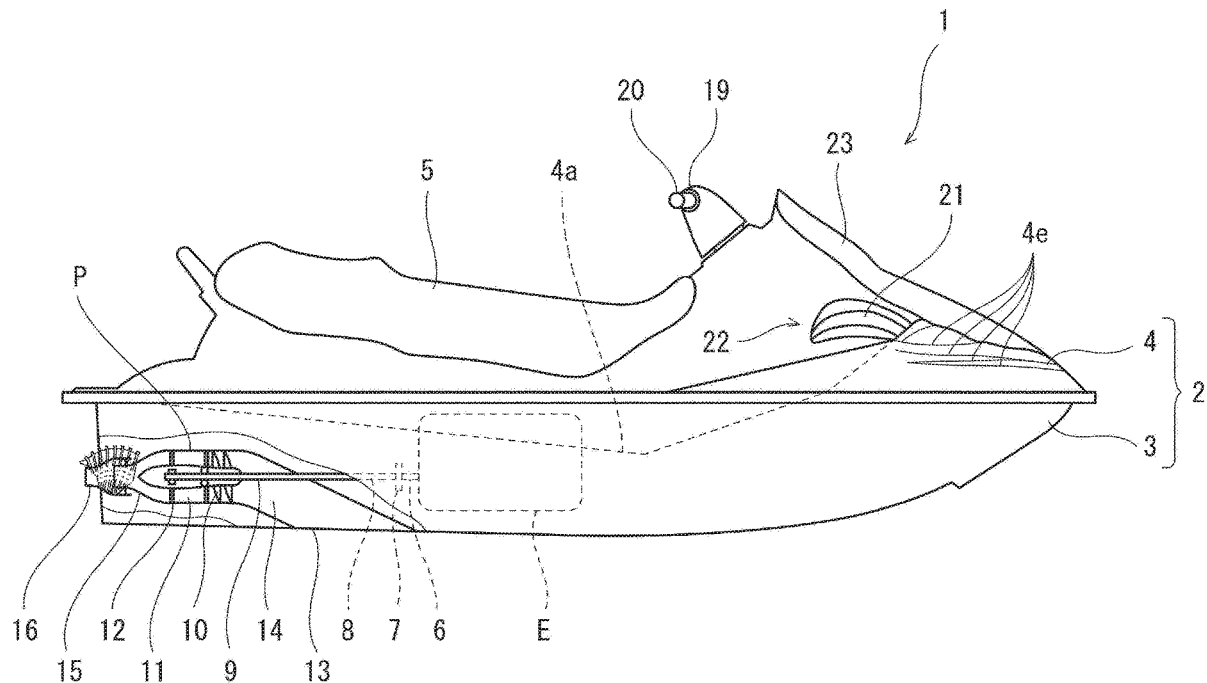
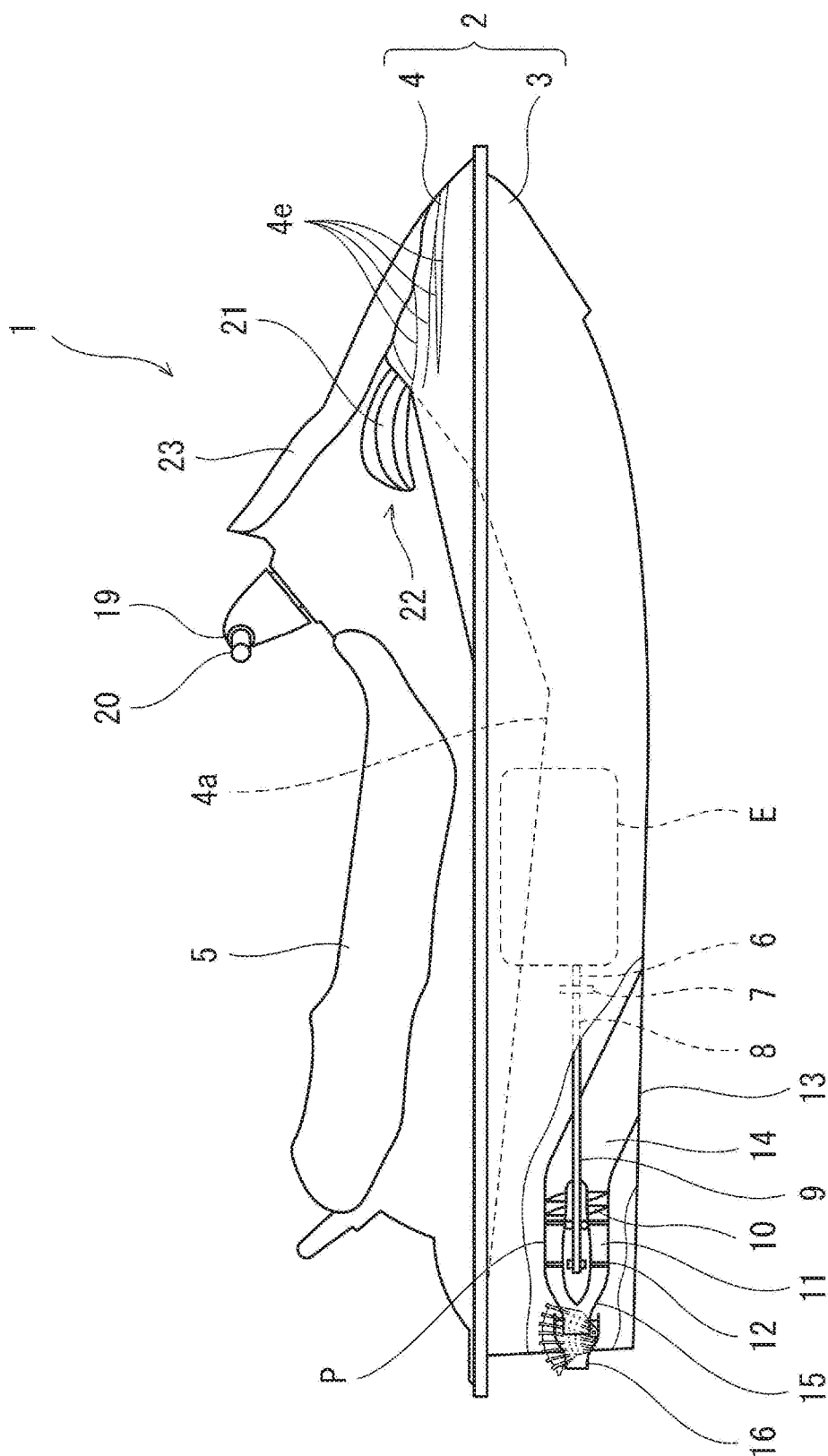


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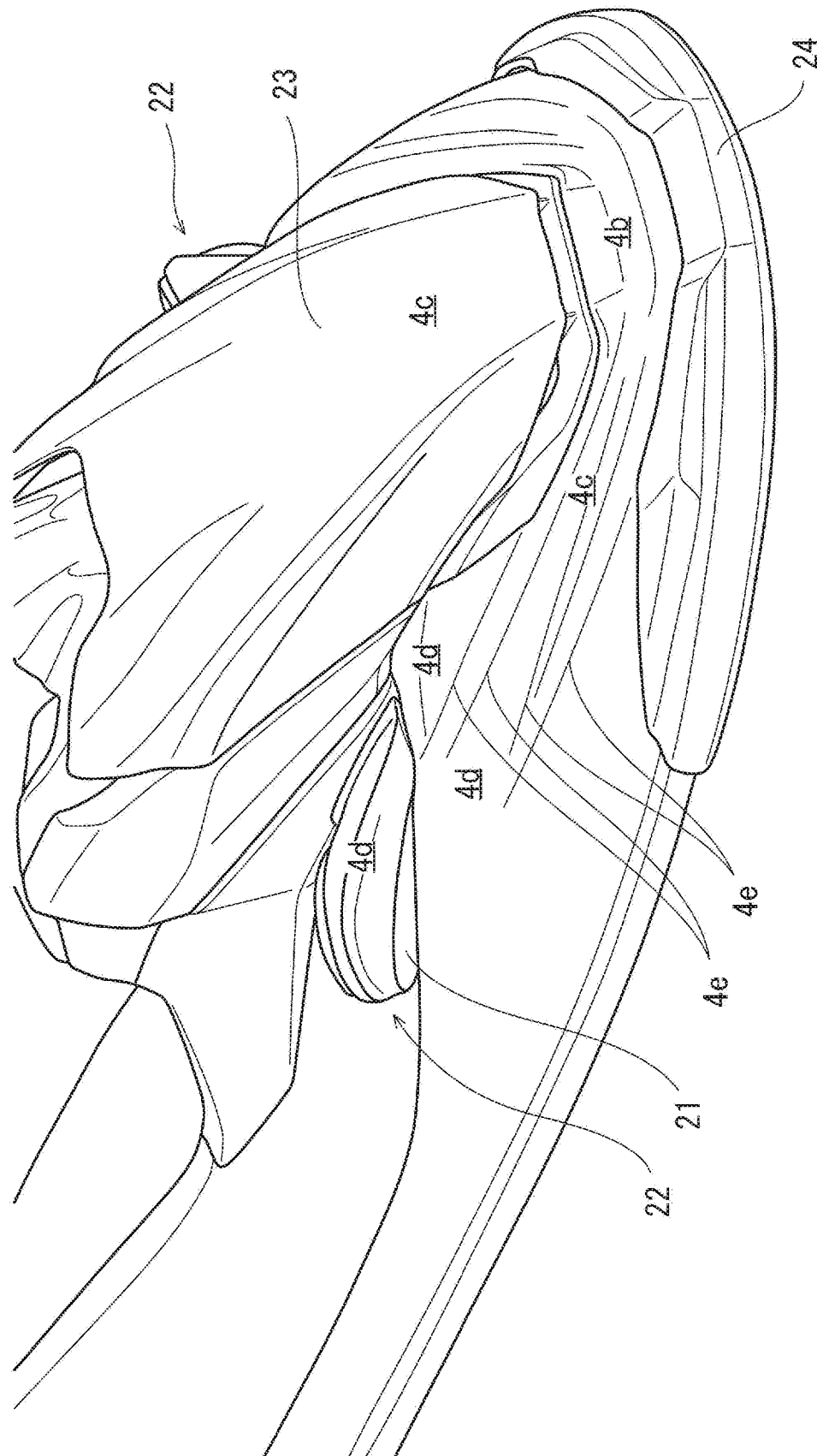


FIG. 2

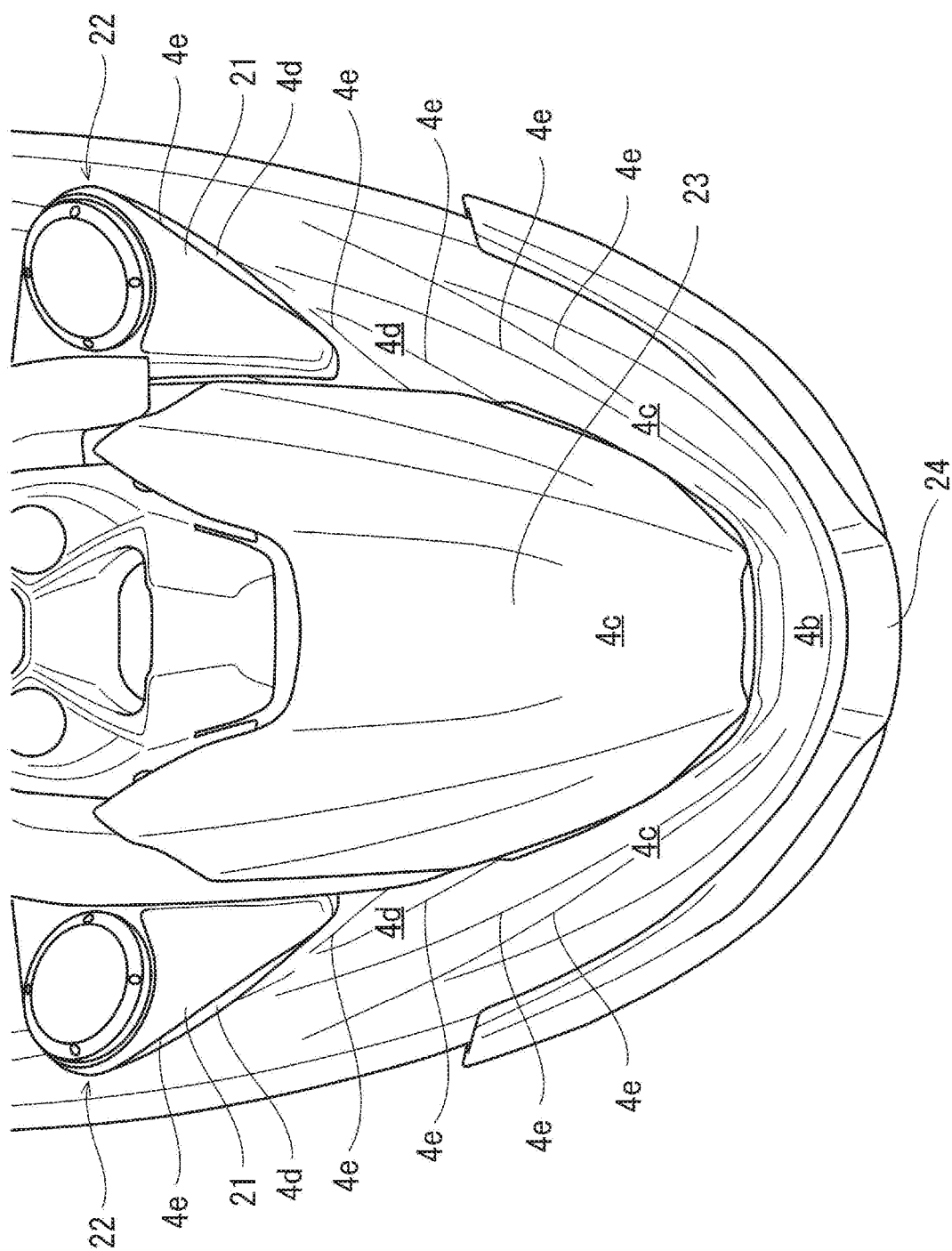


FIG. 3

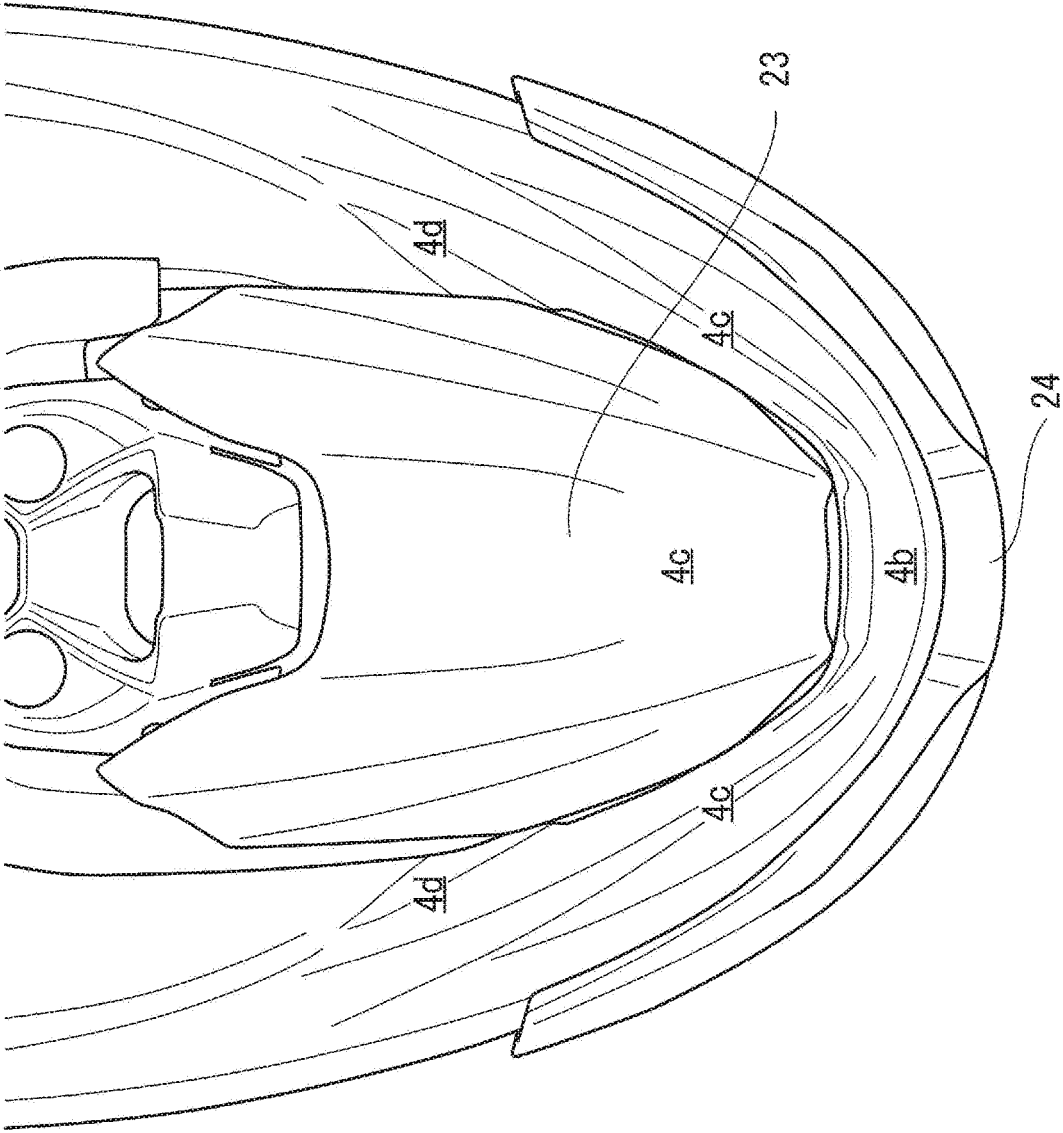


FIG. 4

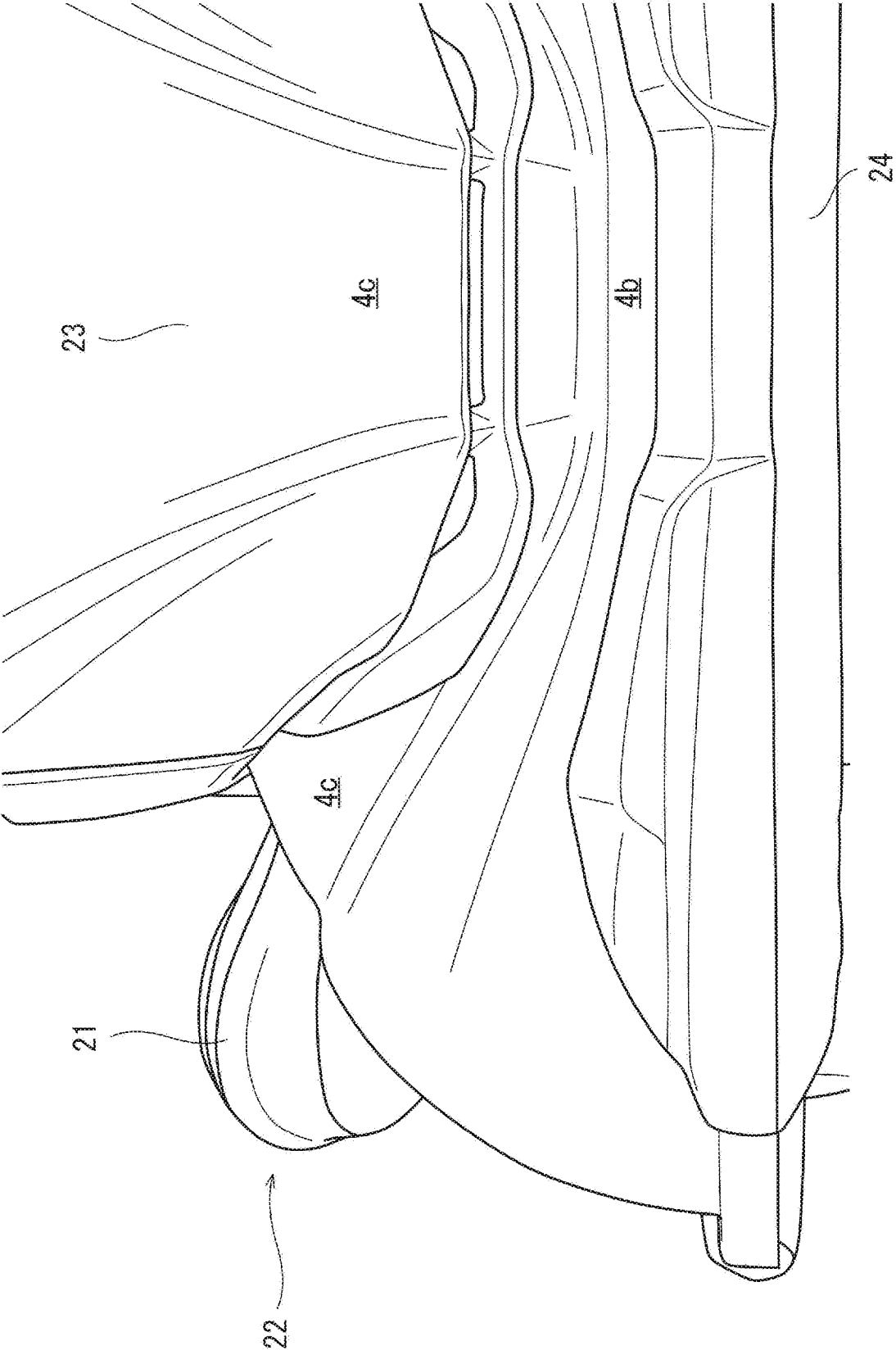


FIG. 5

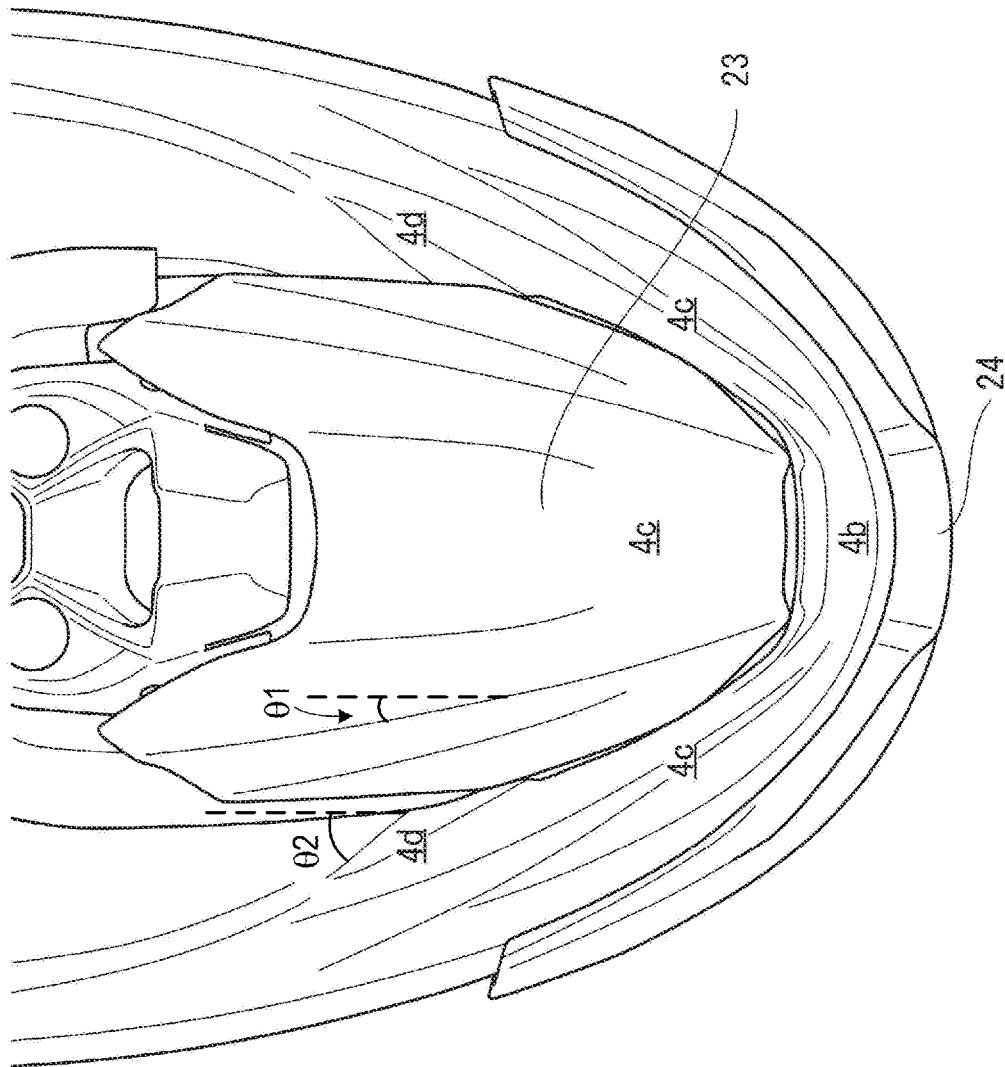


FIG. 4

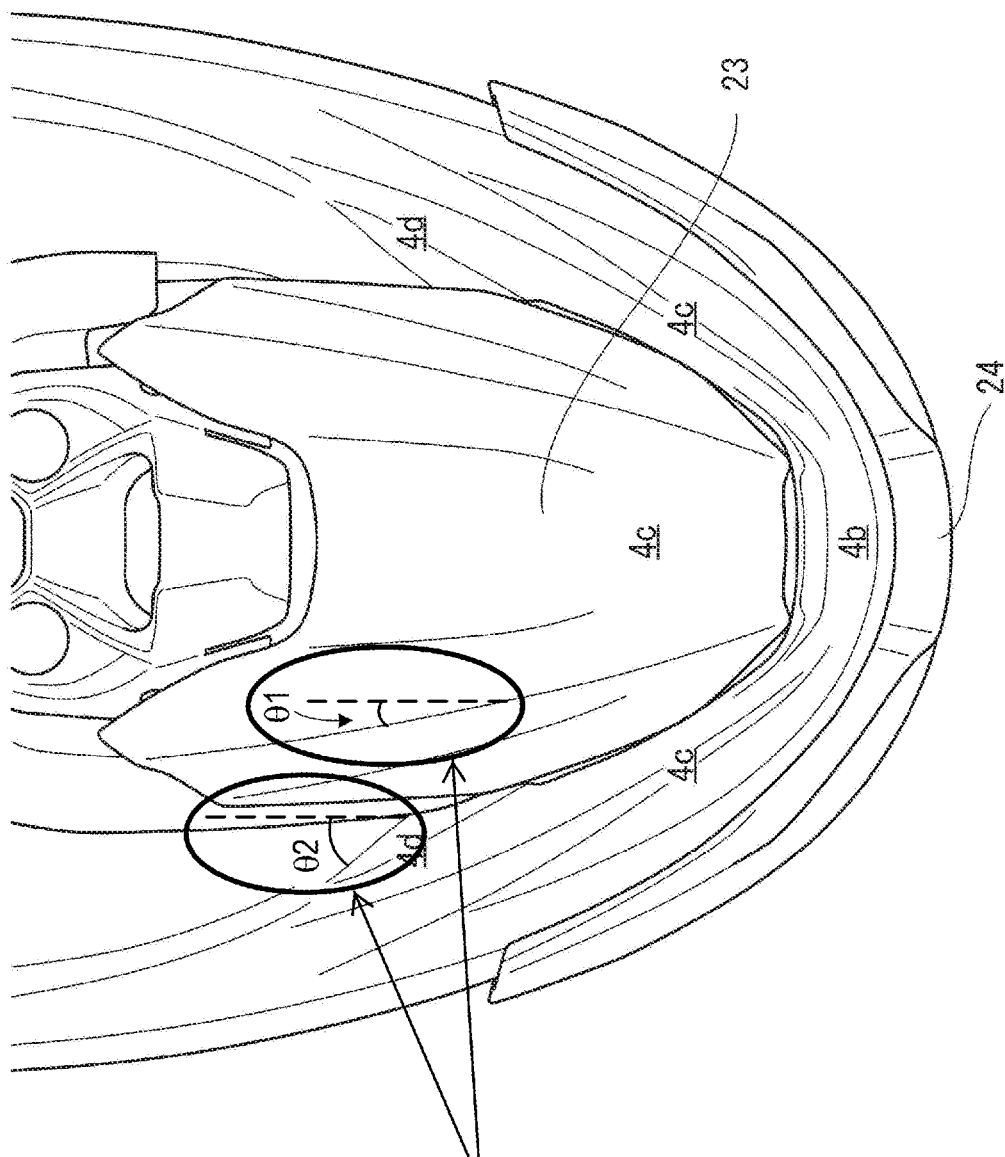


FIG. 4

added dashed lines, angle indicators, and labels for angles 1 and 2

PERSONAL WATERCRAFT

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a personal watercraft configured to be operated on the water by an operator.

Description of Related Art

[0002] Conventionally, a personal watercraft is widely used for leisure activities, sports, or rescue operations. The personal watercraft often has a deck having a front end in a tapered shape for achieving a good design. Examples of such a personal watercraft include a type disclosed in JP 2007-261545 A.

[0003] However, forming the front end of the deck into such a tapered shape urges water to run along a body rearward from the front end and thus to head for an operator during operations of the personal watercraft.

SUMMARY OF THE INVENTION

[0004] It is an object of the present invention to provide a personal watercraft configured to reduce water heading for an operator.

[0005] A personal watercraft according to a first aspect of the present invention includes: a front section lying on a front portion of a deck, the front end section having a tapered shape; a first section lying in a region posterior to the front end section; and a second section lying in a region posterior to the first section, the second section having a surface inclining outward in a body width direction from a front to a rear by an angle larger than an angle of inclination of the first section.

[0006] According to the configuration described above, the deck includes the first section lying in the region posterior to the front end section and the second section lying in the region posterior to the first section and having the surface inclining outward in the body width direction from the front to the rear by an angle larger than an angle of inclination of the first section. Therefore, water running along the first section may be redirected significantly outward in the body width direction by the second section. Therefore, the water running rearward along the front end section of the deck may be redirected outward in the body width direction, and water heading for the operator may be reduced. Accordingly, the operator may operate the personal watercraft without being subject to splash of water, and thus the operator may perform a comfortable operation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a partial broken side view of a personal watercraft according to an embodiment.

[0008] FIG. 2 is a perspective view of the personal watercraft in FIG. 1 illustrating the periphery of a front end section of a deck.

[0009] FIG. 3 is a plan view of the personal watercraft illustrated in FIG. 1 illustrating the periphery of the front end section of the deck.

[0010] FIG. 4 is a plan view of the personal watercraft in FIG. 1 illustrating the periphery of the front end section of the deck with a cover removed.

[0011] FIG. 5 is a front view of the personal watercraft in FIG. 1 illustrating the periphery of the front end section of the deck.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] Hereinafter, an embodiment of the present invention will be described with reference to the drawings.

[0013] FIG. 1 is a partial broken side view of a personal watercraft 1 according to an embodiment. As illustrated in FIG. 1, the personal watercraft 1 includes a body 2, and the body 2 includes a hull 3 and a deck 4 that covers the hull 3 from the top. The personal watercraft 1 includes a seat 5 on the body 2 and is operated by an operator sitting astride on the seat 5. The deck 4 includes deck floors (foot rest spaces) 4a for placement of operator's feet. An engine E, which is an example of a prime mover, is accommodated in an interior space of the body 2.

[0014] An output shaft 6 of the engine E extends rearward in the body 2. An output end of the output shaft 6 is coupled to a propeller shaft 8 via a coupling member 7. A waterjet pump P is disposed on the rear portion of the hull 3 at a center in a lateral direction, and the propeller shaft 8 is coupled to a pump shaft 9 of the waterjet pump P. In other words, the pump shaft 9 rotates in conjunction with the rotation of the output shaft 6. The pump shaft 9 is provided with an impeller 10, and a stator vane 11 is provided at a position posterior to the impeller 10. The impeller 10 is covered with a pump casing 12 having a cylindrical shape, and the pump casing 12 surrounds the impeller 10.

[0015] A water intake 13 opens in the bottom of the body 2. The water intake 13 and the pump casing 12 are in communication with each other via a water passage 14. A pump nozzle 15 is provided at the rear portion of the body 2 and connected to the pump casing 12. The pump nozzle 15 has a diameter decreasing rearward, and includes a jetting port at a rear end. A steering nozzle 16 is secured to the jetting port of the pump nozzle 15 by a lateral pivotal connection.

[0016] The personal watercraft 1 pressurizes and accelerates water taken through the water intake 13 in the bottom of the hull 3 by a rotational force of the impeller 10 of the waterjet pump P driven by the engine E. The stator vane 11 rectifies the flow of the water and causes the water to be jetted rearward from the jetting port of the pump nozzle 15 through the steering nozzle 16. In other words, a reaction force of the water jetted from the waterjet pump P through the steering nozzle provides the personal watercraft 1 with a propulsive force.

[0017] A handle bar 19 to be gripped by an operator for steering is provided on a front part of the deck 4. An operation device (not illustrated) is provided on a right grip 20 of the handle bar 19. Operation of the operation device by the operator can move forward and accelerate the personal watercraft 1. The handle bar 19 is connected to the steering nozzle 16 via a steering cable (not illustrated). The steering nozzle 16 pivots rightward and leftward in conjunction with rightward and leftward turning operations of the handle bar 19. The direction of the personal watercraft 1 may be changed by the pivotal motion of the steering nozzle 16, and thus the steering of the personal watercraft 1 is achieved.

[0018] FIG. 2 is an enlarged perspective view of a front end portion of the body 2. FIG. 3 is a plan view of the front end portion of the body 2. The body 2 has a front end section

4b lying on a front region of the deck 4, and the front end section 4b has a tapered shape. Accordingly, the shape of the front region of the deck 4 has a streamline, which improves the design of the body 2.

[0019] A hatch cover 23 is mounted on the deck 4 at a position posterior to the front end section 4b. The hatch cover 23 is rotatably attached to the deck 4 via a hinge (not illustrated) provided on a front side. Below the hatch cover 23, a space for storage is provided. In the embodiment, the hatch cover 23 is assumed to be also included in the deck 4.

[0020] A bumper 24 is attached on an outer peripheral edge of the front end section 4b of the deck 4. The bumper 24 protects the periphery of the front end section 4b of the deck 4.

[0021] In the embodiment, the deck 4 includes straight sections (first sections) 4c extending rearward in a relatively straight line in regions posterior to the front end section 4b, and inclined sections (second sections) 4d in the regions posterior to the straight sections 4c. The inclined sections 4d have surfaces inclining outward in a body width direction from a front to a rear by an angle larger than an angle of inclination of the straight sections 4c. In the personal watercraft 1 of the embodiment, a certain area extending from the front end section 4b by a certain distance in the fore-and-aft direction of the body 2 is formed as the straight sections 4c, and the inclined sections 4d are formed in regions posterior to the straight sections 4c.

[0022] Covers 21 are attached to the deck 4 at positions posterior to the front end section 4b. In the embodiment, two covers 21 in total are attached to the deck 4, one for each side portion on both sides of the deck 4. In the embodiment, the covers 21 are provided for protecting speakers 22. The covers 21 are attached to the deck 4 to cover outer sides of the speakers 22. The covers 21 covering the speakers 22 protect the speakers 22 from water and other foreign substances.

[0023] The personal watercraft 1 of the embodiment is provided with a music player (not illustrated) to allow a passenger to enjoy the music on the water. Sounds from the music player come out from the speakers 22. In this manner, the personal watercraft 1 of the embodiment is provided with the speakers 22 for outputting sounds from the music player.

[0024] The two covers 21 are attached to the deck 4 at the positions posterior to the front end section 4b. In the embodiment, the covers 21 are removably attached to the deck 4. Therefore, when there is no need to listen to the music, the personal watercraft 1 may be operated with the speakers 22 and the covers 21 for covering the speakers 22 removed.

[0025] In the embodiment, parts of the covers 21 are formed into a shape continuing from the deck 4. The covers 21 also constitute parts of the inclined sections 4d.

[0026] A plan view of the front region of the deck 4 with the covers 21 removed is illustrated in FIG. 4. As illustrated in FIG. 4, since the inclined sections 4d are formed also on a portion of the deck 4 other than the covers 21, the deck 4 includes the inclined sections 4d even when the covers 21 are removed.

[0027] In the embodiment, the removable covers 21 constitute parts of the inclined sections 4d. Therefore, by replacing the covers 21 with covers 21 having a different degree of inclination, the degree of inclination of the inclined sections 4d may be changed with the covers 21.

Therefore, the degree of inclination of the inclined sections 4d may be adjusted by selecting the covers 21.

[0028] In the embodiment, the body 2 is configured to make parts of the covers 21 protrude from the straight sections 4c when the body 2 is viewed from the front.

[0029] A front view of the deck 4 is illustrated in FIG. 5. As illustrated in FIG. 5, the covers 21 protrude from the straight sections 4c outward in the body width direction and upward when the body 2 is viewed from the front.

[0030] As illustrated in FIG. 1, the deck 4 is provided with the deck floors 4a for placement of feet when the operator is seated on a seat 5. Therefore, the operator operates the personal watercraft 1 with his or her feet rested on the deck floors 4a. In the embodiment, the inclined sections 4d are formed in regions anterior to the deck floors 4a. Therefore, the inclined sections 4d are formed in the region anterior to a region for placement of operator's feet during operation.

[0031] The surfaces of the inclined sections 4d incline upward from the front to the rear by an angle larger than an angle of inclination of the straight sections 4c. The straight sections 4c and the inclined sections 4d include ridge lines 4e along the inclination of the surfaces.

[0032] When the operator operates the personal watercraft 1 configured as described above, the personal watercraft 1 slides on the water. During normal sliding, a front region of the body 2 lifts and thus the front end of the body 2 is less subject to splash of water. However, at the time of traveling between waves or turning, water may head for the front end of the deck 4. When water hits against the front end section 4b of the deck 4 while the personal watercraft 1 is sliding in such a case, the water runs rearward along the surface of the deck 4.

[0033] In the embodiment, the deck 4 includes the straight sections 4c extending rearward in a relatively straight line, and the inclined sections 4d having surfaces inclining outward in the body width direction from the front to the rear by an angle larger than an angle of inclination of the straight sections 4c. Water on the surface of the straight sections 4c runs rearward along the surface. When the water passes by the straight sections 4c and reaches the inclined sections 4d, due to the inclination of the surfaces of the inclined sections 4d facing outward in the width direction, the water then redirects toward the outside in the body width direction. Therefore, the water running rearward along the straight sections 4c of the deck 4 is redirected outward in the width direction of the body in the inclined sections 4d.

[0034] Since the water running rearward along the straight sections 4c of the deck 4 may be directed outward in the width direction of the body 2 (hereinafter, simply referred to as the body width direction), water heading for the operator may be reduced. Accordingly, the operator may operate the personal watercraft 1 without being subject to much splash of water, and thus the operator may comfortably perform the operation.

[0035] In the embodiment, the covers 21 are configured to be removably attached and are formed as parts of the inclined sections 4d when being attached to the deck 4. Since the covers 21 are configured as parts of the inclined sections 4d, the inclined sections 4d may be formed easily at positions of attachment of the covers 21 by the attachment of the covers 21. Therefore, according to the configuration of the embodiment, parts of the inclined sections 4d may be formed easily on the deck 4.

[0036] In addition, since the body is configured to make parts of the covers 21 protrude from the straight sections 4c when the body 2 is viewed from the front, water running along the straight sections 4c positively reaches the cover 21 when the water runs rearward from the front end section of the deck 4 along the body 2. Therefore, water hits efficiently against the covers 21. The water reaching the covers 21 runs along the inclined sections 4d and is redirected outward in the body width direction. Therefore, the amount of water which may be redirected outward in the body width direction may be increased, and thus the water may be redirected efficiently.

[0037] In the embodiment, the cover 21 is configured to protect the speakers 22. Therefore, the configuration of the covers 21 for protecting the speakers 22 and the configuration of the surface inclined significantly toward the outside in the body width direction for redirecting water are commonly achieved. Therefore, the space in the interior of the body 2 may be used efficiently and thus a reduction in size of the personal watercraft 1 is achieved.

[0038] In the embodiment, the inclined sections 4d are formed in the regions anterior to the deck floors 4a. Therefore, water heading for the deck floors 4a may be redirected significantly outward in the body width direction. Therefore, entry of water onto the deck floors 4a may be prevented or reduced. Accordingly, the operator will have less occasion to feel uncomfortable due to entry of water onto the deck floors 4a for placing his or her feet.

[0039] In the embodiment, the surfaces of the inclined sections 4d are inclined upward from the front to the rear by an angle larger than the angle of inclination of the straight sections 4c. Therefore, water may be redirected significantly not only outward in the body width direction, but also upward by the inclined sections 4d. Therefore, water running along the deck 4 may be redirected further positively and the amount of water heading for the operator may be reduced further positively. Specifically, since the surfaces of the inclined sections largely incline upward, water running along the deck 4 splatters upward. The water splattered upward splashes toward a level higher than the operator, and thus the operator is much less subjected to splash of water.

[0040] In addition, formation of the ridge lines on the straight sections 4c and the inclined sections 4d along the inclination of the surface makes water run efficiently along the ridge lines. Efficient routing of water along the ridge lines helps to positively redirect the water on the inclined sections 4d and positively reduce water heading for the operator.

[0041] In the embodiment, the straight sections 4c lie in proximity to the front end section 4b and the inclined sections 4d lie in the region posterior to the straight sections 4c. However, the present invention is not limited to the embodiment, and the straight sections 4c and inclined sections 4d may be provided at different regions. The straight sections 4c and the inclined sections 4d may take other configuration as long as the inclined sections 4d lie in the region posterior to the straight sections 4c and anterior to the operator for redirecting water heading for the operator.

[0042] In the embodiment, the speakers 22 output the music from the music player. However, the speakers 22 are not limited to the mode described in the embodiment. The speakers 22 may be configured to output sounds or voices from media other than the music player. For example, the speakers 22 may output sounds and voices from radio broadcasting or even the sounds and voices from wireless network.

[0043] In the embodiment, the covers 21 are configured to protect the speakers 22. However, the covers 21 are not limited to the mode in the embodiment. The covers 21 may be configured to protect other items. The covers 21 may not be configured to protect something, but may be mounted on the deck 4 for providing the inclined sections 4d. The personal watercraft 1 does not have to be provided with the covers 21.

[0044] In the embodiment, water is redirected by the shape of the surface of the deck 4 to avoid water from heading for the operator. However, the present invention is not limited to the embodiment. The surface of the deck 4 may be configured to redirect water to avoid water from heading for a passenger other than the operator. Alternatively, the surface of the deck 4 may be configured to redirect water to avoid water from heading both for the operator as well as the passenger other than the operator.

1. A personal watercraft comprising:
 - a body including a deck, wherein
 - a front end section of the deck has a tapered shape;
 - a first section of the deck lies in a region posterior to the front end section; and
 - a second section of the deck lies in a region posterior to the first section, the second section having a surface inclining outward in a width direction of the body from front to rear by an angle larger than an angle of inclination of a surface of the first section.
2. The personal watercraft according to claim 1, wherein the deck includes a cover attached to the deck in the region posterior to the front end section, and
 - the cover constitutes a part of the second section.
3. The personal watercraft according to claim 2, wherein a part of the cover protrudes from the first section when the body is viewed from the front.
4. The personal watercraft according to claim 2, wherein the cover protects a speaker.
5. The personal watercraft according to claim 1, wherein the deck includes a foot rest space for placement of an operator's foot during operation, and
 - the second section lies in a region anterior to the foot rest space.
6. The personal watercraft according to claim 1, wherein the surface of the second section inclines upward from the front to the rear by an angle larger than an angle of inclination of the surface of the first section.
7. The personal watercraft according to claim 1, wherein each of the first section and the second section includes a ridge line extending along the inclination of the surface.

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