the pilot house 2 compared with a configuration without the windshield 14 disposed across the left and right end portions of the pilot house 2.

[0032] The movable roof 16 is provided in the opening formed in the ceiling portion of the cabin 1c. More specifically, the movable roof 16 is disposed above the helmsman seat 21a and an assistant helmsman seat 21b. As illustrated in Figs. 21 and 22, the movable roof 16 includes a fixed portion 16a and a movable portion 16b, and is openable and closable through sliding movement of the movable portion 16b. The fixed portion 16a and the movable portion 16b of the movable roof 16 are each formed by fitting a glass piece on a frame. The movable roof 16 has crosspieces 16c formed in the movable portion 16b to achieve high glass strength. Thus, the movable portion 16b of the movable roof 16 can stably operate.

[0033] The window door 45, serving as the gateway 1i, is provided at a center portion of a stem side end portion of the cabin 1c. The window door 45 is formed as a sliding door that moves in a left-and-right direction to be opened and closed. The window door 45 is entirely glassed. The fixed portions on both left and right sides of the window door 45, at the stem side end portion of the cabin 1c, are glassed.

[0034] The small watercraft 1 includes the engine room 1d, the radar arm 1e, the pair of left and right air introduction ports 1f, 1f, the rear deck 1g, and the transom gate 1h.

[0035] An engine is disposed in the engine room 1d of the small watercraft 1.

[0036] The engine room 1d is provided in a space (inboard section) surrounded by the hull 1a and the deck 1b. The engine room 1d is disposed below the cabin 1c. The engine room 1d is disposed below the rear deck 1g.

[0037] The radar arm 1e of the small watercraft 1 is provided with a radar (not illustrated) and supports the radar.

[0038] The radar arm 1e is integrally formed with the hull 1a.

[0039] The radar arm 1e is formed to have an arch shape. The radar arm 1e extends from an upper end from the hull 1a in an inclined manner in an upper rear direction, and surrounds side portions of the deck 1b, rear side portions of the cabin 1c, and a rear upper portion of the cabin 1c.

[0040] The air introduction ports 1f of the small watercraft 1 are used for introducing intake air for the engine into the engine room 1d in the inboard section from the outside.

[0041] In the small watercraft 1, the air introduced into the inboard section through the air introduction ports 1f is supplied to the engine room 1d through piping (not illustrated).

[0042] As illustrated in Fig. 11(a), the rear deck 1g is disposed in a stem portion and more on a rear side than the cabin 1c, and thus the rear deck 1g is disposed above the engine room 1d. An opening 1m, communicating with the engine room 1d, is formed in an approximately center portion of the rear deck 1g. The rear deck 1g is provided with a flap door 41 that can be opened and closed to close the opening 1m. In other words, the small watercraft 1 has the flap door 41 of the rear deck 1g serving as a top board of the engine room 1d. Thus, in the small watercraft 1, maintenance work for the engine 23 in the engine room 1d can be performed while the flap door 41 of the rear deck 1g is in the open state.

[0043] The flap door 41 can be opened and closed by raising and lowering the bow side of the flap door 41 about a hinge 41a, provided at an end portion on the stem side, serving as a rotational axis. The bow side end portion of the flap door 41 is connected to an electric cylinder 42 provided in the engine room 1d. The flap door 41 can be opened and closed through extension and contraction of the electric cylinder 42.

[0044] A trench In is formed at an edge portion over the entire circumference of the opening 1m on an upper surface of the rear deck 1g. The trench In has a shape similar to the flap door 41, and a size large enough to fit the flap door 41 with a gap in between. The trench In is formed to have a depth that is approximately the same as the thickness of the flap door 41. Thus, the trench 1n supports the flap door 41 in such a manner that the upper surface of the rear deck 1g is flush with the upper surface of the flap door 41 covering the opening 1m. As illustrated in Fig. 11(b), the trench 1n and a groove 1p of the rear deck 1g may have bent end portions.

[0045] The transom gate 1h of the small watercraft 1 is disposed in the stem side rear end portion. The transom gate 1h is formed as a part of a transom surrounding the rear deck 1g.

[0046] As illustrated in Fig. 12, the transom gate 1h is rotatable. The transom gate 1h is used as a path to move from the small watercraft 1 to a land (for example, a pier) by being rotated to be laid rearward.

[0047] Next, a configuration of an inboard section of

the small watercraft 1 will be described in detail.

[0048] As illustrated in Fig. 9 and 10, the small watercraft 1 includes inboard compartments. The small watercraft 1 includes the pilot house 2, the owner room 3, the salon 4, the galley 5, a guest room 6, a shower room 7, a lounge space 8, and the like. The compartments (the pilot house 2, the owner room 3, the salon 4, the galley 5, the guest room 6, the shower room 7, the lounge space 8, and the like) of the small watercraft 1 are provided in a space surrounded by the hull 1a, the deck 1b, and/or the cabin 1c.

[0049] The small watercraft 1 includes the pilot house 2 and the lounge space 8 disposed in the cabin 1c. The small watercraft 1 includes the pilot house 2 disposed on the bow side, and the lounge space 8 disposed on the stem side, in the cabin 1c. The small watercraft 1 has the rear deck 1g and the cabin 1c with approximately the same floor (sole) height. Thus, the pilot house 2 is disposed to be a compartment that comes first in the watercraft (the cabin 1c) from the gateway 1i of the rear deck 1g.

[0050] The small watercraft 1 has the owner room 3, the salon 4, the galley 5, the guest room 6, the shower room 7, and the like at positions that are more on the bow side than the cabin 1c and below the floor of the cabin 1c. The small watercraft 1 has a protruding portion 2a as a portion of the pilot house 2 on the bow side in the cabin 1c protruding upward to have a space large enough for the owner room 3, the salon 4, the galley 5, the guest room 6, the shower room 7, and the like.

[0051] As illustrated in Fig. 9, steering of the small watercraft 1 is performed in the pilot house 2. The pilot house 2 includes the helmsman seat 21a, the assistant helmsman seat 21b, and a control panel 46.

[0052] As illustrated in Fig. 13, the pilot house 2 has the helmsman seat 21a and the control panel 46 on a starboard side relative the bow. The control panel 46 in the pilot house 2 is provided on a side surface of the protruding portion 2a in the cabin 1c. The pilot house 2 has the assistant helmsman seat 21b disposed on a port side relative to the bow. The pilot house 2 includes a path 1j on the side surface of the protruding portion 2a in the cabin 1c and at an approximately center portion between the helmsman seat 21a and the assistant helmsman seat 21b. The path 1j extends toward the bow to lead to the owner room 3, the salon 4, the galley 5, the guest room 6, the shower room 7, and the like in the inboard section.

[0053] A person in charge of steering the small watercraft 1 sits on the helmsman seat 21a to perform the steering. The helmsman seat 21a is disposed to face the control panel 46. The helmsman seat 21a is movable in upper, lower, front, and rear directions to be suitable for the body of the person in charge of steering.

[0054] The control panel 46 includes operation tools, meters, and the like for the small watercraft 1 in a concentrated manner. The control panel 46 is provided with monitors 47, analog meters 48, a handle 49, a throttle lever 50, a joy stick 51, and the like. The control panel 46 has a plurality of the analog meters 48 arranged side-by-side in the left and right direction and disposed above the monitors 47. Each of the analog meters 48 has a metallic ring 48a attached to an edge portion and eight recesses 48b formed at an equal interval on an outer side surface of the ring 48a (see Fig. 14). The control panel 46 has the handle 49 and the joy stick 51 disposed on a display screen side of the monitors 47. The control panel 46 has the throttle lever 50 disposed on the starboard side.

[0055] A person who assists the person in charge of steering the small watercraft 1 sits on the assistant helmsman seat 21b. The assistant helmsman seat 21b is arranged side-by-side with the helmsman seat 21a, and is disposed on the port side. The assistant helmsman seat 21b is disposed to face a side surface of the protruding portion 2a in the cabin 1c. The assistant helmsman seat 21b is disposed on a partially raised floor of the cabin 1c. An air-conditioner outlet 2b is disposed on a portion of the side surface of the protruding portion 2a in front of the assistant helmsman seat 21b. A skylight 2c, in communication with the guest room 6, is disposed at a portion of an upper surface of the protruding portion 2a in front of the assistant helmsman seat 21b close to the windshield 14. A cup holder and the like are disposed on a port side surface close to the assistant helmsman seat 21b. A cabinet 2d is provided on a port side surface behind the assistant helmsman seat 21b. The cabinet 2d stores a storage type LCD TV 2e.

[0056] As illustrated in Figs. 9 and 10, the owner room 3 is a main bedroom. The owner room 3 is more on the bow side than any other one of the compartments. Thus, the owner room 3 is disposed adjacent to a farther side (bow side) of the path 1j with a door 3a in between. As illustrated in Fig. 15, a bed 52 for two persons is disposed at the center of the owner room 3. The bed 52 in the owner room 3 includes a bed board 52a and a bedding 52b such as a mattress.

[0057] The bed 52 in the owner room 3 has the container box 53 on the bed board. The container box 53 includes a container portion divided into two sections. The container box 53 includes floor openings 53a, 53a (hatched portions in Fig. 15) for respective sections on a floor of the bed board 52a and a side surface opening 53b on a side surface of the bed board 52a. Thus, even when the bedding 52b is disposed on the bed board 52a, an object contained in the container box 53 can be taken out through the side surface opening 53b.

[0058] The owner room 3 of the small watercraft 1 has curved side surfaces in accordance with the shape of the hull 1a of the small watercraft 1. The owner room 3 has inner wall materials 54 provided on the inboard section (side portions of the inboard section) in accordance with the shape of the curved side surfaces. An unillustrated audio device and an operation device 56a for the audio device are provided on a port side surface of the owner room 3 in an embedded manner. A speaker 56b is provided on a ceiling of the owner room 3. An air-conditioner

outlet 56c that is additional equipment is provided at an upper portion of the side surface of the owner room 3 on the port side. The outlet 56 may be disposed on both starboard and port sides in the owner room 3. The cabinet 56d is disposed on a rear-starboard side in the owner room 3.

[0059] The bow side windows 13a of the side windows 13 are disposed on side surfaces of the owner room 3 on the starboard and port sides. The front roof window 11 is disposed at approximately the center of the ceiling of the owner room 3. Thus, the daylighting in the owner room 3 with sunlight can be achieved through the bow side windows 13a of the side windows 13 formed on the hull 1a and the front roof window 11 formed on the deck 1b.

[0060] As described above, the owner room 3 is the compartment that is curved in accordance with the shape of the hull 1a, and has the side surfaces provided with the inner wall materials 54. Thus, in the small watercraft 1, the space of the inboard section can be more effectively used, so that the owner room 3 can have a larger space (living space) compared with a configuration in which walls (inner wall materials) stand vertically in the inboard section. The unillustrated audio device and the operation device 56a for the audio device are embedded in the side surface of the owner room 3. Thus, the small watercraft 1 needs no inboard space for placing the audio device and the operation device 56a for the audio device, whereby the inboard space can be effectively used, so that the owner room 3 can have a larger space (living space).

[0061] The inner wall materials 54 of the owner room 3 of the small watercraft 1 include a cushion material.

[0062] The owner room 3 has a plurality of the inner wall materials 54 (cushion materials) that are long in the bow and stem direction arranged in the upper and lower direction in a clinker built fashion.

[0063] The owner room 3 is formed with the plurality of inner wall materials 54, including the cushion materials, arranged in the upper and lower direction in the clinker built fashion as described above. Thus, in the small watercraft 1, the inboard space can be effectively used, so that the owner room 3 can have a larger space (living space). Furthermore, the owner room 3 with a better appearance can be achieved.

[0064] The owner room 3 is formed with a plurality of beam members 55 exposed in the owner room 3 in the inboard section (side portions of the inboard section). The owner room 3 is provided with the beam members 55 arranged at a predetermined interval in the bow and stem direction in the watercraft.

[0065] The small watercraft 1 with the owner room 3 as a compartment provided with the beam members 55 exposed in the owner room 3 can have a strength improved with the beam members 55 exposed in the owner room 3 unlike in the configuration where the beam members 55 are hidden to make the space of the owner room 3 smaller.

[0066] As illustrated in Figs. 15 and 16, a lighting device 57 is disposed at an approximately center portion in the upper and lower direction of each of the beam members 55 that are disposed to be exposed in the owner room 3 of the small watercraft 1.

[0067] As illustrated in Figs. 16(a) and 16(b), the lighting device 57 is disposed to be embedded in a notch 55a formed at the center portion in the upper and lower direction of the beam members 55. The lighting device 57 including a light source 57a such as an incandescent light, a fluorescent light, or an LED lighting device is disposed in a space that is formed to extend toward the inner side of the beam members 55 from the notch 55a. A side surface 55b of the notch 55a is illuminated with light from the light source 57a of the lighting device 57. Thus, the lighting device 57 is for indirect lighting using the beam members 55. As illustrated in Fig. 16(c), the lighting device 57 may be provided with a light distribution plate 57b including a glass plate for dispersing the light in the light radiated directions of the incandescent light, the fluorescent light, or the LED lighting device 57c.

[0068] In the small watercraft 1 with the lighting device 57 disposed in the beam members 55 in the owner room 3, the lighting device 57 is disposed by using the beam members 55 exposed in the owner room 3, whereby the number of the lighting device 57 in the owner room 3 can be increased without sacrificing the space in the owner room 3 (compartment).

[0069] The salon 4 illustrated in Fig. 9 and 10 is what is known as a lounge. The salon 4 is disposed on the stem side of the owner room 3 and on the starboard side of the path 1j. As illustrated in Fig. 17, the salon 4 includes a sofa 58, a table 59, and a monitor 60. The salon 4 includes a container box 61 disposed below the sofa 58. The salon 4 has a ceiling provided with the rear roof window 12. The salon 4 has the stem side window 13b disposed on a side surface on the starboard side. Daylighting in the salon 4 with sunlight can be achieved through the rear roof window 12 formed in the deck 1b and the stem side window 13b of the side window 13 formed in the hull 1a.

[0070] The galley 5 illustrated in Fig. 9 and 10 is what is known as a kitchen. The galley 5 is disposed on the stem side of the owner room 3 and on the port side of the path 1j. Thus, the galley 5 and the salon 4 are arranged side-by-side in the left and right direction. As illustrated in Fig. 18, the galley 5 includes a sink 62, a stove 63, a storage shelf 64, and the like. The galley 5 has a ceiling provided with the rear roof window 12. The galley 5 has a side surface on the port side provided with the stem side window 13b of the side window 13. Thus, daylighting in the salon 4 with sunlight can be achieved through the rear roof window 12 formed in the deck 1b and the stem side window 13b formed in the hull 1a.

[0071] The guest room 6 illustrated in Fig. 9 and 10 is a second bed room. The guest room 6 is disposed on the stem side of the galley 5 and on the port side of the path 1j. Thus, the guest room 6 is disposed below the

assistant helmsman seat 21b in the pilot house 2. As illustrated in Fig. 19, the guest room 6 has a ceiling provided with the skylight 2c. Thus, daylighting of the guest room 6 with sunlight from the windshield 14 of the cabin 1c can be achieved through the skylight 2c. The guest room 6 is further provided with an unillustrated reading light. As illustrated in Fig. 17, the guest room 6 includes a bed 65 for two persons at the center. The guest room 6 includes a cabinet 66 and a door 6a disposed on the bow side (a side closer to the galley 5).

[0072] As illustrated in Figs 9 and 10, the shower room 7 is disposed on the stem side of the salon 4 and on the starboard side of the path 1j. Thus, the shower room 7 is arranged side-by-side with the guest room 6 with the path 1j in between, and is disposed below the helmsman seat 21a in the pilot house 2.

[0073] As illustrated in Fig. 9, the lounge space 8 of the small watercraft 1 is disposed in the cabin 1c at a center portion in the bow and stem direction. The lounge space 8 is disposed on the stem side in the cabin 1c. The lounge space 8 is disposed more on the stem side than any other one of the compartments. As illustrated in Fig. 20, the lounge space 8 includes a sofa 67, a table 68, and a cabinet 69.

[0074] As illustrated in any one of Figs. 1 to 5, 7, 9, 10, and 15, the small watercraft 1 includes the owner room 3 provided with the plurality of windows (the front roof window 11, the rear roof window 12, and the pair of left and right bow side windows 13a). In the small watercraft 1, the owner room 3 can be made bright by daylighting through the front roof window 11.

[0075] The small watercraft 1 includes the side windows 13, on the side portions of the deck 1b, having the bow side windows 13a on the left and right sides of the owner room 3 and the stem side windows 13b disposed on the salon 4 and the galley 5. Thus, in the small watercraft 1, the owner room 3, the salon 4, and the galley 5 can be made bright by daylighting through the side windows 13.

[0076] In the small watercraft 1, the salon 4 and the galley 5 can be made bright by daylighting through the rear roof window 12 and the pair of left and right stem side windows 13b. The small watercraft 1 has the rear roof window 12 that is openable and closable and thus can be used for ventilating the compartments, for going to and coming back from the bow deck (deck 1b), or the like.

[0077] As illustrated in any one of Figs. 1 to 5, 7, 9, 13, and 20, the small watercraft 1 includes the cabin 1c provided with the windshield 14, the pair of left and right side windows 15, 15, and the window door 45 serving as the gateway 1i. The windshield 14 is disposed at a front portion of the cabin 1c and the side windows 15, 15 are disposed at the side portions of the cabin 1c. The windshield 14 is disposed on the front side of the helmsman seat 21a, and the side windows 15, 15 are respectively disposed on the left and the right sides of the helmsman seat 21 a. The cabin 1c of the small watercraft 1 is provided with the glassed window door 45, serving as the gateway 1i to the rear deck 1g, on the stem side. The window door 45 is disposed at the stem side end portion of the cabin 1c and serves as a partition from the rear deck 1g.

[0078] The small watercraft 1 includes the pilot house 2 and the lounge space 8 that are surrounded by the windshield 14, the pair of left and right side windows 15, 15, the movable roof 16, and the window door 45. Thus, in the small watercraft 1, the helmsman seat 21 a and the lounge space 8 can be made bright by daylighting through the windshield 14, the pair of left and right side windows 15, the movable roof 16, and the window door 45. Furthermore, the guest room 6 can be made bright by the daylighting through the skylight 2c.

[0079] As illustrated in any one of Figs. 9, 13, and 20, the pilot house 2 and the lounge space 8 of the small watercraft 1 are disposed in the same space with no partitioning wall separating one from the other provided in between. The helmsman seat 21a in the pilot house 2 is movable in the upper, lower, front, and rear directions. The helmsman seat 21a in the pilot house 2 is rotatable by 360° to adjust the orientation (the orientation of the driver in charge of steering sitting on the helmsman seat 21a). In the small watercraft 1, the helmsman seat 21 a is oriented toward the bow side when the steering of the small watercraft 1 is performed. The helmsman seat 21 a in the pilot house 2 rotated to be oriented to the lounge space 8 (for example, rotated by 180° from the bow side) faces the sofa 67 and the table 68 in the lounge space 8.

[0080] In the small watercraft 1 in which the pilot house 2 and the lounge space 8 are disposed in the same space and the helmsman seat 21a in the pilot house 2 rotated to be oriented toward the lounge space 8 faces the sofa 67 and the table 68 in the lounge space 8 as described above, the helmsman seat 21 a in the pilot house 2 rotated to be oriented toward the lounge space 8 faces the sofa 67 and the table 68 in the lounge space 8, and thus the table 68 in the lounge space 8 can be surrounded by the helmsman seat 21a in the pilot house 2 and the sofa 67 in the lounge space 8.

[0081] Thus, the pilot house 2 and the lounge space 8 can each have a compact structure in the small watercraft 1 without compromising the functionality, whereby the space in which the pilot house 2 and the lounge space 8 are formed can be effectively used.

[0082] The pilot house 2 of the small watercraft 1 further includes the assistant helmsman seat 21b that is disposed next to (on the left side of) the helmsman seat 21a, movable in the upper, lower, front and rear directions as in the case of the helmsman seat 21a, and rotatable by 360°.

[0083] The assistant helmsman seat 21b in the pilot house 2 rotated to be oriented toward the lounge space 8 faces the sofa 67 and the table 68 in the lounge space 8.

[0084] As described above, the seats in the pilot house 2, that is, the assistant helmsman seat 21b and the helmsman seat 21a in the pilot house 2 rotated to be

oriented toward the lounge space 8 face the sofa 67 and the table 68 in the lounge space 8. Thus, in the small watercraft 1, the table 68 in the lounge space 8 can be surrounded by the helmsman seat 21a and the assistant helmsman seat 21b in the pilot house 2, and the sofa 67 in the lounge space 8.

[0085] As illustrated in Figs. 1 to 10, the small watercraft 1 is relatively long on the bow side as viewed from the pilot house 2.

[0086] Thus, the small watercraft 1 can have a space large enough to dispose the front roof window 11 and the rear roof window 12 (space large enough to arrange the two roof windows on the deck 1b in the bow and stem direction).

[0087] In addition, the pair of left and right side windows 13 of the small watercraft 1 can be made large in the bow and stem direction.

[0088] Furthermore, the owner room 3, the guest room 6, the salon 4, the galley 5, and the shower room 7 of the small watercraft 1 can be made wide in the bow and stem direction.

[0089] As illustrated in Fig. 23, the small watercraft 1 may include a seat 19 and a backrest 20 in the stem portion. The seat 19 in the small watercraft 1 is detachably attached to the rear deck 1g and the backrest 20 is detachably attached to an inner wall of the transom.

Industrial Applicability

[0090] The present invention can be applied to a technique for a small watercraft for leisure use that is used for sports, recreations, and the like.

Reference Signs List

[0091]

1	small watercraft
1a	hull
1b	deck
1c	cabin
1d	engine room
1e	radar arm
1f	air introduction port
1g	rear deck
1i	gateway
1j	path
2	pilot house
3	owner room
4	salon
5	galley
6	guest room
7	shower room
8	lounge space
11	front roof window
12	rear roof window
13	side window
14	windshield
15	side windows
16	movable roof
54	inner wall material
55	beam member

Claims

1. A small watercraft for leisure use comprising a compartment,
wherein the compartment is formed with an inner wall material provided on an inboard section in such a manner as to be curved in accordance with a shape of the inboard section.

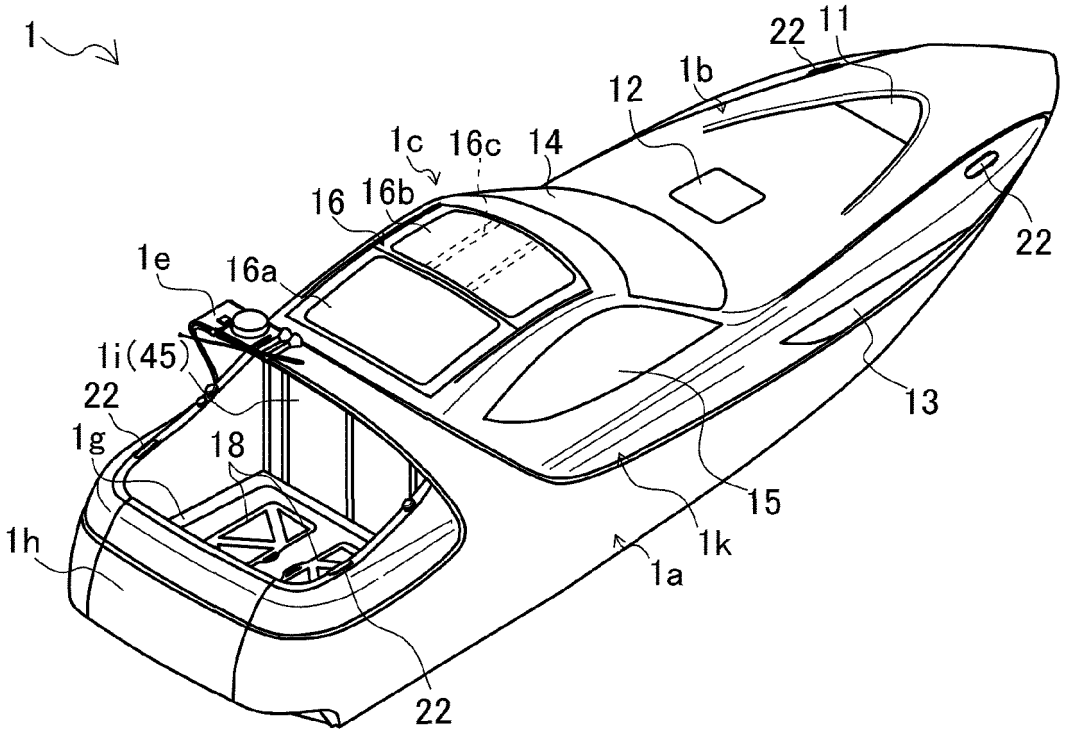
2. The small watercraft according to claim 1,
wherein the compartment includes a beam member exposed in the compartment.

3. The small watercraft according to claim 2,
wherein the compartment includes a lighting device disposed to the beam member.

4. The small watercraft according to any one of claims 1 to 3, further comprising:

a pilot house; and
a windshield disposed on a front side of the pilot house, wherein
the windshield is disposed across left and right end portions of the pilot house.

Fig. 1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22
11
1b
12
1c
16c
14
16
16b
22
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1i(45)
22
1g
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15
1h
1k
1a
22

Fig. 2

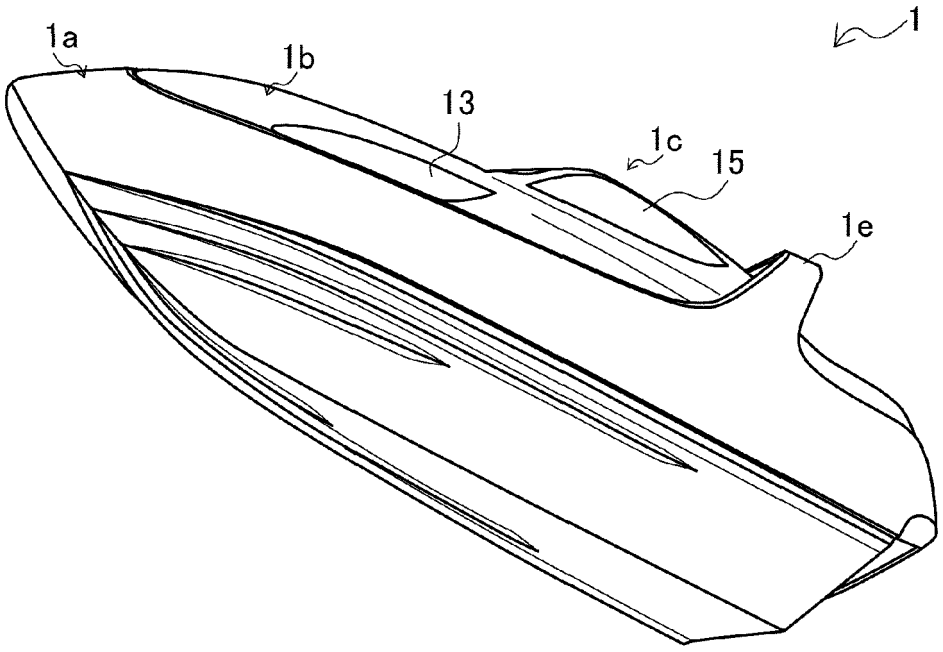


Fig. 3

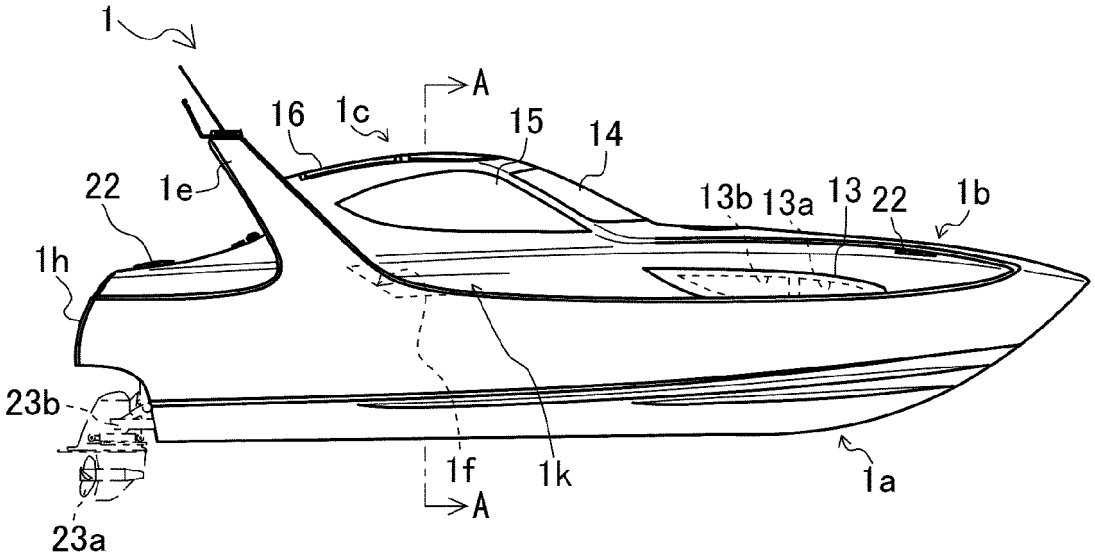


Fig. 4

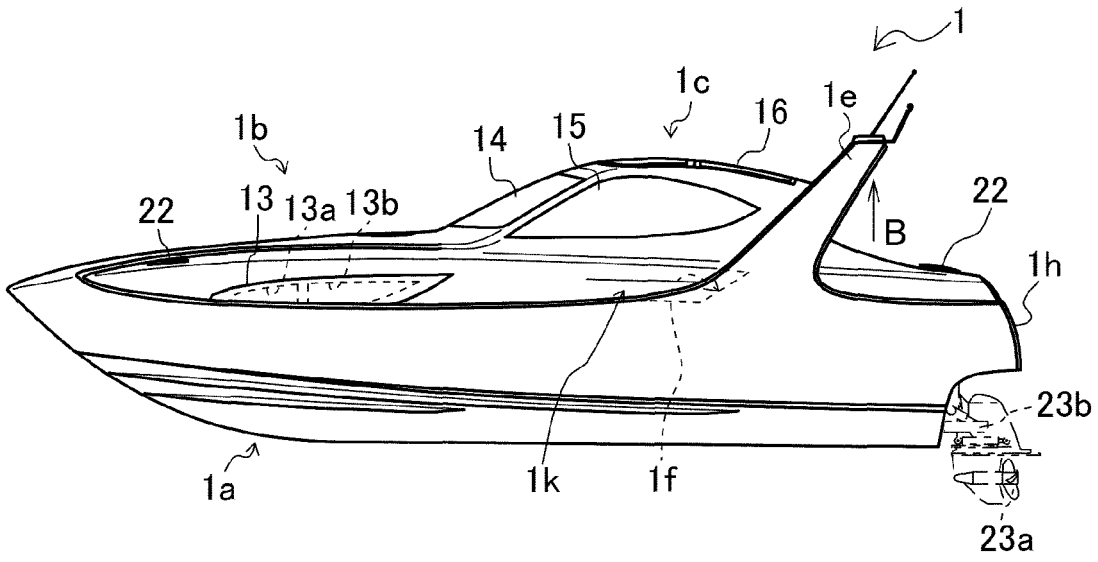
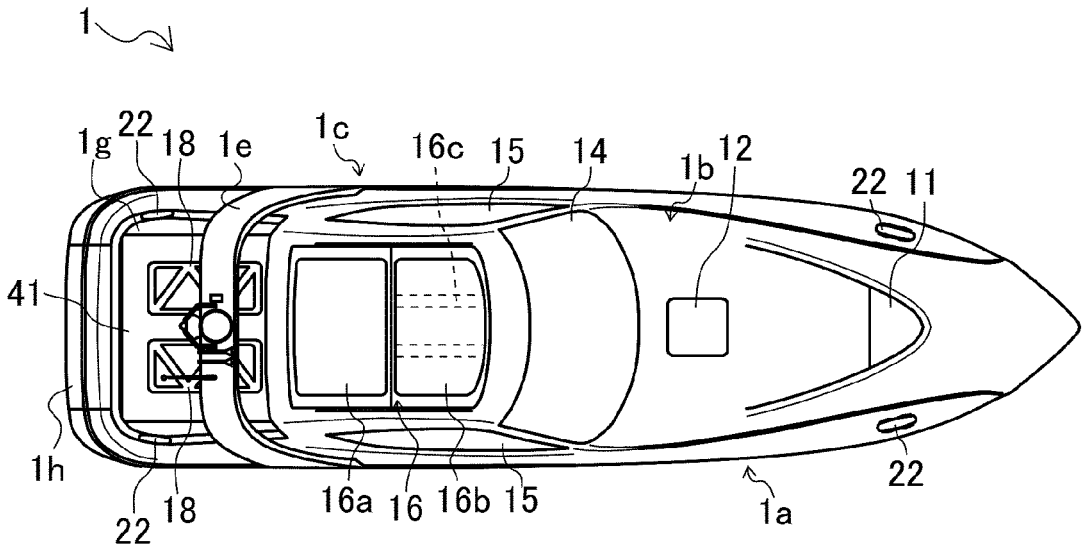


Fig. 5



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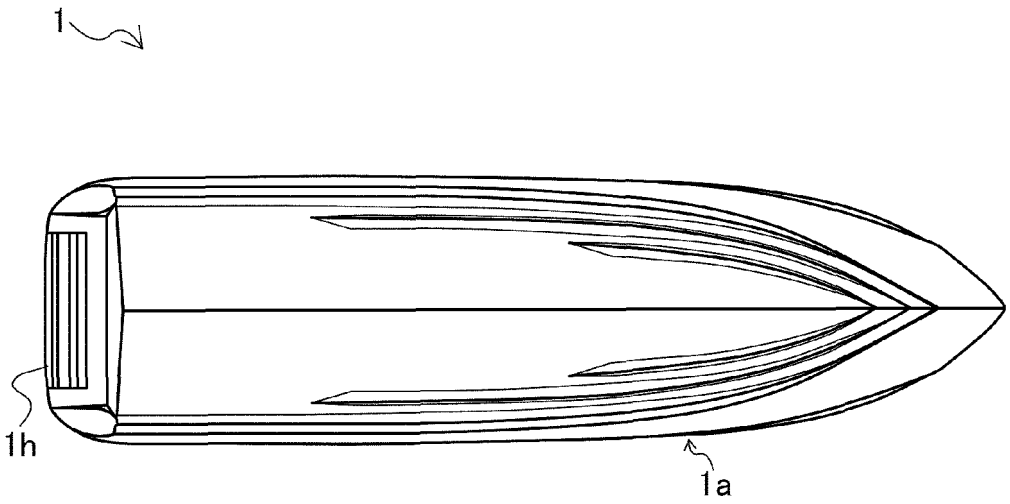


Fig. 7

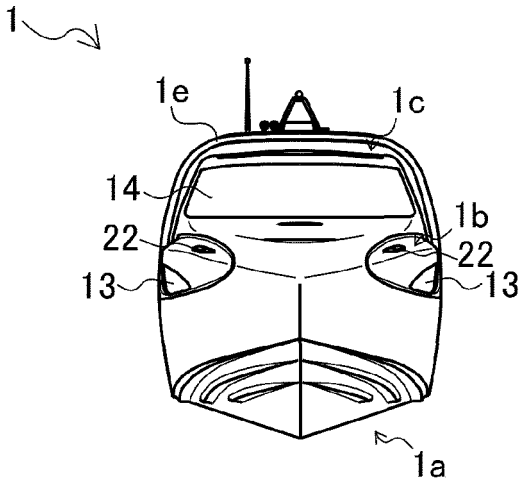


Fig. 8

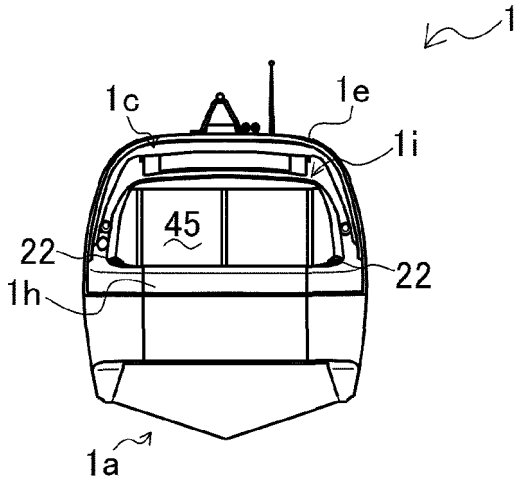
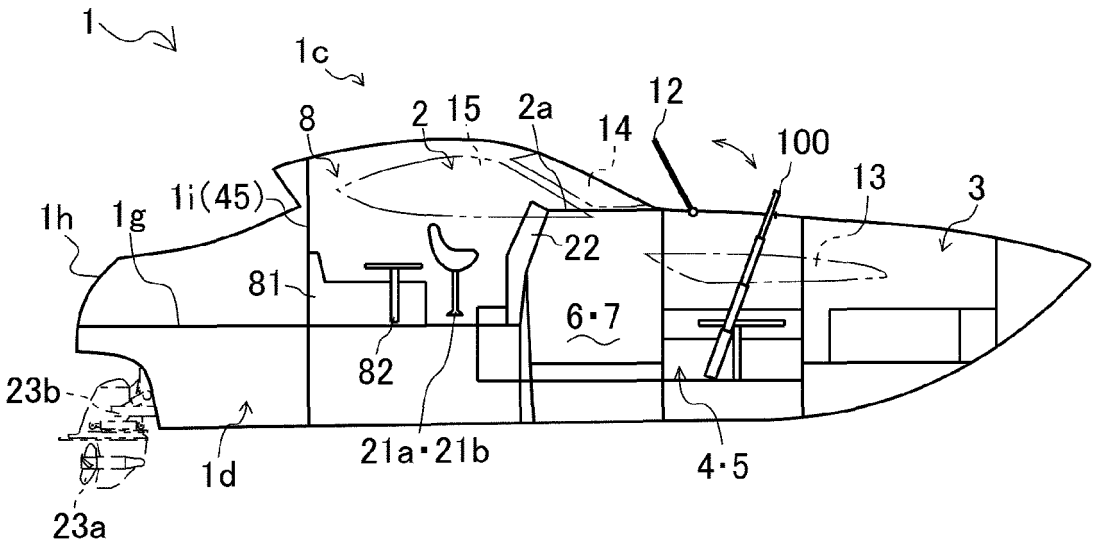


Fig. 9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1c
8
2
15
2a
14
12
100
13
3
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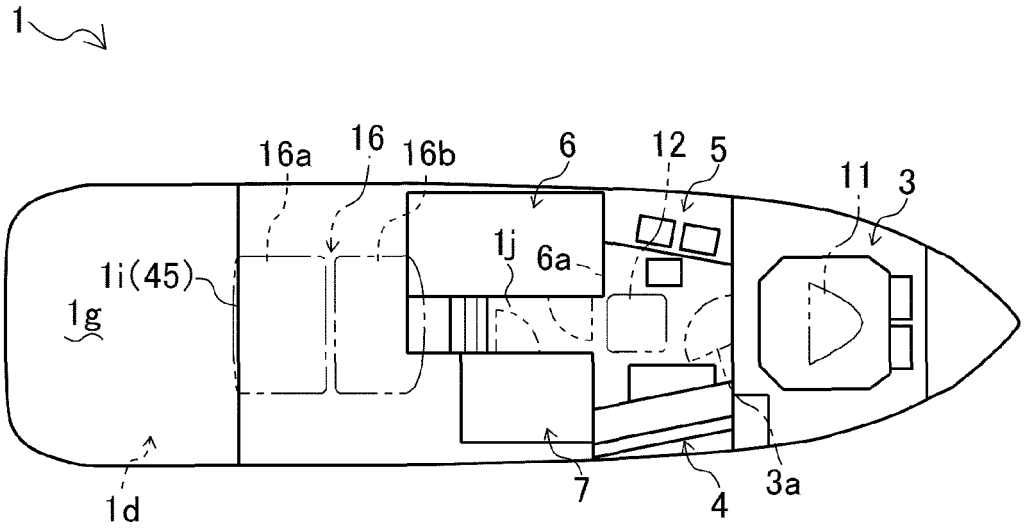
1g
1i(45)
22
81
6・7
82
23b
1d
21a・21b
4・5
23a

Fig. 10



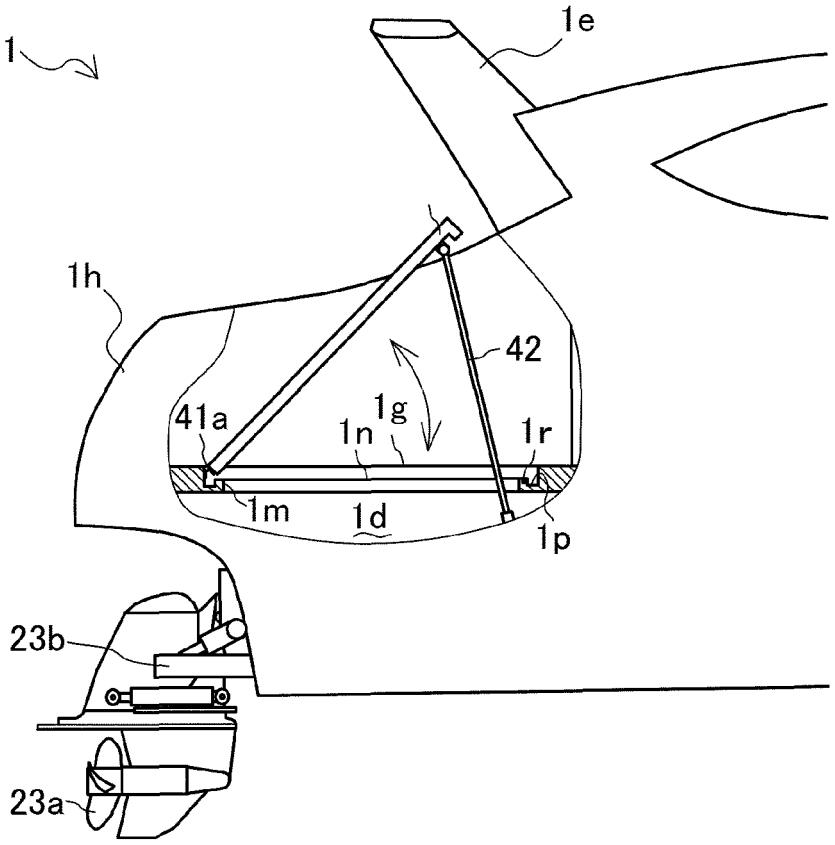


Fig. 11 (a)

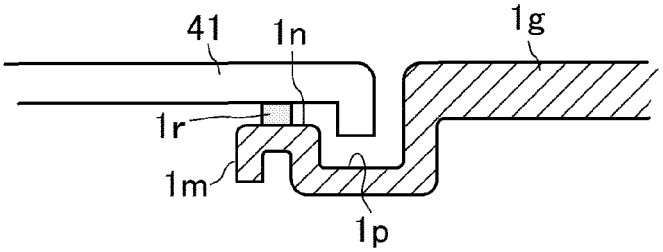
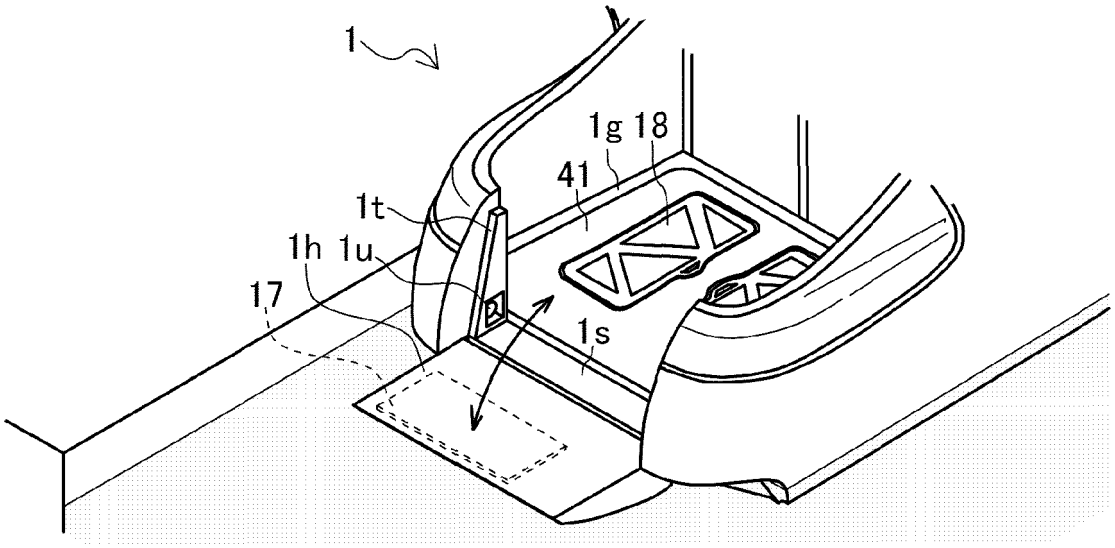


Fig. 11 (b)

Fig. 12



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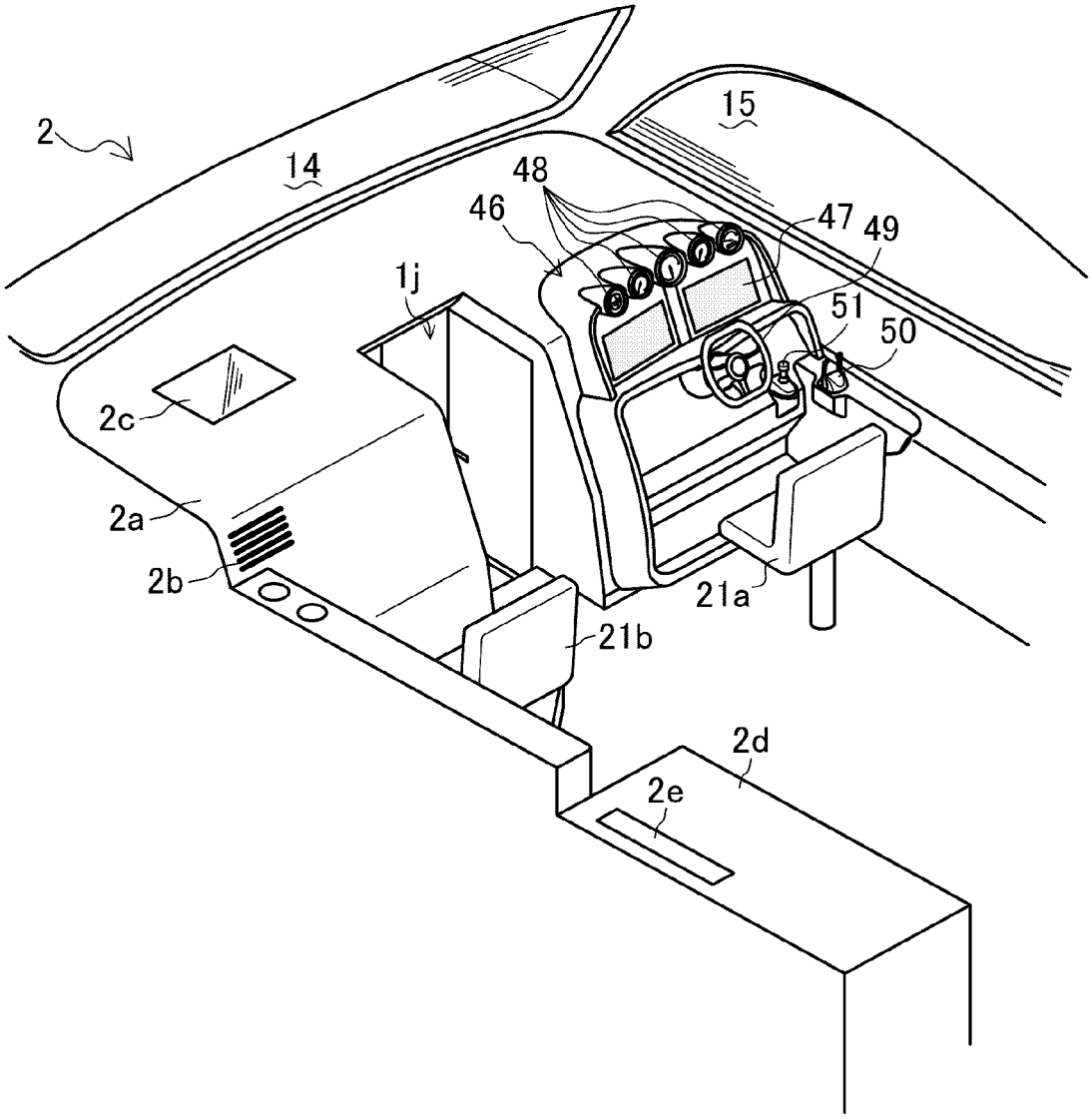


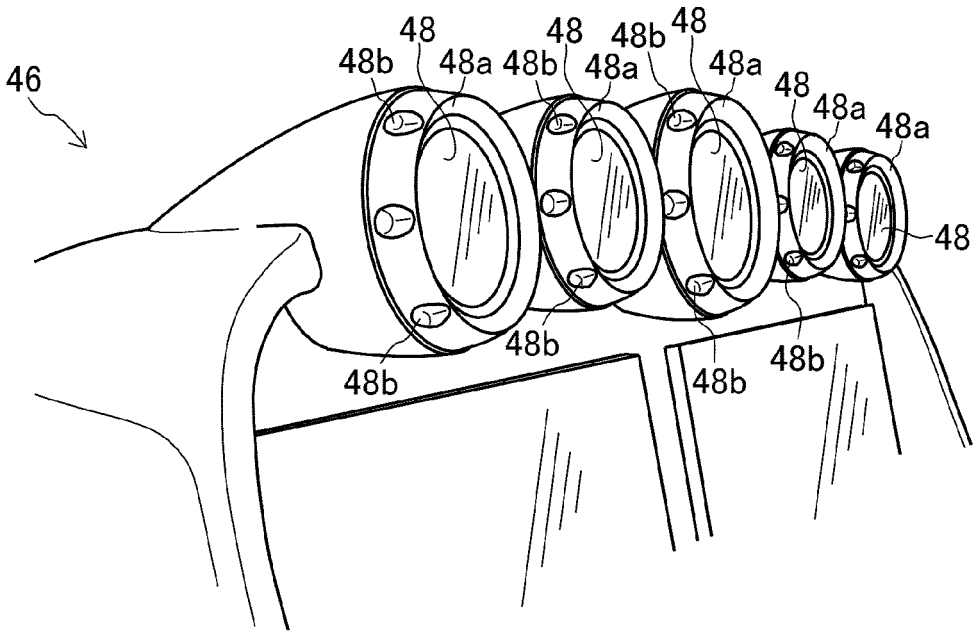


Fig. 14 (a)

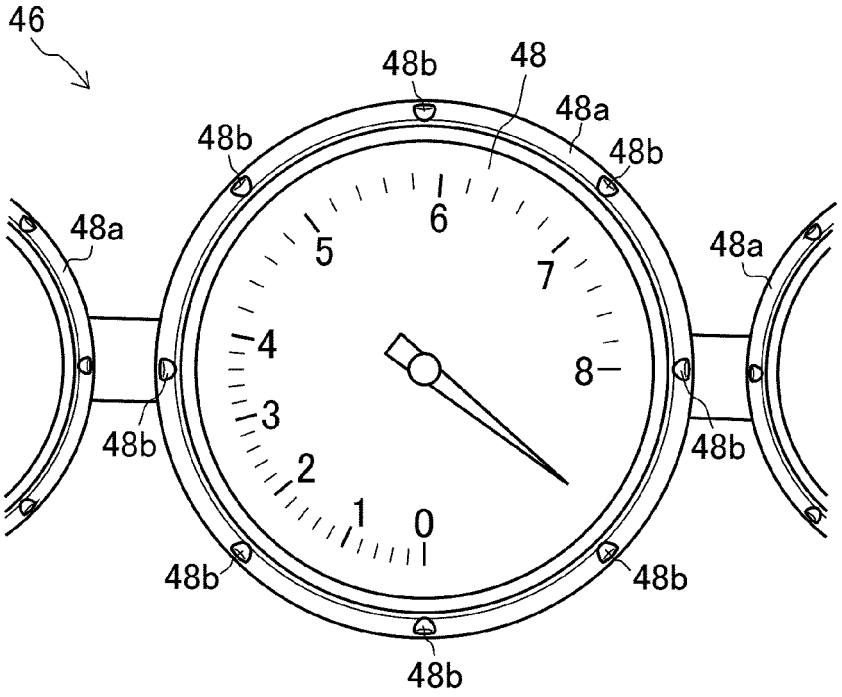
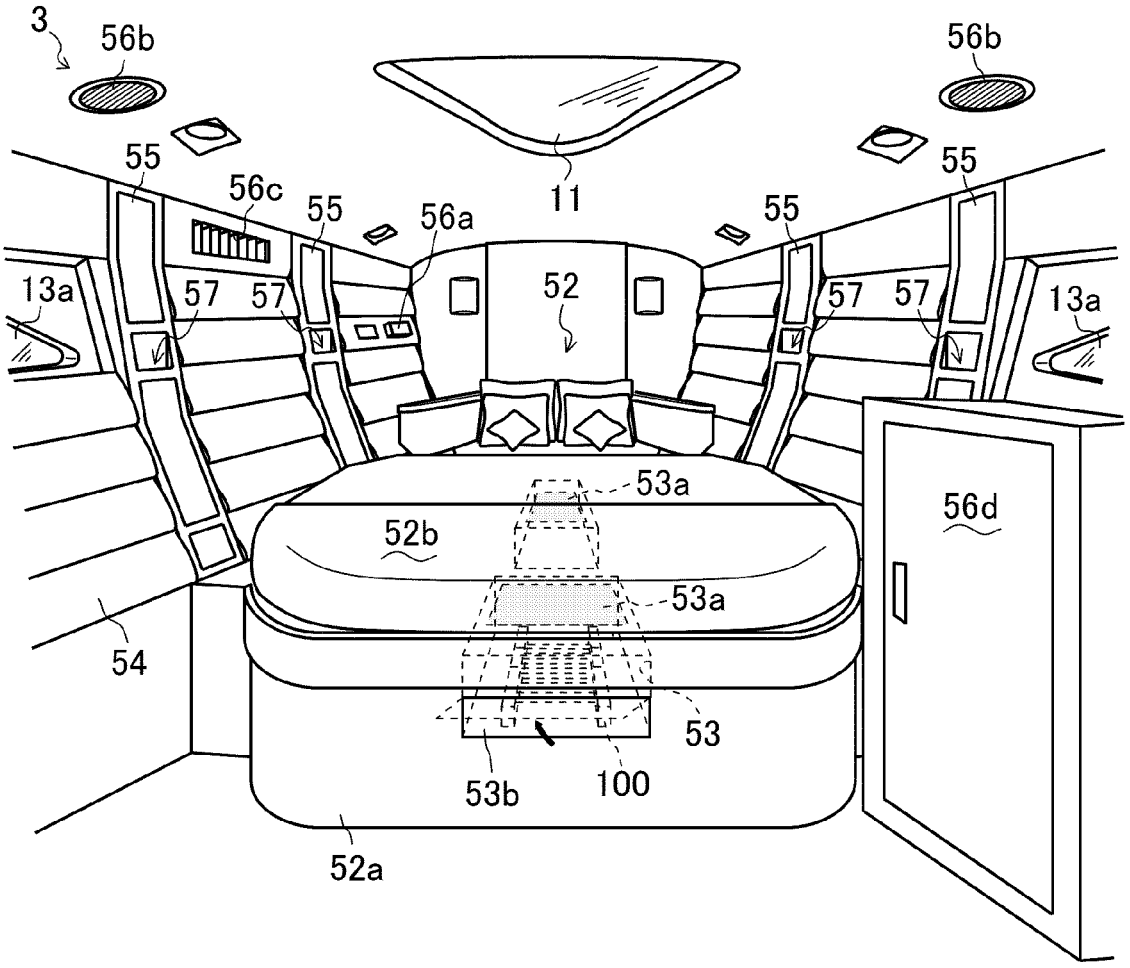


Fig. 14 (b)

Fig. 15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52a

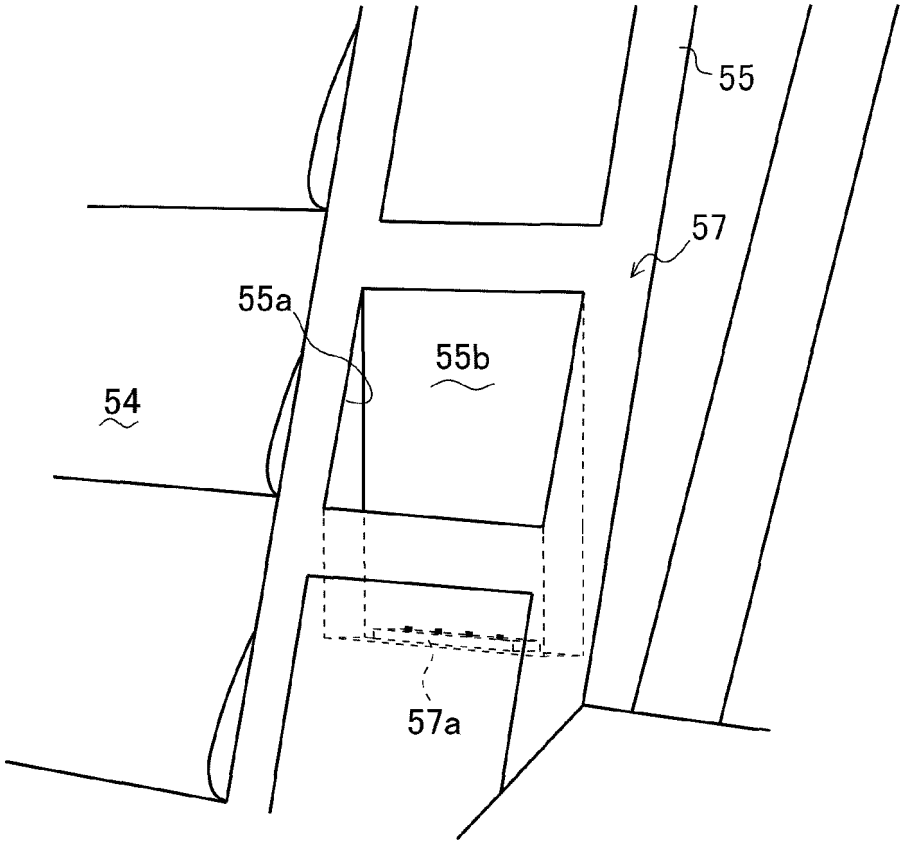


Fig. 16 (a)

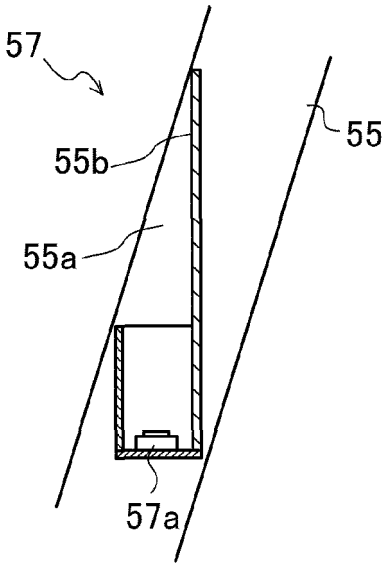


Fig. 16 (b)

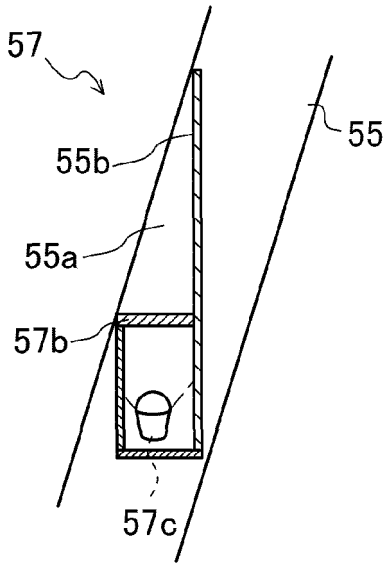


Fig. 16 (c)

Fig. 17

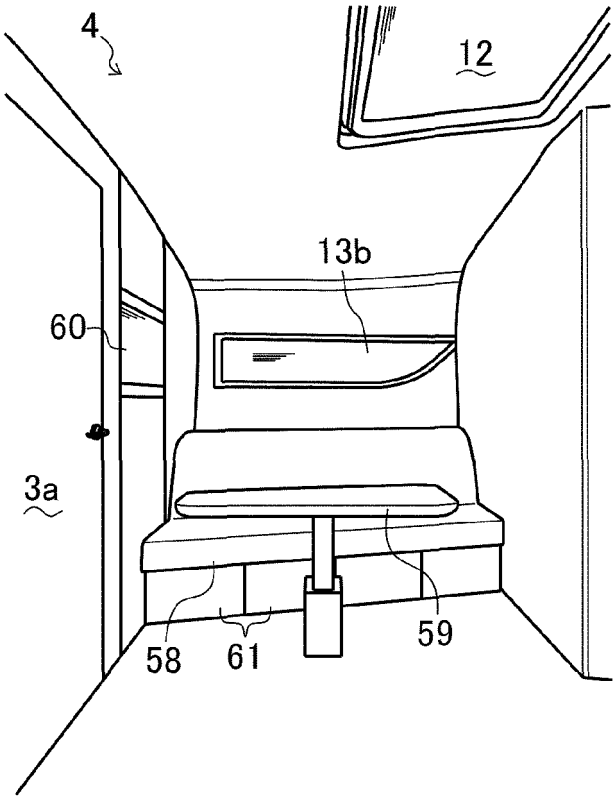


Fig. 18

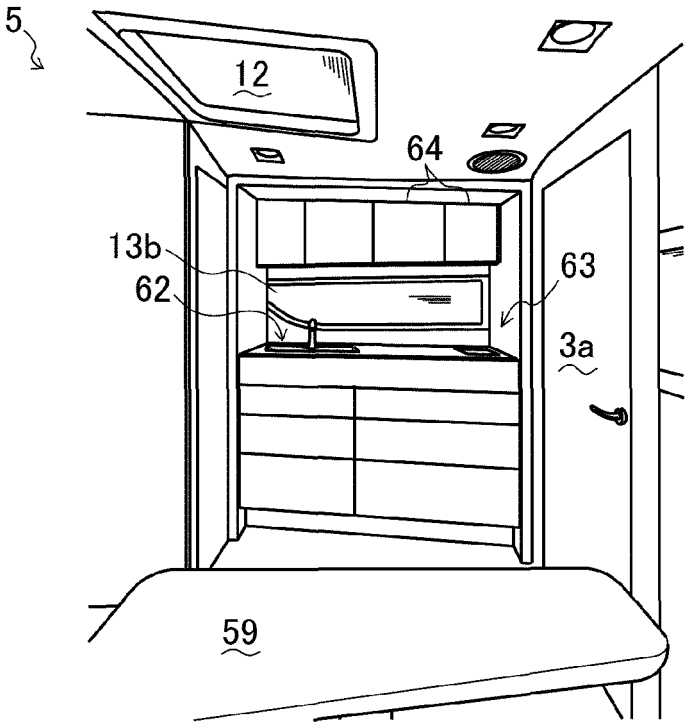


Fig. 19

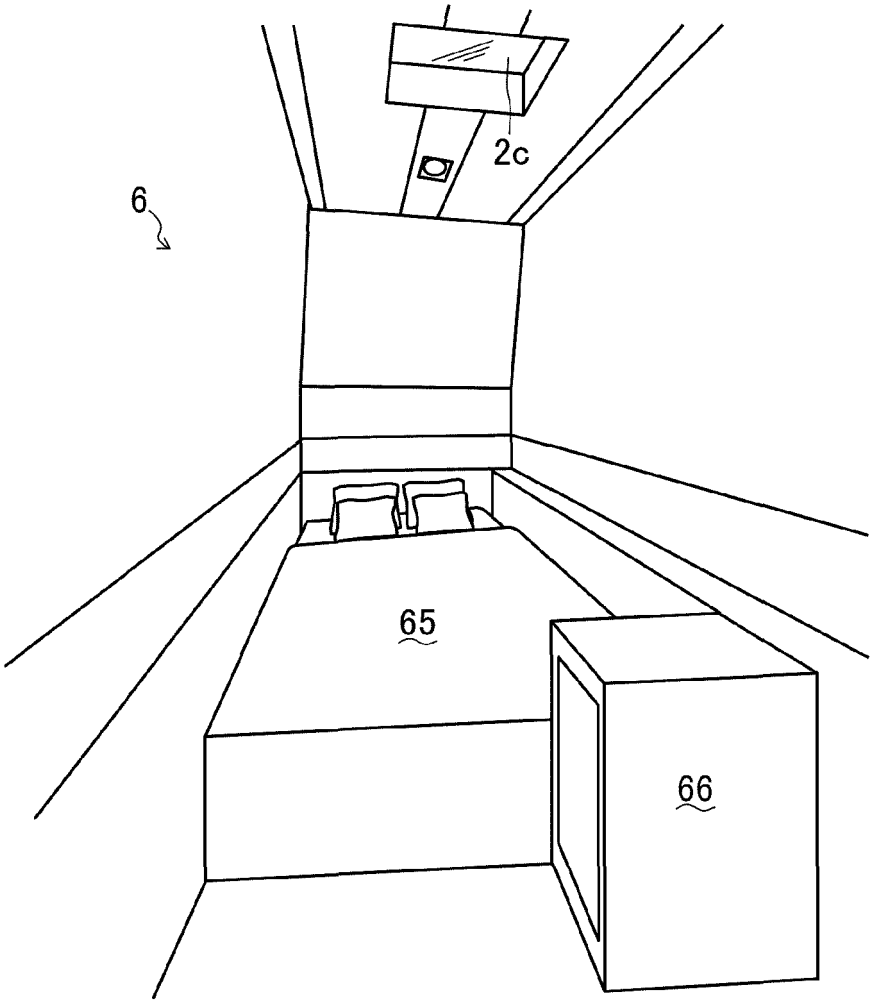


Fig. 20

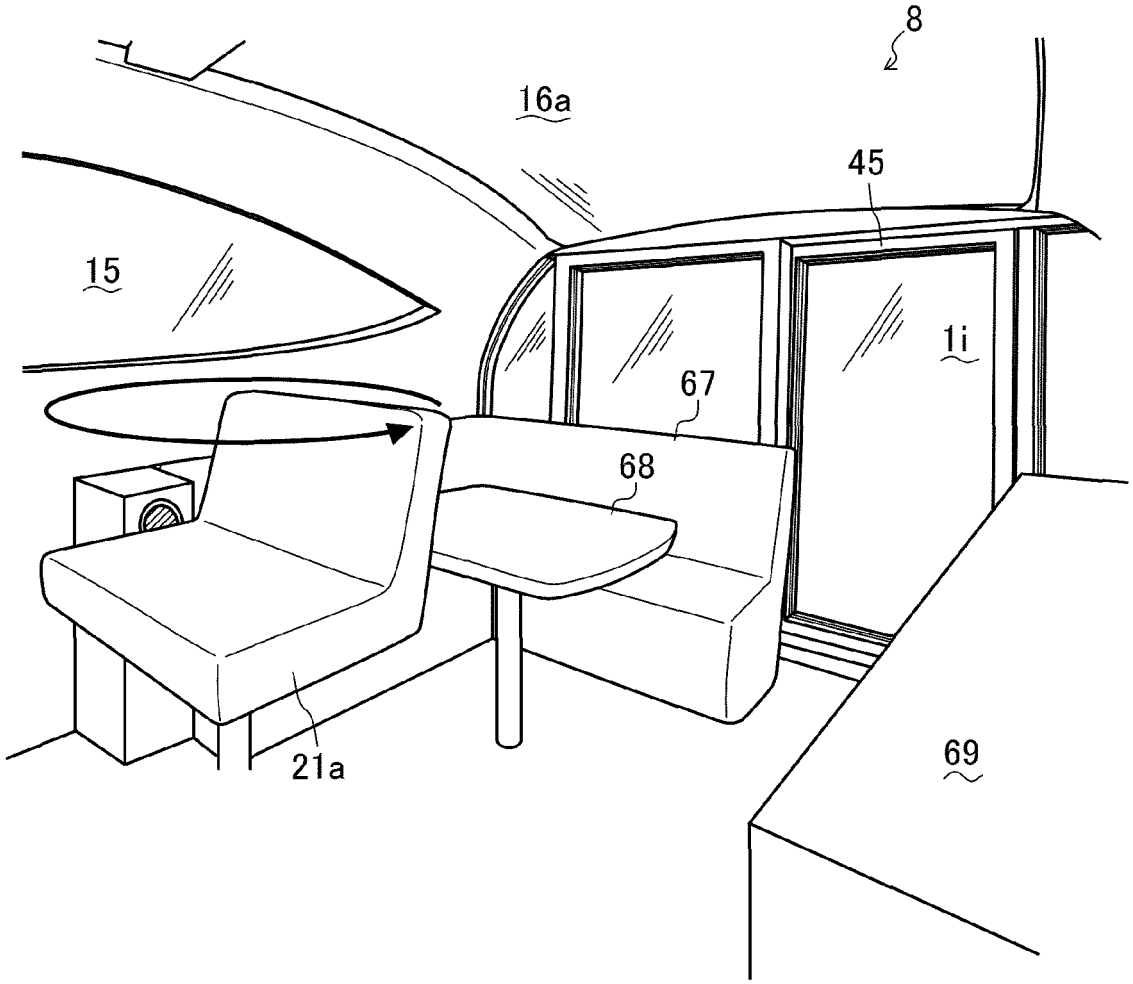


Fig.21

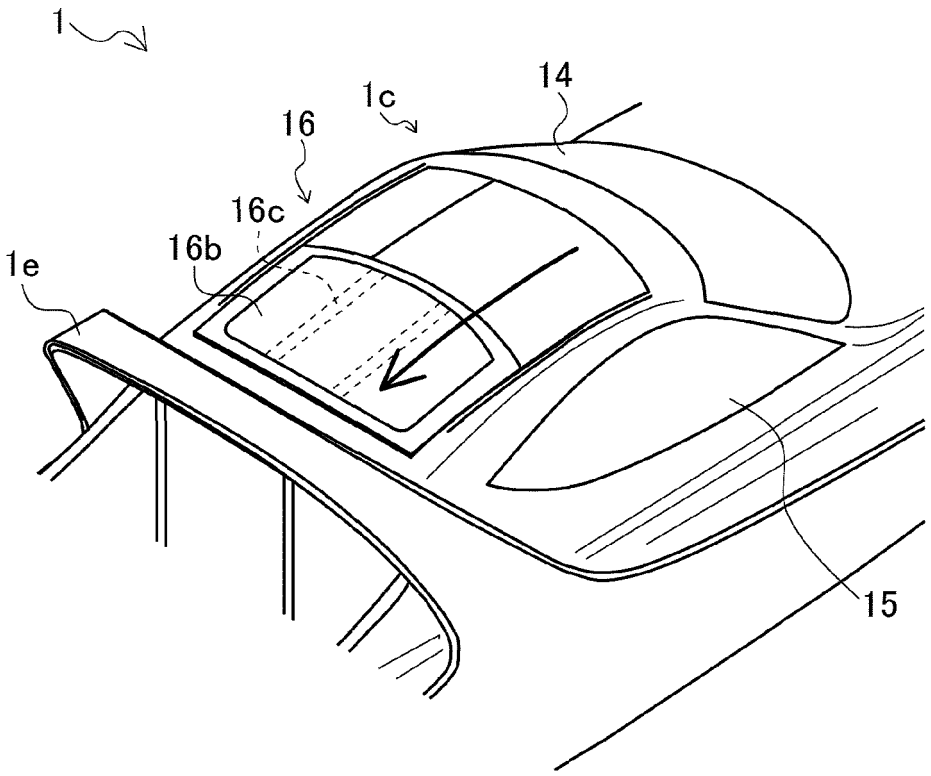


Fig. 22

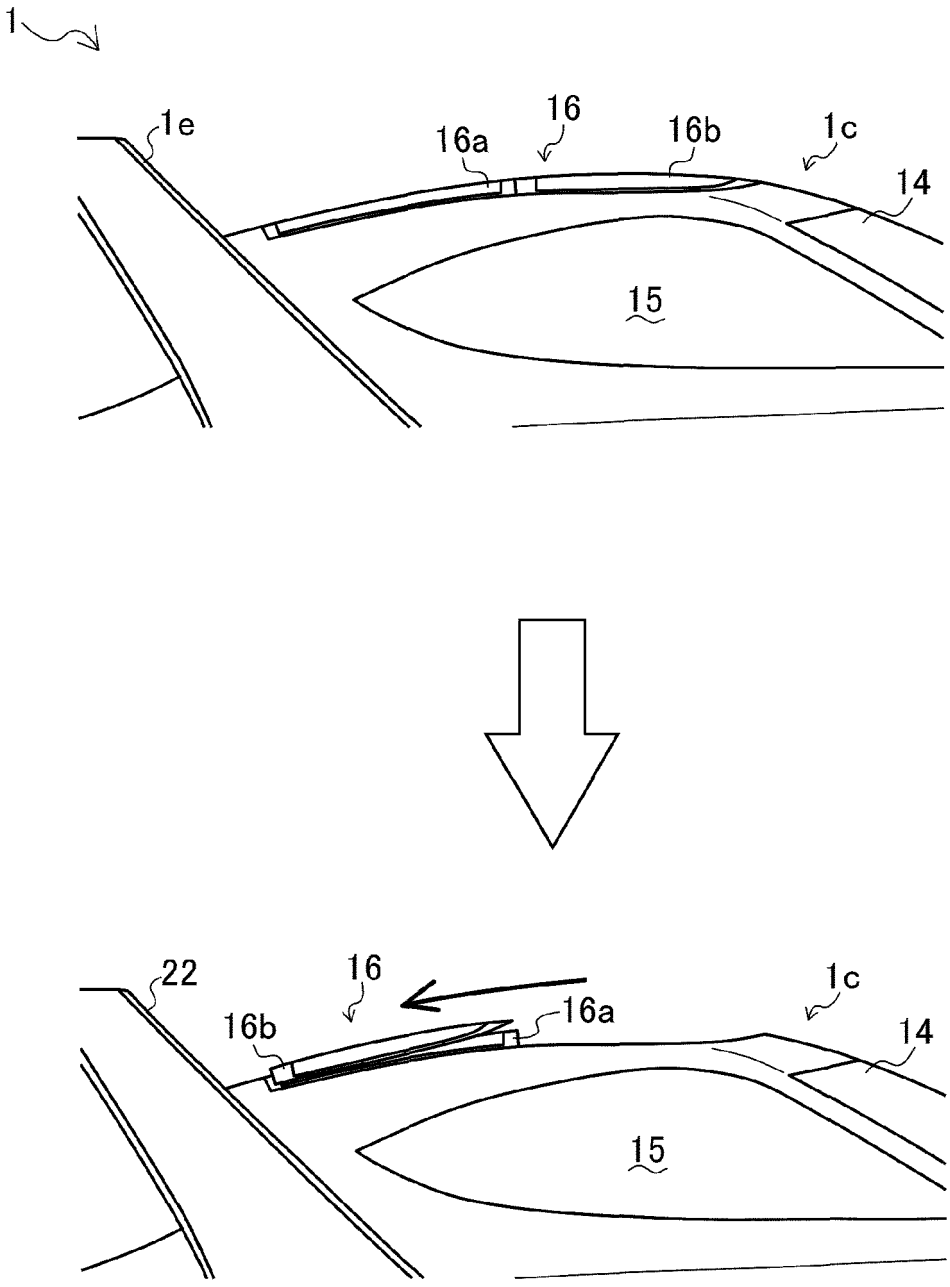
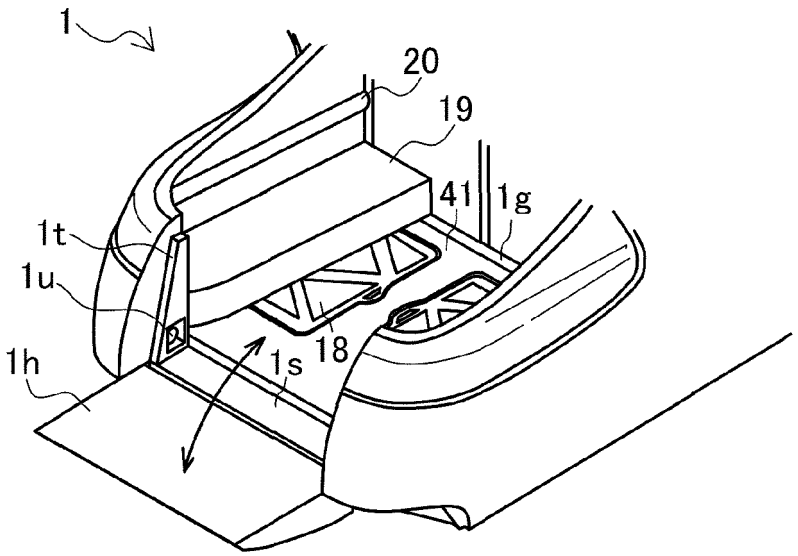


Fig. 23



INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2014/069070

A. CLASSIFICATION OF SUBJECT MATTER
B63B11/00(2006.01)i, *B63B3/26*(2006.01)i, *B63B19/00*(2006.01)i, *B63B29/02*(2006.01)i, *B63B45/06*(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B63B11/00, B63B3/26, B63B19/00, B63B29/02, B63B45/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2014
Kokai Jitsuyo Shinan Koho 1971-2014 Toroku Jitsuyo Shinan Koho 1994-2014

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Thomson Innovation

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	FR 2771994 A1 (SA DUFOUR AND SPARKS), 11 June 1999 (11.06.1999), pages 4 to 8; fig. 1 to 5 (Family: none)	1 2-4
X	US 2012/0111252 A1 (FB DESIGN S.R.L.), 10 May 2012 (10.05.2012), paragraphs [0053] to [0070]; fig. 6 to 9 & EP 2459438 A1 & WO 2011/010196 A1 & IT MI20091301 A1 & CN 102574564 A	1

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
07 August, 2014 (07.08.14)	09 September, 2014 (09.09.14)
Name and mailing address of the ISA/ Japanese Patent Office Facsimile No.	Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2014/069070

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 62-502977 A (Marine Design Rolf Carlsson AB), 26 November 1987 (26.11.1987), page 2, lower right column to page 3, lower left column; fig. 1 to 6 & US 4784076 A & EP 252917 A1 & WO 1986/006341 A1 & SE 8502028 A & ES 296863 U & FI 874690 A & DK 627386 A & CN 86102874 A	2-3
Y	JP 9-272492 A (Miyama Zosen Kabushiki Kaisha), 21 October 1997 (21.10.1997), paragraphs [0010] to [0013]; fig. 1 to 7 (Family: none)	4
A	CN 101767631 A (SHANGHAI DOUBLE HAPPINESS YACHT CO., LTD.), 07 July 2010 (07.07.2010), paragraphs [0006] to [0027]; fig. 1 to 12 (Family: none)	1-4
A	JP 54-115888 A (Yamaha Motor Co., Ltd.), 08 September 1979 (08.09.1979), pages 1 to 3; fig. 1 to 5 (Family: none)	1-3
A	US 4064584 A (James Harold FUNKHOUSER), 27 December 1977 (27.12.1977), column 3; fig. 5 (Family: none)	1-2
A	JP 2000-163605 A (Yanmar Diesel Engine Co., Ltd.), 16 June 2000 (16.06.2000), paragraphs [0008] to [0010]; fig. 1 (Family: none)	1
A	JP 61-253279 A (Yamaha Motor Co., Ltd.), 11 November 1986 (11.11.1986), pages 2 to 3; fig. 1 to 4 (Family: none)	1
A	US 2012/0220176 A1 (Kevin R. NEPRUD), 30 August 2012 (30.08.2012), paragraphs [0037] to [0087]; fig. 1 to 37 (Family: none)	1
A	GB 2050256 A (HUGH CHARIES AMES EASTON), 07 January 1981 (07.01.1981), pages 2 to 3; fig. 1 to 8 (Family: none)	1

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Patent documents cited in the description

- JP 2009208655 A **[0005]**