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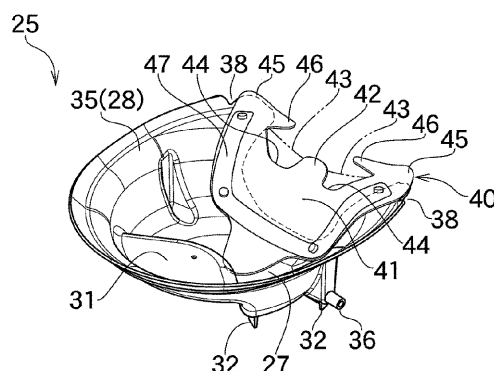
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(54) **HEAD IMMERSION BATH DEVICE AND SHAMPOO BOWL**

(57) Provided is a head immersion bath apparatus capable of performing a treatment that is comfortable for a person who receives the treatment and that allows an operator to perform other tasks during the treatment without any problems. A head immersion bath apparatus 25 includes a basin main body 26 and a flow straightening unit 40 attached to a peripheral side portion 28 on the near side. The flow straightening unit 40 includes a facing

portion 42 that is connected to an upper portion of a peripheral-side main body portion 41, water flow portions 43 that are formed by cutting out right and left portions of the facing portion 42, and guides 45 that are formed on the left and right sides of the water flow portions 43. A bottom portion 27 of the head immersion bath apparatus 25 is positioned above a bottom surface 2 of a shampoo bowl 1.

FIG. 21



Description

Technical Field

[0001] The present invention relates to a head immersion bath apparatus that is used for scalp massage and the like, and a shampoo bowl that is provided with the head immersion bath apparatus.

Background Art

[0002] Hairdressing facilities such as hair salons are traditionally equipped with shampoo bowls for washing hair of people who receives treatments. An operator performs a treatment on a person who receives the treatment either from the side or from the top of the person's head while the person's head is placed in a shampoo bowl. Examples of treatments that are performed in a shampoo bowl includes shampooing and scalp massage, and some treatments take several tens of minutes to about one hour. When a treatment that requires a long time is performed, a person who receives the treatment may sometimes feel pain in their neck if their neck directly touches a rim of a shampoo bowl. Accordingly, for example, a shampoo bowl-mounted pillow described in PTL 1 below (hereinafter referred to as an "invention of publicly known document 1") is mounted on a rim of a shampoo bowl and serves as a cushion such that the neck of a person who receives a treatment does not directly touch the rim of the shampoo bowl.

[0003] Meanwhile, in addition to such treatments, operators have many tasks including, for example, cleaning, tool maintenance, telephone answering, confirmation of reservations, and so forth. However, when an operator is occupied with a treatment that takes a long time, the operator cannot perform other tasks during the treatment. Therefore, there is a need for a treatment that is comfortable for a person who receives the treatment and that allows an operator to perform other tasks without any problems. Conceivable examples of such a treatment are continuous pouring of warm water over the head of a person who receives the treatment or continuous immersion of the person's head in warm water (hereinafter referred to as "head immersion bath").

Citation List

Patent Literature

[0004] PTL 1: Japanese Registered Utility Model No. 3185374

Summary of Invention

Technical Problem

[0005] The above-mentioned invention of publicly known document 1 is configured to be installed between

the neck of a person who receives a treatment and a rim of a shampoo bowl, and thus, the position of the person's head with respect to the bottom of the shampoo bowl becomes higher than in the case where the invention of publicly known document 1 is not used. In this case, when filling the shampoo bowl with warm water, the warm water overflows from the rim of the shampoo bowl before the water level reaches the head of the person who is receiving the treatment, and the head will not be immersed in the warm water. Even if the warm water can be prevented from overflowing and the water level can reach the head of the person, a significant amount of warm water is required, which is not cost-effective.

[0006] The present invention has been proposed in view of the above situation. In other words, it is an object of the present invention to provide a head immersion bath apparatus capable of performing a treatment that is comfortable for a person who receives the treatment and that allows an operator to perform other tasks during the treatment without any problems.

Solution to Problem

[0007] To achieve the above-mentioned object, a head immersion bath apparatus according to the present invention includes a bottom portion that is disposed above a bottom surface of a shampoo bowl in which a treatment is performed on a person who receives the treatment and a peripheral side portion that is connected to a peripheral edge of the bottom portion and extends upward. The peripheral side portion includes a neck edge portion that is a portion facing a neck placement unit on which the person's neck is placed at an edge of a side surface of the shampoo bowl, and warm water in which the person's head is to be immersed is collected in the head immersion bath apparatus.

[0008] In the head immersion bath apparatus according to the present invention, the back of the person's head can be immersed in the warm water when the head immersion bath apparatus is full of the warm water.

[0009] In the head immersion bath apparatus according to the present invention, the neck edge portion faces the person's neck without coming into contact with the person's neck.

[0010] The head immersion bath apparatus according to the present invention further includes a leg that comes into contact with the bottom surface.

[0011] The head immersion bath apparatus according to the present invention further includes a leg that is hooked onto the edge of the side surface.

[0012] The head immersion bath apparatus according to the present invention further includes a leg that is fitted into a drain port of the shampoo bowl.

[0013] In the head immersion bath apparatus according to the present invention, the neck edge portion includes a facing portion that faces the person's neck, and water flow portions that are formed on both sides of the facing portion by cutting out the facing portion downward.

[0014] The head immersion bath apparatus according to the present invention further includes a basin main body that includes the bottom portion and the peripheral side portion and has a recess formed by cutting out a portion facing the neck placement unit. The neck edge portion is fitted into or removed from the recess. The neck edge portion includes a facing portion that faces the person's neck, water flow portions that are formed on both sides of the facing portion by cutting out the facing portion downward, and guides that are formed on both sides of the water flow portions in such a manner as to extend upward and that have end portions protruding in directions toward each other.

[0015] In the head immersion bath apparatus according to the present invention, grooves are formed on both sides of the water flow portions and cut out toward the bottom portion in such a manner as to be shallower than the water flow portions.

[0016] In the head immersion bath apparatus according to the present invention, the water flow portions have a fitting portion that is formed by cutting out the water flow portions further downward and into which the neck placement unit is fitted.

[0017] To achieve the above-mentioned object, a shampoo bowl according to the present invention includes the above-described head immersion bath apparatus. Advantageous Effects of Invention

[0018] The head immersion bath apparatus according to the present invention includes a bottom portion that is disposed above a bottom surface of a shampoo bowl in which a treatment is performed on a person who receives the treatment and a peripheral side portion that is connected to a peripheral edge of the bottom portion and extends upward. The peripheral side portion includes a neck edge portion that is a portion facing a neck placement unit on which the person's neck is placed at an edge of a side surface of the shampoo bowl, and warm water in which the person's head is to be immersed is collected in the head immersion bath apparatus. In other words, in the shampoo bowl, the warm water is collected in the head immersion bath apparatus. The neck edge portion of the head immersion bath apparatus faces the neck placement unit of the shampoo bowl, and thus, when the person places their neck onto the neck placement unit, their head is immersed in the warm water. As a result of immersing the head in the warm water, the person can relax. In addition, by immersing the hair together with the head in the warm water, the hair is rinsed. On the other hand, the treatment is continued even when an operator performs other tasks. Therefore, a treatment that is comfortable for a person who receives the treatment and that allows an operator to perform other tasks during the treatment without any problems can be performed. In addition, since the bottom portion is disposed at a position higher than the bottom surface of the shampoo bowl, only a small amount of warm water is needed compared with the case where warm water is directly collected in the shampoo bowl.

[0019] In the head immersion bath apparatus according to the present invention, the back of the person's head can be immersed in the warm water when the head immersion bath apparatus is full of the warm water. In other words, the back of the person's head is immersed in the warm water, and this makes the person relaxed. Therefore, a treatment that is comfortable for a person who receives the treatment and that allows an operator to perform other tasks during the treatment without any problems can be performed.

[0020] In the head immersion bath apparatus according to the present invention, the neck edge portion faces the person's neck without coming into contact with the person's neck. With this configuration, the warm water can flow between the neck placement unit and the neck. The person can relax by the warm water continuously flowing around the back of their neck. In addition, a treatment is continued because the warm water continuously flows, and thus, a treatment that is comfortable for a person who receives the treatment and that allows an operator to perform other tasks during the treatment without any problems can be performed.

[0021] The head immersion bath apparatus according to the present invention further includes a leg that comes into contact with the bottom surface. Thus, the head immersion bath apparatus can be stably installed in the shampoo bowl.

[0022] The head immersion bath apparatus according to the present invention further includes a leg that is hooked onto the edge of the side surface. Thus, the head immersion bath apparatus can be stably installed in the shampoo bowl.

[0023] The head immersion bath apparatus according to the present invention further includes a leg that is fitted into a drain port of the shampoo bowl. Thus, the head immersion bath apparatus can be stably installed in the shampoo bowl.

[0024] In the head immersion bath apparatus according to the present invention, the neck edge portion includes a facing portion that faces the person's neck, and water flow portions that are formed on both sides of the facing portion by cutting out the facing portion downward. With this configuration, when the warm water is collected and the water level rises, the warm water flows from the water flow portions, which are formed at both sides of the facing portion, before the water level reaches the facing portion. In other words, the warm water continuously flows around the back of the person's neck. Therefore, the person can relax.

[0025] The head immersion bath apparatus according to the present invention further includes a basin main body that includes the bottom portion and the peripheral side portion and has a recess formed by cutting out a portion facing the neck placement unit. The neck edge portion is fitted into or removed from the recess. The neck edge portion includes a facing portion that faces the person's neck, water flow portions that are formed on both sides of the facing portion by cutting out the facing portion

downward, and guides that are formed on both sides of the water flow portions in such a manner as to extend upward and that have end portions protruding in directions toward each other. With this configuration, neck edge portions of various shapes and sizes can be used in accordance with the type of treatment or the body size of the person who receives a treatment. In addition, the warm water flows from the guides to the end portions at some flow momentum and is directed to the vicinity of the back of the person's neck at the end portions and continuously flows. Therefore, the person can relax.

[0026] In the head immersion bath apparatus according to the present invention, grooves are formed on both sides of the water flow portions and cut out toward the bottom portion in such a manner as to be shallower than the water flow portions. Thus, even if the body size of the person is large, and the water flow portions are blocked around the back of the person's neck such that warm water is hindered from flowing out from the water flow portions, the warm water flows through the grooves, so that the warm water can flow around the back of the neck of the person whose body size is large.

[0027] In the head immersion bath apparatus according to the present invention, the water flow portions have a fitting portion that is formed by cutting out the water flow portions further downward and into which the neck placement unit is fitted. In other words, even when the neck placement unit is attached to the shampoo bowl, by fitting the neck placement unit into the fitting portion, the neck placement unit does not interfere with the water flow portions. The warm water flows from the neck placement unit and continuously flows around the back of the person's neck. Therefore, the person can relax.

[0028] The shampoo bowl according to the present invention includes the head immersion bath apparatus. Thus, the shampoo bowl provides advantageous effects the same as those of the above-described head immersion bath apparatus.

Brief Description of Drawings

[0029]

[Fig. 1] Fig. 1 is an external perspective view of a shampoo bowl according to an embodiment of the present invention.

[Fig. 2] Fig. 2 is a top view of the shampoo bowl according to the embodiment of the present invention when viewed from above.

[Fig. 3] Fig. 3 is an external perspective view illustrating a state in which a scalp massaging device is mounted on the shampoo bowl according to the embodiment of the present invention.

[Fig. 4] Fig. 4 is an external perspective view illustrating a state in which a head immersion bath apparatus according to the embodiment of the present invention is mounted on the shampoo bowl.

[Fig. 5] Fig. 5 is an external perspective view of the

scalp massaging device that is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 6] Fig. 6 is a top view of the scalp massaging device that is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 7] Fig. 7 is a front view of the scalp massaging device that is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 8] Fig. 8 is a rear view of the scalp massaging device that is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 9] Fig. 9 is a bottom view of the scalp massaging device that is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention when viewed from below.

[Fig. 10] Fig. 10 is a side view of the scalp massaging device that is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 11] Fig. 11 is a top view illustrating a state in which the scalp massaging device is mounted on the shampoo bowl according to the embodiment of the present invention.

[Fig. 12] Fig. 12 is a front view illustrating a state in which the scalp massaging device is mounted on the shampoo bowl according to the embodiment of the present invention when viewed from the near side.

[Fig. 13] Fig. 13 is a rear view illustrating a state in which the scalp massaging device is mounted on the shampoo bowl according to the embodiment of the present invention when viewed from the far side.

[Fig. 14] Fig. 14 is a side view illustrating a state in which the scalp massaging device is mounted on the shampoo bowl according to the embodiment of the present invention when viewed from the side.

[Fig. 15] Fig. 15 is a side view illustrating a modified state of the scalp massaging device, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 16] Fig. 16 is an external perspective view of a basin main body included in the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 17] Fig. 17 is a top view of the basin main body of the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 18] Fig. 18 is a front view of the basin main body of the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 19] Fig. 19 is a rear view of the basin main body of the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 20] Fig. 20 is a side view of the basin main body of the head immersion bath apparatus according to

the embodiment of the present invention.

[Fig. 21] Fig. 21 is an external perspective view of the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 22] Fig. 22 is a top view of the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 23] Fig. 23 is a front view of the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 24] Fig. 24 is a rear view of the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 25] Fig. 25 is a side view of the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 26] Fig. 26 is a top view illustrating a state in which the head immersion bath apparatus according to the embodiment of the present invention is mounted on the shampoo bowl.

[Fig. 27] Fig. 27 is a front view illustrating a state in which the head immersion bath apparatus according to the embodiment of the present invention is mounted on the shampoo bowl.

[Fig. 28] Fig. 28 is a rear view illustrating a state in which the head immersion bath apparatus according to the embodiment of the present invention is mounted on the shampoo bowl.

[Fig. 29] Fig. 29 is a side view illustrating a state in which the head immersion bath apparatus according to the embodiment of the present invention is mounted on the shampoo bowl.

[Fig. 30] Fig. 30 is a sectional view taken along line XXX-XXX of Fig. 28 and a sectional side view illustrating a state in which the head immersion bath apparatus according to the embodiment of the present invention is mounted on the shampoo bowl.

[Fig. 31] Fig. 31 is a sectional view taken along line XXXI-XXXI of Fig. 29 and a sectional rear view illustrating a state in which the head immersion bath apparatus according to the embodiment of the present invention is mounted on the shampoo bowl.

[Fig. 32] Fig. 32 is an external perspective view illustrating a treatment using the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 33] Fig. 33 is a top view illustrating the treatment using the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 34] Fig. 34 is a sectional side view illustrating the treatment using the head immersion bath apparatus according to the embodiment of the present invention.

[Fig. 35] Fig. 35 is an external perspective view of a scalp massaging device according to a modification that is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 36] Fig. 36 is a side view of the scalp massaging device according to the modification, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 37] Fig. 37 is an enlarged sectional side view illustrating a state in which the scalp massaging device according to the modification is mounted on the shampoo bowl according to the embodiment of the present invention.

[Fig. 38] Fig. 38 is an external perspective view illustrating a portion of the scalp massaging device, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 39] Fig. 39 is a rear view illustrating a portion of the scalp massaging device, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 40] Fig. 40 is a bottom view illustrating a portion of the scalp massaging device, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 41] Fig. 41 is a cross-sectional view taken along line XXXXI-XXXXI of Fig. 39 and a cross-sectional side view illustrating a vertical cross section of a portion of the scalp massaging device, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 42] Fig. 42 is a sectional view taken along line XXXXII-XXXXII of Fig. 39 and a top sectional view illustrating a transverse cross section of a portion of the scalp massaging device, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 43] Fig. 43 is a sectional view taken along line XXXXIII-XXXXIII of Fig. 39 and a top sectional view illustrating a transverse cross section of a portion of the scalp massaging device, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

[Fig. 44] Fig. 44 is a sectional view taken along line XXXXIV-XXXXIV of Fig. 39 and a top sectional view illustrating a transverse cross section of a portion of the scalp massaging device, which is mounted onto and removed from the shampoo bowl according to the embodiment of the present invention.

Description of Embodiments

[0030] A shampoo bowl and a head immersion bath apparatus according to an embodiment of the present invention will be described below. A scalp massaging device, the head immersion bath apparatus, and the like are mounted onto the shampoo bowl as treatment devices that are used for treatments. Fig. 1 and Fig. 2 illustrate the appearance of a shampoo bowl 1. Fig. 3 illustrates a state in which a scalp massaging device 10 is mounted on the shampoo bowl 1. Fig. 4 illustrates a state in which

the scalp massaging device 10 and a head immersion bath apparatus 25 are mounted on the shampoo bowl 1. Note that, in Fig. 1, the depth direction of the shampoo bowl 1 corresponds to a vertical direction (indicated by "Up" and "Down"). The side on which the top of the head of a person 50 who receives a treatment is located when the head of the person 50 is placed in the shampoo bowl 1 corresponds to the far side (indicated by "Back"). The side that is opposite to the far side and on which the neck of the person 50 is located corresponds to the near side (indicated by "Front"). A width direction of the shampoo bowl 1 corresponds to a transverse direction (indicated by "Left Side" and "Right Side").

[0031] As illustrated in Fig. 1 and Fig. 2, the shampoo bowl 1 is used to provide a treatment to the person 50 who receives the treatment while the person 50 lies on their back on a treatment table, such as a hairdressing chair, (not illustrated) and their head is placed in the shampoo bowl 1 (see Fig. 32). Examples of the treatment includes shampooing, scalp massage, coloring, permanent wave, eye makeup treatment, and the like. The shampoo bowl 1 is, for example, a substantially hemispherical bowl having a bottom surface 2 and a side surface 3. The bottom surface 2 has a drain port 4 that is formed in a cylindrical shape. A shower head 5 from which warm water is supplied, water shut-off valves 6 for supply of warm water, and so forth are arranged in an area surrounded by the side surface 3. A front portion of the side surface 3 is recessed and formed so as to be lower than the other portions of the side surface 3, and a neck rest 7 that serves as a neck placement unit onto which the neck of the person, who receives a treatment, is placed is attached to the front portion of the side surface 3. The neck rest 7 includes a first placement portion 8 that is shaped as if it is continuous with the side surface 3 and second placement portions 9 each of which is disposed behind the first placement portion 8 and each of which has a hemispherical shape. The second placement portions 9 are paired with each other and arranged such that one of them is located on the left side and the other is located on the right side. The neck of the person 50 is placed on the first placement portion 8, and the nape, the neckline, the scruff of the neck, the neckline, or the like (hereinafter referred to as "nape or the like") of the person 50 is placed on the second placement portions 9.

[0032] As illustrated in Fig. 3 and Fig. 4, depending on the type of treatment, the scalp massaging device 10 and the head immersion bath apparatus 25 are mounted onto the shampoo bowl 1. Here, the scalp massaging device 10 and the head immersion bath apparatus 25 will be described with reference to the drawings. Figs. 5 to 10 each illustrate the appearance of the scalp massaging device 10, and Figs. 11 to 15 each illustrate the appearance of the scalp massaging device 10 mounted on the shampoo bowl 1. Figs. 16 to 25 each illustrate the appearance of the head immersion bath apparatus 25, and Figs. 26 to 31 each illustrate the appearance and a cross section of the head immersion bath apparatus 25 mount-

ed on the shampoo bowl 1.

[0033] As illustrated in Figs. 5 to 10, the scalp massaging device 10 includes a connection unit 11 to which the shower head 5 is connected, a flow path unit 13 connected to the connection unit 11, a water releasing unit 18 connected to the flow path unit 13, and detachable units 20 each of which is connected to the flow path unit 13 and mounted onto the shampoo bowl 1. The connection unit 11 has a cylindrical shape extending in the vertical direction and includes an opening portion 12 formed at an upper portion thereof. A lower portion of the connection unit 11 is connected to the flow path unit 13. The opening portion 12 includes detachable fixing means (not illustrated) for fixing the shower head 5 thereto. The detachable fixing means is, for example, means for fastening the shower head 5 with a string or a band, the head immersion bath apparatus 25 functioning as a weight for pressing the shower head 5 from above, a screw structure that enables the opening portion 12 and the shower head 5 to engage with each other, mechanical fitting, or selection of a material for generating friction between the opening portion 12 and the shower head 5 by making the opening portion 12 out of rubber or the like.

[0034] The flow path unit 13 includes a first channel 14 connected to a lower portion of the connection unit 11 and a second channel 16 connected to first end portions 15 that are end portions of the first channel 14. The interior of each of the channels 14 and 16 is hollow, and a flow path is formed in each of the channels 14 and 16. The first channel 14 includes a pair of portions that are arranged such that one of them is located on the left side and the other is located on the right side and such that the connection unit 11 is located at the center of the first channel 14. The first channel 14 extends from the connection unit 11 toward the left and right sides and is curved or bent forward, and the first end portions 15 face upward. Each of the first end portions 15 includes a hinge 23 and a shaft support 24. The hinges 23 allow pivotal movement and back-and-forth movement of the second channel 16, and the second channel 16 is connected via the hinges 23. Each of the hinges 23 is provided with a restricting portion (not illustrated) for limiting the range of motion of the second channel 16. The shaft supports 24 are grooves each of which is formed in a rear portion of the corresponding first end portion 15 and are used when the head immersion bath apparatus 25 is mounted (see Fig. 31).

[0035] The second channel 16 extends upward from the left and right first end portions 15 and is curved or bent transversely, and portions of the second channel 16 are connected to a second end portion 17 that is an end portion. The water releasing unit 18 is connected to a lower portion of the second end portion 17. A water releasing port 19 of the water releasing unit 18 faces down toward the shampoo bowl 1. Each of the detachable units 20 includes a first detachable portion 21 that is brought into contact with the bottom surface 2 of the shampoo bowl 1 and a second detachable portion 22 that is con-

nected to the drain port 4 of the shampoo bowl 1. The first detachable portions 21 project downward from their respective first end portions 15, and the length of each of the first detachable portions 21 is adjusted by a screw structure or the like. The second detachable portion 22 has a plate-like shape and projects downward from the first channel 14 immediately below the connection unit 11. The second detachable portion 22 is made of, for example, rubber, silicon, or the like.

[0036] As illustrated in Fig. 11 to Fig. 15, the scalp massaging device 10 is mounted onto the shampoo bowl 1. In other words, the second detachable portion 22 of the scalp massaging device 10 is inserted into the drain port 4 of the shampoo bowl 1, and the side surface of the second detachable portion 22 comes into contact with the inner surface of the drain port 4, so that the second detachable portion 22 is fitted into the drain port 4 (see Figs. 30 and 31). The second detachable portion 22 has a plate-like shape while the drain port 4 has a cylindrical shape, and thus, a gap is formed between the second detachable portion 22 and the drain port 4. Accordingly, warm water is discharged from the drain port 4 through this gap. The first detachable portions 21 are brought into contact with the bottom surface 2 of the shampoo bowl 1 and support the channels 14 and 16. Thus, the channels 14 and 16 are supported at three points, that is, supported by the first detachable portions 21 and the second detachable portion 22. Note that the shower head 5 of the shampoo bowl 1 is connected to the connection unit 11 during use (see Fig. 30).

[0037] As illustrated in Fig. 15, the angle of the second channel 16 with respect to the first channel 14 is changed using the hinges 23. In other words, the second channel 16 is tilted rearward. Since the hinges 23 are provided with the restricting portions, the range of motion is limited, and this prevents the angle from being changed so as to exceed a predetermined angle. When the angle of the second channel 16 when the second channel 16 is at a vertical position is defined as zero degree, for example, the predetermined angle is 25 degrees to 35 degrees toward the rear side, or preferably about 30 degrees toward the rear side and is 5 degrees to 15 degrees toward the front side, or preferably about 10 degrees toward the front side. If the range of motion is excessively large, the scalp massaging device 10 may sometimes come into contact with the side surface 3 or the like of the shampoo bowl 1 when the scalp massaging device 10 is mounted onto the shampoo bowl 1, and this may sometimes hinder the mounting operation.

[0038] The second channel 16 is movable back and forth via the hinges 23. In other words, the position of the rotary shaft of the second channel 16 is changed.

[0039] As illustrated in Figs. 16 to 25, for example, the head immersion bath apparatus 25 is similar to a wash-bowl or the like and is in the shape of a basin with a slightly narrowed funnel-like portion. The head immersion bath apparatus 25 includes a basin main body 26 and a flow straightening unit 40 that serves as a neck

edge portion. Here, Figs. 16 to 20 illustrate a state before the flow straightening unit 40 is attached to the basin main body 26, and Figs. 21 to 25 illustrate a state in which the flow straightening unit 40 is attached to the basin main body 26 as the head immersion bath apparatus 25. The basin main body 26 includes a bottom portion 27 and a peripheral side portion 28 that is connected to the peripheral edge of the bottom portion 27 and extends upward. The bottom portion 27 is formed so as to have a stepped portion, and the peripheral side portion 28 is partially cut out. Since the bottom portion 27 is formed so as to have a stepped portion, a recessed space 29 is formed outside the bottom portion 27 on the far side. In other words, a bottom side portion 30 that is connected to the far side of the bottom portion 27 and that extends upward, and a stepped bottom portion 31 is connected to the far side of the bottom side portion 30. The bottom portion 27 has a plurality of legs 32 formed on the lower surface thereof so as to enable the head immersion bath apparatus 25 to stand independently. Note that the number, the shape, the length, the arrangement, and so forth of the legs 32 are arbitrary. The bottom portion 27 has a drain hole 33 formed substantially at the center thereof. A stopper 34 (see Fig. 30) is fitted into or removed from the drain hole 33.

[0040] A portion of the peripheral side portion 28 that is located on the near side and that faces the neck rest 7 is cut out so as to form a neck edge recess 48. The flow straightening unit 40 is fitted into or removed from the neck edge recess 48. Shaft projections 36 are formed on the outer surface of an outer edge portion 35 that is a portion of the peripheral side portion 28 excluding the neck edge recess 48. The shaft projections 36 are paired with each other and arranged such that one of them is located on the left side and the other is located on the right side. The shaft projections 36 are located at positions closer to the near side than the bottom side portion 30 and extend transversely. A left-and-right pair of grooves 38 are formed in the upper edge of the outer edge portion 35 in such a manner as to be located in the vicinity of the neck edge recess 48 on the near side. A plurality of small holes 39 is formed in the outer edge portion 35 in the vicinity of the neck edge recess 48 along the shape of the neck edge recess 48.

[0041] For example, the flow straightening unit 40 is made of rubber, silicon, urethane, or the like, and has a thin-plate-like shape. The flow straightening unit 40 is fastened to the peripheral side portion 28 of the basin main body 26 with a fastening member 47 so as to serve as a neck edge portion. The fastening member 47 is shaped so as to follow the shape of the neck edge recess 48, and the flow straightening unit 40 is sandwiched between the fastening member 47 and the peripheral side portion 28 and fastened by a screw or the like. The flow straightening unit 40 includes a peripheral-side main body 41 that is fastened to the peripheral side portion 28, a facing portion 42 that is connected to an upper portion of the peripheral-side main body portion 41, water flow

portions 43 that are formed by cutting out right and left portions of the facing portion 42, and guides 45 that are formed on the left and right sides of the water flow portions 43. The facing portion 42 projects upward from the center of an upper end portion of the peripheral-side main body 41. By cutting out the right and left portions of the facing portion 42 downward and toward the peripheral-side main body 41, the water flow portions 43 are formed below the facing portion 42. Fitting portions 44 are formed by further cutting out the water flow portions 43 downward and toward the peripheral-side main body 41. The second placement portions 9 of the neck rest 7 are fitted into the fitting portions 44 (see Fig. 26). Each of the guides 45 extends upward from an upper end portion of the peripheral-side main body 41, and guide end portions 46 that are end portions of the guides 45 protrude in directions toward each other. In the relationship with the flow straightening unit 40, the grooves 38 are arranged outside the fitting portions 44 (the water flow portions 43) and the guide end portions 46 along the circumferential direction of the outer edge portion 35 and are each cut out so as to be shallower than the water flow portions 43 in a direction from the outer edge portion 35 toward the bottom portion 27.

[0042] As illustrated in Figs. 26 to 31, the head immersion bath apparatus 25 is mounted onto the shampoo bowl 1 on which the scalp massaging device 10 is mounted. The shower head 5 of the shampoo bowl 1 is connected to the connection unit 11 of the scalp massaging device 10, and the stepped bottom portion 31 of the head immersion bath apparatus 25 is placed onto the shower head 5. In other words, the head immersion bath apparatus 25 serves as the detachable fixing means of the scalp massaging device 10. Note that the detachable fixing means may be fabricated by using a string, a band, and the like together. The shaft projections 36 of the head immersion bath apparatus 25 are held on the shaft supports 24 of the scalp massaging device 10. In contrast, the flow straightening unit 40 of the head immersion bath apparatus 25 is attached to the second placement portions 9 of the neck rest 7. In other words, the second placement portions 9 are fitted into the fitting portions 44 of the flow straightening unit 40 so as to close the fitting portions 44 and so as to occupy the position of the water flow portions 43. The facing portion 42 of the flow straightening unit 40 is fitted between the second placement portions 9. Each of the guides 45 is fitted along the outer periphery of the corresponding second placement portion 9. The flow straightening unit 40 faces the first placement portion 8 of the neck rest 7. The bottom portion 27 of the head immersion bath apparatus 25 is positioned above the bottom surface 2 of the shampoo bowl 1, and the stopper 34 is fitted into the drain hole 33 of the bottom portion 27.

[0043] The scalp massaging device 10 and the head immersion bath apparatus 25 are configured in the manner described above.

[0044] Operation and advantageous effects of the

present embodiment will now be described. Figs. 32 to 34 illustrate a state in which a treatment is performed in the present embodiment.

[0045] As illustrated in Figs. 32 to 34, the person 50 lies on their back, and their head is placed in the shampoo bowl 1. In this case, the neck of the person 50 is placed on the first placement portion 8 of the neck rest 7. In addition, the nape or the like of the person 50 is placed on the second placement portions 9. The hair of the person 50 is wetted with warm water from the shower head 5 before the treatment is performed. Wetting the hair beforehand suppresses bouncing back of warm water off the hair during the treatment. If the treatment is performed in a state where the hair is dry, the warm water released from the scalp massaging device 10 flows onto the hair and bounces back, and there is a possibility that the warm water may splash onto the face or clothing of the person 50.

[0046] The scalp massaging device 10 is mounted onto the shampoo bowl 1 in a state where the head of the person 50 is placed in the shampoo bowl 1. The second channel 16 of the scalp massaging device 10 is mounted in a state of being tilted rearward. Since the second channel 16 is tilted rearward, the scalp massaging device 10 is mounted on the shampoo bowl 1 while the water releasing unit 18 is positioned so as not to face the face of the person 50. If the scalp massaging device 10 is mounted on the shampoo bowl 1 while the second channel 16 is at the vertical position, there is a possibility that the warm water remaining in the water releasing unit 18 during another treatment has been performed will splash onto the face or clothing of the person 50.

[0047] The shower head 5 is connected to the connection unit 11 of the scalp massaging device 10. In the case where the detachable fixing means is, for example, a band or the like, the shower head 5 is tied to the connection unit 11. The head immersion bath apparatus 25 is disposed below the back of the head, mounted on the scalp massaging device 10, and placed on the shower head 5. By mounting the head immersion bath apparatus 25 onto the scalp massaging device 10, the detachable fixing means is fabricated by using a band and the like together. Note that, when the head immersion bath apparatus 25 is disposed below the back of the head, if the person 50 has long hair, the head of the person 50 is lifted, and all of their hair is accommodated in the head immersion bath apparatus 25.

[0048] In a state where the scalp massaging device 10 and the head immersion bath apparatus 25 are mounted on the shampoo bowl 1 in which the head of the person 50 is placed, the second channel 16 of the scalp massaging device 10 is kept tilted rearward, and thus, the second channel 16 is located on the side on which the top of the head of the person 50 is present and does not face the scalp or the hairline of the person 50. In contrast, the facing portion 42 of the head immersion bath apparatus 25 faces the nape or the like of the person 50. In this case, the facing portion 42 is not in contact with the

nape or the like, and a small gap is formed between the nape or the like and the facing portion 42. Note that placement of body parts, such as the neck, the nape, and the like, on the placement portions 7 and 8 may slightly differ depending on the body size of the person 50.

[0049] When at least one of the water shut-off valves 6 of the shampoo bowl 1 is operated so as to supply warm water, the warm water flows out from the shower head 5. Since the shower head 5 is connected to the connection unit 11 of the scalp massaging device 10, the warm water flows out from the water releasing port 19 of the water releasing unit 18 through the connection unit 11, the first channel 14, and the second channel 16. The warm water is collected in the head immersion bath apparatus 25 without flowing onto the head of the person 50. As the water level gradually rises from the bottom portion 27 of the head immersion bath apparatus 25, the back of the head becomes moderately immersed in the warm water, and when the water level reaches the second placement portions 9 of the neck rest 7, the warm water detours and flows toward the left and right sides along the second placement portions 9 (see the water flows denoted by 51 in Fig. 33) and overflows from the left and right sides of the second placement portions 9 to the outside of the head immersion bath apparatus 25 (see the water flow denoted by 52 in Fig. 34). In this case, the warm water does not flow beyond the facing portion 42. Since the nape or the like of the person 50 is placed on the second placement portions 9, the warm water flows along the second placement portions 9 and over the nape or the like. The nape or the like is not immersed in a stationary water surface and is exposed to the continuously flowing warm water, and thus, the person 50 can feel the water flow and relax without feeling uncomfortable on their nape or the like.

[0050] The flow momentum of the warm water may sometimes cause the warm water to flow from the second placement portions 9 to the guides 45 and flow from the guide end portions 46 toward the nape or the like (see the water flows denoted by 53 in Fig. 33). The warm water is appropriately directed toward the nape or the like, and thus, the person 50 can relax.

[0051] When the water level reaches the second placement portions 9, the head immersion bath apparatus 25 becomes full of the warm water, and in this state, the back of the head of the person 50 is immersed in the warm water, so that the person 50 can relax. In addition, by immersing the hair together with the head in the warm water, the hair is rinsed.

[0052] After the back of the head has been moderately immersed in the warm water, or after the warm water has overflowed from the left and right sides of the second placement portions 9 to the outside of the head immersion bath apparatus 25, the angle of the second channel 16 is adjusted in such a manner that the second channel 16 is located at a position where the warm water flows from the water releasing port 19 onto the scalp or the hairline. The warm water flows onto the scalp or the hair-

line and flows along the hair toward the top of the head (see the water flow denoted by 54 in Fig. 34). After the back of the head has been immersed in the warm water, or after the nape or the like has been exposed to the warm water, the warm water from the water releasing port 19 moderately stimulates the scalp or the hairline of the person 50, so that the person 50 can appropriately feel the water flowing over their nape or the like. If the warm water from the water releasing port 19 is collected in the head immersion bath apparatus 25 while flowing onto the scalp or the hairline, the scalp or the hairline may be stimulated before the nape or the like is exposed to the warm water, and this may sometimes result in a weaker sensation in the nape or the like of the person 50.

[0053] During the treatment, as described above, the head of the person 50 is immersed in the warm water, and the warm water flows over the nape or the like, so that the person 50 can relax. On the other hand, the treatment is continued even when the operator performs other tasks. Therefore, a treatment that is comfortable for the person 50, who receives the treatment, and that allows the operator to perform other tasks without any problems can be performed. Note that, even if a treatment is performed by the operator, the scalp massaging device 10 serves as a shower, and thus, the operator does not need to hold the shower head 5 and can perform the treatment with both of their hands.

[0054] In addition, since the bottom portion 27 of the head immersion bath apparatus 25 is disposed at a position higher than the bottom surface 2 of the shampoo bowl 1 (see Fig. 34), only a small amount of warm water is needed compared with the case where warm water is collected directly in the shampoo bowl 1.

[0055] In the present embodiment, the second placement portions 9 of the neck rest 7 are fitted into the fitting portions 44 of the flow straightening unit 40 of the head immersion bath apparatus 25 (see Fig. 26). In other words, even in the case where the neck rest 7 is attached to the shampoo bowl 1, by fitting the second placement portions 9 into the fitting portions 44, the second placement portions 9 do not interfere with the flow straightening unit 40.

[0056] After the treatment has been finished, at least one of the water shut-off valves 6 is operated so as to stop the supply of the warm water. The second channel 16 is tilted rearward so as to be located at a position where it does not face the head of the person 50. Thus, even if the warm water remaining in the flow path unit 13 drips from the water releasing port 19, the remaining warm water can be prevented from flowing onto the head.

[0057] In the present embodiment, since the drain hole 33 is formed in the bottom portion 27 of the head immersion bath apparatus 25, and the stopper 34 is fitted therein (see Fig. 30), water can be discharged from the drain hole 33 by removing the stopper 34.

[0058] The head immersion bath apparatus 25 is removed from the scalp massaging device 10. The shower head 5 is removed from the scalp massaging device 10.

The moisture in the wet hair of the person, who had received the treatment, is absorbed with a fibrous member such as a towel.

[0059] In the present embodiment, the flow straightening unit 40 of the head immersion bath apparatus 25 is configured to be attachable and detachable via the fastening member 47 (see Figs. 16 to 25), and thus, flow straightening units 40 of various shapes can be attached and detached in accordance with the type of treatment or the body size of the person 50. In addition, since the flow straightening unit 40 is made of rubber, silicon, urethane, or the like and has a thin-plate-like shape, the flow straightening unit 40 can be easily deformed and easily replaced.

[0060] In the present embodiment, the left-and-right pair of grooves 38 are formed in the vicinity of the neck edge recess 48, which is formed at the upper edge of the outer edge portion 35 of the head immersion bath apparatus 25 and located on the near side (see Fig. 22). The grooves 38 are arranged along the circumferential direction of the outer edge portion 35 so as to be located further outside than the fitting portions 44 (the water flow portions 43) and the guide end portions 46, and the grooves 38 are cut out so as to be shallower than the water flow portions 43 in a direction from the outer edge portion 35 toward the bottom portion 27. If the body size of the person 50 is large and the facing portion 42 of the head immersion bath apparatus 25 comes into contact with the nape or the like of the person 50, the second placement portions 9 will be blocked by the nape or the like such that warm water is hindered from flowing over the nape or the like. However, since warm water flows through the grooves 38, which are shallower than the water flow portions 43, the warm water can flow over the nape or the like of the person 50 whose body size is large.

[0061] Note that, in another embodiment of the present invention, the head immersion bath apparatus 25 does not include the fitting portions 44 and includes the water flow portions 43 (see Figs. 21 and 22). In this case, when the water level gradually rises from the bottom portion 27 of the head immersion bath apparatus 25 and reaches the water flow portions 43, warm water overflows from the water flow portions 43, which are positioned lower than the facing portion 42, to the outside of the head immersion bath apparatus 25. Since the facing portion 42 is formed so as to be positioned higher than each of the water flow portions 43, the warm water does not flow beyond the facing portion 42. Since the water flow portions 43 face the nape or the like of the person, who receives a treatment, the warm water flows over the nape or the like of the person. In this case, the second placement portions 9 may or may not be provided.

[0062] Next, advantageous effects of the scalp massaging device 10 used in the present embodiment will be described.

[0063] The second channel 16 of the scalp massaging device 10 extends upward from the first end portions 15 of the first channel 14 and is curved or bent transversely

(see Fig. 7). With this configuration, the second channel 16 does not interfere with the head of the person 50.

[0064] The first end portions 15 of the scalp massaging device 10 include the hinges 23, and the angle of the second channel 16 with respect to the first channel 14 is changed via the hinges 23 (see Fig. 15). With this configuration, the position of the water releasing unit 18 is changed, so that the position where the warm water released from the water releasing port 19 flows onto the scalp can be adjusted. In addition, the mounting of the scalp massaging device 10 onto the shampoo bowl 1 is facilitated.

[0065] Each of the hinges 23 is provided with the restricting portion for limiting the range of motion of the second channel 16. This configuration limits the range of motion of the second channel 16 and prevents the angle of the second channel 16 from being changed so as to exceed a predetermined angle. Therefore, for example, warm water will not splash onto the face of the person 50.

[0066] The second channel 16 is movable back and forth via the hinges 23.

Thus, the second channel 16 is appropriately positioned in accordance with the position of the hairline of the person 50.

[0067] Next, a modification of the scalp massaging device 10 will be described with reference to the drawings. Figs. 35 to 37 illustrate a scalp massaging device 110 according to the modification. Figs. 35 and 36 illustrate the appearance of the scalp massaging device 110, and Fig. 37 illustrates, in an enlarged manner, a cross section in a state in which a second detachable portion 122 of the scalp massaging device 110 is inserted in the drain port 4 of the shampoo bowl 1. Note that a configuration that is different from that of the scalp massaging device 10 will be mainly described below, and the description a configuration the same as that of the scalp massaging device 10 will be omitted by using the same reference signs.

[0068] As illustrated in Figs. 35 and 36, the second detachable portion 122 of the scalp massaging device 110 includes a pair of flanges 155 projecting from lower portions of near-side and far-side surfaces of the second detachable portion 122 toward the near side and the far side. Each of the flanges 155 has a substantially semi-circular shape when viewed from above. Each of the flanges 155 has a flat upper surface portion 156 that is the upper surface thereof and an inclined lower surface portion 157 that is the lower surface thereof when viewed from the side. The flat upper surface portion 156 has a flat semicircular plate-like shape, and the inclined lower surface portion 157 is gradually inclined downward from an outer end toward the second detachable portion 122.

[0069] As illustrated in Fig. 37, when the second detachable portion 122 is inserted into the drain port 4 of the shampoo bowl 1, the flanges 155 are located at positions deeper than an opening upper end portion of the drain port 4 in such a manner that a gap is formed be-

tween the flanges 155 and the inner surface of the drain port 4. The warm water that is discharged from the drain port 4 passes through a hair collector (not illustrated) that is in the form of a mesh and that is fitted in the drain port 4. In this case, the warm water flows from the flat upper surface portion 156 to the lower side of the drain port 4 along the inclined lower surface portion 157. In other words, although the warm water that is discharged and that hits the hair collector may sometimes generate an unpleasant sound for the person 50, since the warm water is discharged via the flanges 155, the position at which the warm water starts to fall becomes lowered to the lower end of the inclined lower surface portion 157, which is lower than the bottom surface 2 of the shampoo bowl 1, the distance from the position at which the warm water starts to fall to the position at which the warm water hits the hair collector is also shortened. Therefore, compared with the case where the flanges 155 are not provided and warm water starts to fall from the bottom surface 2, a silencing effect is obtained, and the person 50 can relax without hearing an unpleasant sound.

[0070] Note that, in another embodiment of the present invention, only the head immersion bath apparatus is mounted onto the shampoo bowl. In this case, the legs of the head immersion bath apparatus are long and stand independently on the bottom surface of the shampoo bowl. In addition, instead of the scalp massaging device, a table is installed in the shampoo bowl, and the head immersion bath apparatus is placed onto the table. This is preferable because, even in the case where the scalp massaging device is not provided and where a treatment is performed by an operator, the operator can perform the treatment with both of their hands if the treatment is head immersion bath.

[0071] In another embodiment, the legs each have a hook-like shape and configured to be hooked onto the edge of the side surface of the shampoo bowl.

[0072] In another embodiment, the legs are shaped so as to be fitted into the drain port of the shampoo bowl and each have a configuration that is, for example, similar to that of the second detachable portion of the scalp massaging device.

[0073] In another embodiment, the legs are not provided.

[0074] In another embodiment, the facing portion comes into slight contact with the nape or the like of a person who receives a treatment.

[0075] In another embodiment, the water flow portions are not provided.

[0076] In another embodiment, the flow straightening unit is not provided, and the basin main body includes a neck edge portion formed as a portion that corresponds to the flow straightening unit. The neck edge portion has a shape similar to that of the flow straightening unit.

[0077] In another embodiment, the grooves are not formed.

[0078] In another embodiment, the stopper is integrated with the flow straightening unit. In other words, the

lower end portion of the flow straightening unit extends to the drain hole, and the stopper is formed at the lower end portion.

[0079] In another embodiment, the second channel of the scalp massaging device includes only one of the left and right portions thereof.

[0080] In another embodiment, the second detachable portion of the scalp massaging device has a substantially cylindrical shape, and a notch, a recess, a dip, a groove, or the like is formed in a portion of the second detachable portion so as to form a gap between the second detachable portion and the drain port. The gap serves as a channel through which water is discharged.

[0081] In another embodiment, warm water is directly supplied to the head immersion bath apparatus from the showerhead, other water supply equipment, or the like. In other words, warm water does not flow through the scalp massaging device.

[0082] In another embodiment, the neck rest is not provided, and the side surface of the shampoo bowl has a neck placement unit formed as a portion that corresponds to the neck rest. The neck placement unit has a shape similar to that of the neck rest.

[0083] Next, the water releasing unit 18 will be described with reference to the drawings. Figs. 38 to 44 illustrate the water releasing unit 18. Figs. 38 to 40 illustrate the appearance of the water releasing unit 18, and Figs. 41 to 44 each illustrate a cross section of the water releasing unit 18.

[0084] Here, the water releasing unit 18 is a member included in the scalp massaging device 10, 110, and the scalp massaging device 10, 110 has the following configuration.

[0085] The scalp massaging device 10, 110 is mounted onto the shampoo bowl 1 and includes the connection unit 11 to which the shower head 5 is connected, the flow path unit 13 that is connected to the connection unit 11 and that extends upward, and the water releasing unit 18 connected to an end of the flow path unit 13. The water releasing port 19 formed in the lower surface of the water releasing unit 18 is U-shaped so as to follow the hairline of the person 50, who receives a treatment. Warm water from the shower head 5 flows through the flow path unit 13, reaches the water releasing unit 18, and is released from the water releasing port 19.

[0086] The warm water continuously released from the water releasing port 19 without interruption along the U-shape of the water releasing port 19 until it flows onto the forehead of the person 50.

[0087] A channel that is formed in the water releasing unit 18 has tiers that are formed so as to be vertically continuous with one another.

[0088] The communication paths between the tiers are formed in such a manner that the communication path on the upper tier side and the communication path on the lower tier side are located at positions that are displaced from each other.

[0089] More specifically, as illustrated in Figs. 38 to 40,

the water releasing unit 18 is a three-dimensional object having an elliptical shape or an oval shape when viewed from above or below, and the water releasing unit 18 includes flow-path connection portions 200 arranged at an upper portion thereof and the water releasing port 19 formed in the lower surface thereof. The flow-path connection portions 200 are paired with each other and connected to the second end portion 17 of the flow path unit 13 (see Fig. 5). The water releasing port 19 is U-shaped so as to follow the hairline of the person 50 and is continuous in a U-shaped line in the transverse direction. Note that only one flow-path connection portion may be provided instead of the pair of flow-path connection portions 200. The water releasing port may have a plurality of holes formed side by side in a U-shape.

[0090] As illustrated in Fig. 41, the water releasing unit 18 has a channel formed therein, and the channel has three tiers formed so as to be vertically continuous with one another. More specifically, the channel includes a main channel portion 201 that has a tubular shape and that is connected to the flow-path connection portions 200 from the inside of the water releasing port 19 and a U-shaped tier channel portion 202 that is connected to the lower end of the main channel portion 201 and that extends to the left and right sides, and the tier channel portion 202 is in communication with the water releasing port 19 on its downstream side. Two partition pieces that are a first partition piece 203 and a second partition piece 204 are formed inside the tier channel portion 202 so as to define the three tiers in the vertical direction. Note that the number of the tiers may be two or may be four or more. The number of the partition pieces is set in accordance with the number of the tiers.

[0091] The tiers are defined by an upper tier flow path 205 that is in communication with the main channel portion 201, a middle tier flow path 206 that is in communication with the downstream side of the upper tier flow path 205, a lower tier flow path 207 that is in communication with the downstream side of the middle tier flow path 206, a water-releasing-port communication path 208 that allows communication between the downstream side of the lower tier flow path 207 and the water releasing port 19, an upper-middle communication path 209 that is formed as a result of the upper tier flow path 205 and the middle tier flow path 206 being partitioned from each other by the first partition piece 203, and a middle-lower communication path 210 that is formed as a result of the middle tier flow path 206 and the lower tier flow path 207 being partitioned from each other by the second partition piece 204. The upper-middle communication path 209 on the upper tier side and the middle-lower communication path 210 on the lower tier side, each of which is formed between two of the tiers, are located at positions that are displaced from each other. In other words, the first partition piece 203 is formed in such a manner as to project rearward (rightward in Fig. 41), so that the upper-middle communication path 209 communicates with a rear portion of the upper tier flow path 205 and a rear

portion of the middle tier flow path 206 (on the right-hand side in Fig. 41). In contrast, the second partition piece 204 is formed in such a manner as to project forward (leftward in Fig. 41), so that the middle-lower communication path 210 communicates with a front portion of the middle tier flow path 206 and a front portion of the lower layer flow path 207 (on the left-hand side in Fig. 41). Therefore, the upper-middle communication path 209 and the middle-lower communication path 210 are arranged at positions that are displaced from each other in a front-rear direction. In the tier channel portion 202, the flow paths are formed in a serpentine manner in the front-rear direction.

[0092] The widths of the communication paths 209 and 210, each of which is formed between two of the tiers, in the front-rear direction are set such that the width of the communication path on the lower tier side is narrower than that of the communication path on the upper tier side. More specifically, in the front-rear direction, the width of the middle-lower communication path 210 illustrated in Fig. 43 is set to be narrower than the width of the upper-middle communication path 209 illustrated in Fig. 42. The width of the water-releasing-port communication path 208 illustrated in Fig. 44 and the width of the water releasing port 19 illustrated in Fig. 40 are each set to be narrower than the width of the middle-lower communication path 210. As illustrated in Fig. 43, in the middle-lower communication path 210, left and right side portions 212 are each formed to have a width wider than the width of a center portion 211 in the front-rear direction.

[0093] The water releasing unit 18 is configured in the manner described above. Operation and advantageous effects of the water releasing unit 18 will now be described.

[0094] The warm water supplied to the scalp massaging device 10, 110 is released from the water releasing port 19 through the main channel portion 201 and the tier channel portion 202 in the water releasing unit 18. In the tier channel portion 202, the warm water flows through the upper tier flow path 205, the upper-middle communication path 209, the middle tier flow path 206, the middle-lower communication path 210, the lower tier flow path 207, and the water-releasing-port communication path 208 in a serpentine manner and is released in a U-shape from the water releasing port 19. The warm water is continuously released from the water releasing port 19 without interruption as if it forms a wall of water along the U-shape of the water releasing port 19 until it flows onto the forehead of the person who receives a treatment. In other words, the warm water continuously released without interruption along the U-shape of the water releasing port 19 resembles a curtain or a glass surface. In particular, in the middle-lower communication path 210, since the left and right side portions 212 are each formed to have a width wider than the width of the center portion 211 in the front-rear direction, the flow rate of the warm water in each of the left and right side portions 212 is greater than that in the center portion 211, and the warm water forms a continuous U-shape without interruption.

[0095] The warm water flows onto the scalp or the hairline of the person 50 and flows along the hair toward the top of the head (see the water flow denoted by 54 in Fig. 34). The warm water from the water releasing port 19 moderately stimulates the scalp or the hairline of the person 50, so that the person 50 can relax. On the other hand, the treatment is continued even when an operator performs other tasks. Therefore, a treatment that is comfortable for the person 50, who receives the treatment, and that allows the operator to perform other tasks without any problems can be performed. In particular, since the warm water forms a continuous U-shape without interruption, the person 50 does not feel uncomfortable. Note that, if the supply of the warm water is interrupted, or if the warm water comes out from a plurality of holes in a shower-like manner, the person 50 can sense that the warm water intermittently flows onto their scalp or hairline, so that the person 50 may sometimes feel uncomfortable, and such a distraction may hinder the person 50 from relaxing.

[0096] Although the embodiments of the present invention have been described in detail above, the present invention is not limited to the above-described embodiments. Various design changes can be made to the present invention as long as they are within the scope of the claims.

Reference Signs List

[0097]

1	shampoo bowl
2	bottom surface
3	side surface
4	drain port
5	shower head
6	water shut-off valve
7	neck rest (neck placement unit)
8	first placement portion
9	second placement portion
10, 110	scalp massaging device
11	connection unit
12	opening portion
13	flow path unit
14	first channel
15	first end portion
16	second channel
17	second end portion
18	water releasing unit
19	water releasing port
20	detachable unit
21	first detachable portion
22, 122	second detachable portion
23	hinge
24	shaft support
25	head immersion bath apparatus
26	basin main body
27	bottom portion

28	peripheral side portion
29	recessed space
30	bottom side portion
31	stepped bottom portion
5 32	leg
33	drain hole
34	stopper
35	outer edge portion
36	shaft projection
10 38	groove
39	small hole
40	flow straightening unit (neck edge portion)
41	peripheral-side main body
42	facing portion
15 43	water flow portion
44	fitting portion
45	guide
46	guide end portion
47	fastening member
20 48	neck edge recess
50	person who receives a treatment
52 to 54	water flow
155	flange
156	flat upper surface portion
25 157	inclined lower surface portion
200	flow-path connection portion
201	main channel portion
202	tier channel portion
203	first partition piece
30 204	second partition piece
205	upper tier flow path
206	middle tier flow path
207	lower tier flow path
208	water-releasing-port communication path
35 209	upper-middle communication path
210	middle-lower communication path
211	center portion
212	left and right side portions

Claims

1. A head immersion bath apparatus comprising:

- 45 a bottom portion that is disposed above a bottom surface of a shampoo bowl in which a treatment is performed on a person who receives the treatment; and
- 50 a peripheral side portion that is connected to a peripheral edge of the bottom portion and extends upward, wherein the peripheral side portion includes a neck edge portion that is a portion facing a neck placement unit on which the person's neck is placed at an edge of a side surface of the shampoo bowl, and
- 55 wherein warm water in which the person's head is to be immersed is collected in the head im-

- mersion bath apparatus.
2. The head immersion bath apparatus according to Claim 1,
wherein the back of the person's head can be immersed in the warm water when the head immersion bath apparatus is full of the warm water. 5
 3. The head immersion bath apparatus according to Claim 1 or 2,
wherein the neck edge portion faces the person's neck without coming into contact with the person's neck. 10
 4. The head immersion bath apparatus according to any one of Claims 1 to 3, further comprising:
a leg that comes into contact with the bottom surface. 15
 5. The head immersion bath apparatus according to any one of Claims 1 to 3, further comprising:
a leg that is hooked onto the edge of the side surface. 20
 6. The head immersion bath apparatus according to any one of Claims 1 to 3, further comprising:
a leg that is fitted into a drain port of the shampoo bowl. 25
 7. The head immersion bath apparatus according to any one of Claims 1 to 6,
wherein the neck edge portion includes 30
 - a facing portion that faces the person's neck,
and
 - water flow portions that are formed on both sides of the facing portion by cutting out the facing portion toward the bottom portion. 35
 8. The head immersion bath apparatus according to any one of Claims 1 to 6, further comprising: 40
 - a basin main body that includes the bottom portion and the peripheral side portion and has a recess formed by cutting out a portion facing the neck placement unit,
 - wherein the neck edge portion is fitted into or removed from the recess, and 45
 - wherein the neck edge portion includes
 - a facing portion that faces the person's neck, 50
 - water flow portions that are formed on both sides of the facing portion by cutting out the facing portion downward, and
 - guides that are formed on both sides of the water flow portions in such a manner as to extend upward and that have end portions protruding in directions toward each other. 55
 9. The head immersion bath apparatus according to Claim 7 or 8,
wherein grooves are formed on both sides of the water flow portions and cut out toward the bottom portion in such a manner as to be shallower than the water flow portions.
 10. The head immersion bath apparatus according to any one of Claims 7 to 9,
wherein the water flow portions have a fitting portion that is formed by cutting out the water flow portions further downward and into which the neck placement unit is fitted.
 11. A shampoo bowl comprising:
the head immersion bath apparatus according to Claim 1 to 10.

FIG. 1

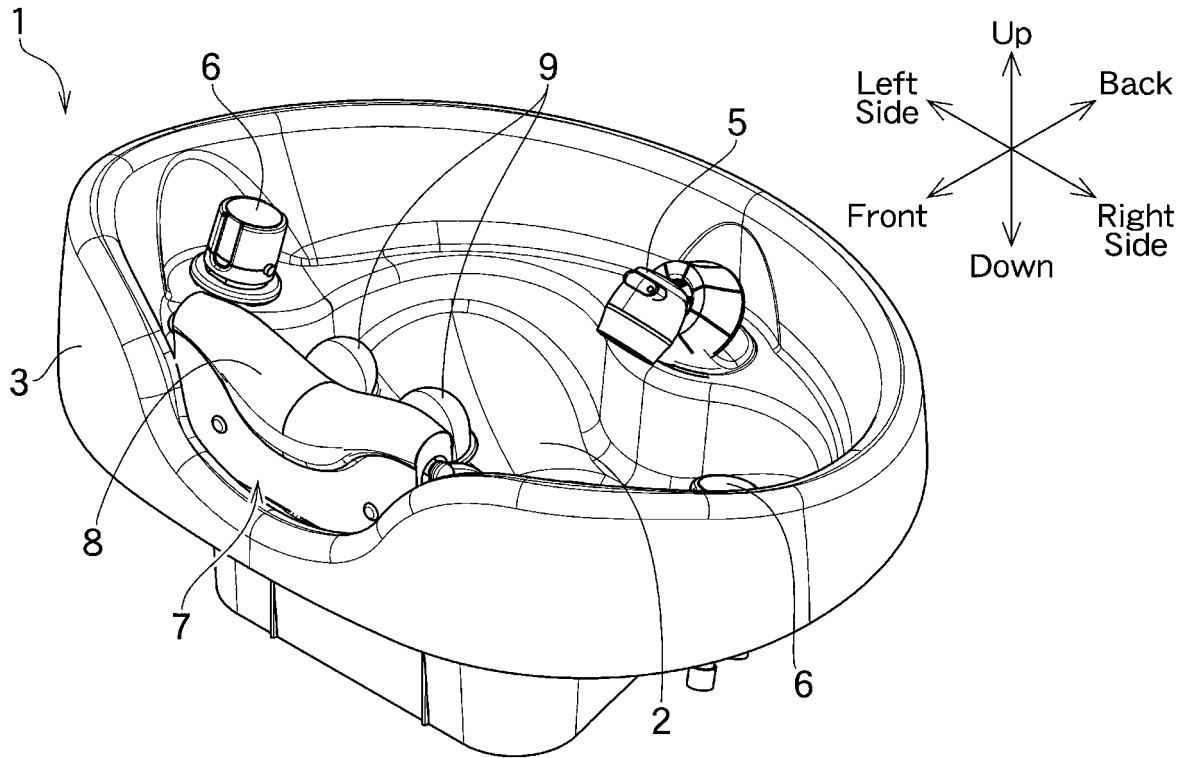


FIG. 2

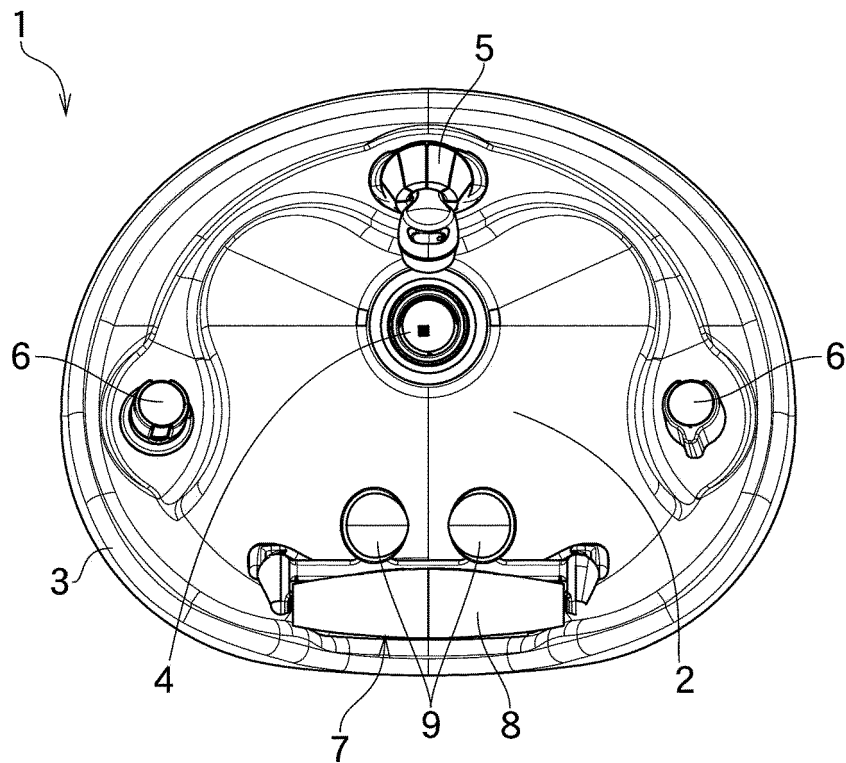


FIG. 3

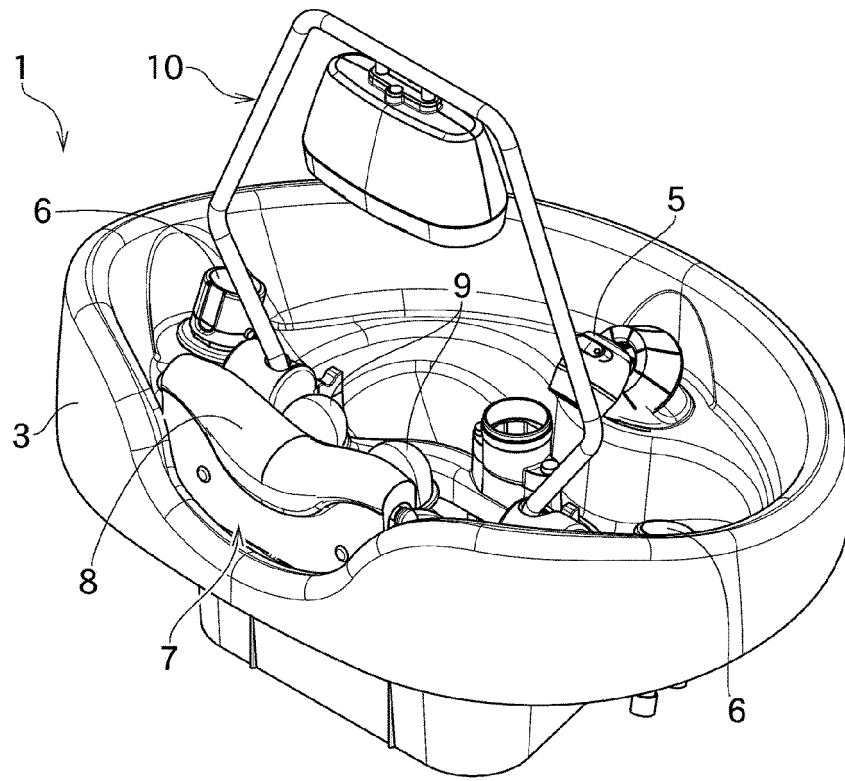


FIG. 4

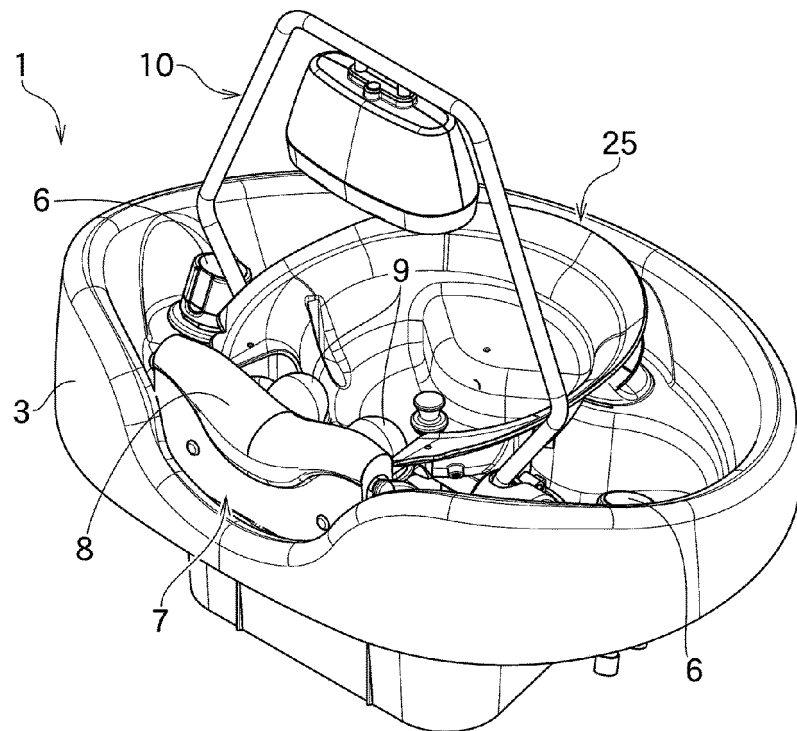


FIG. 5

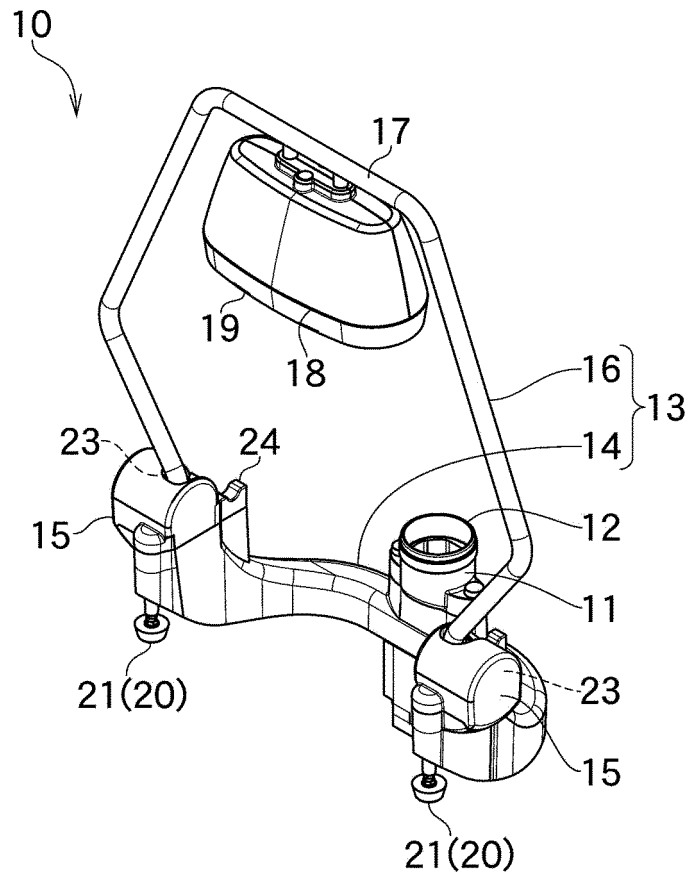


FIG. 6

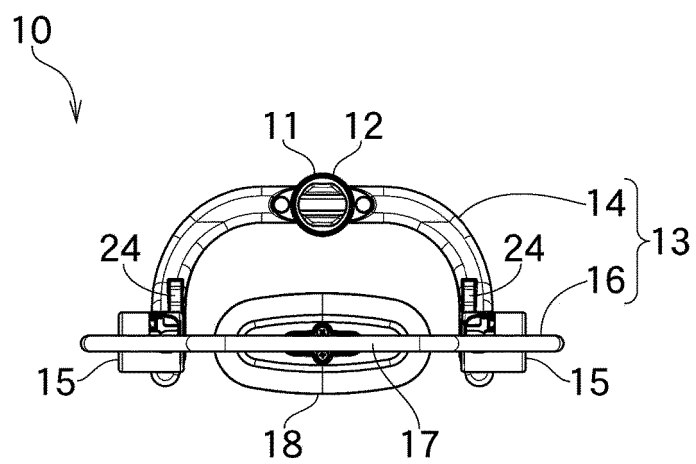


FIG. 7

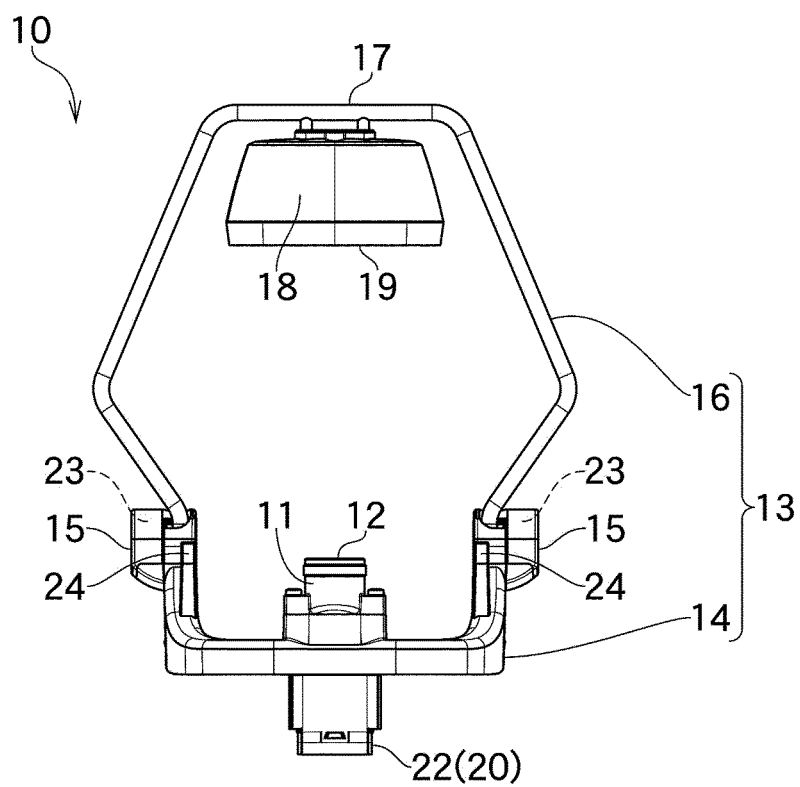


FIG. 8

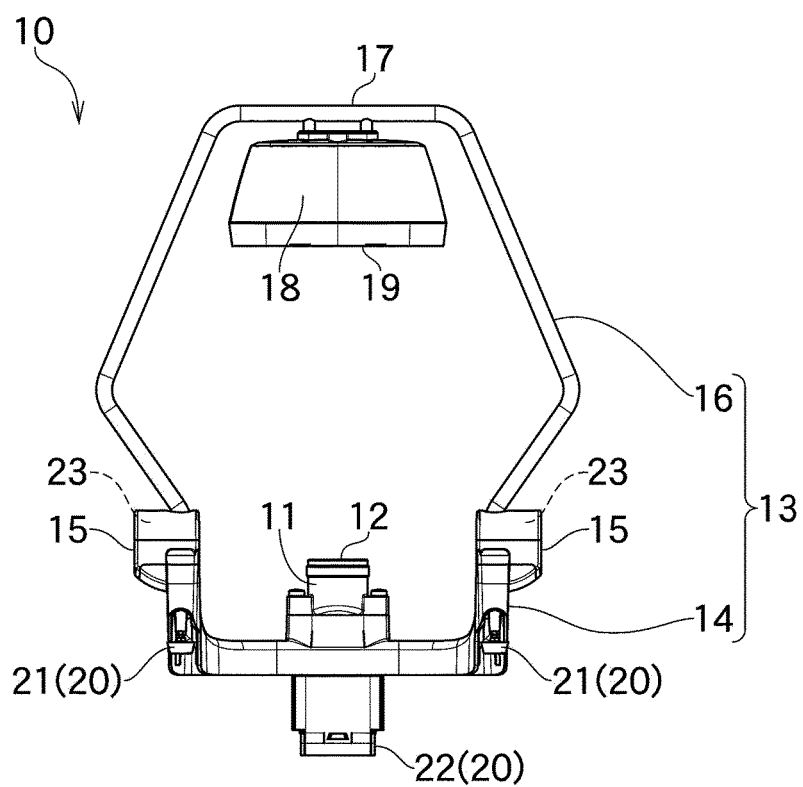


FIG. 9

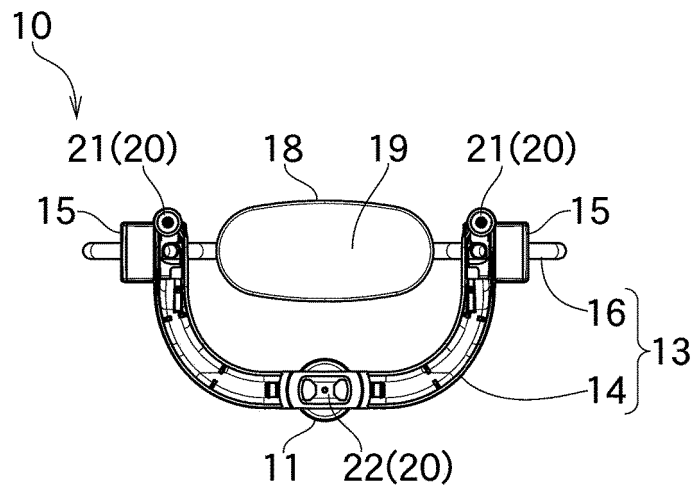


FIG. 10

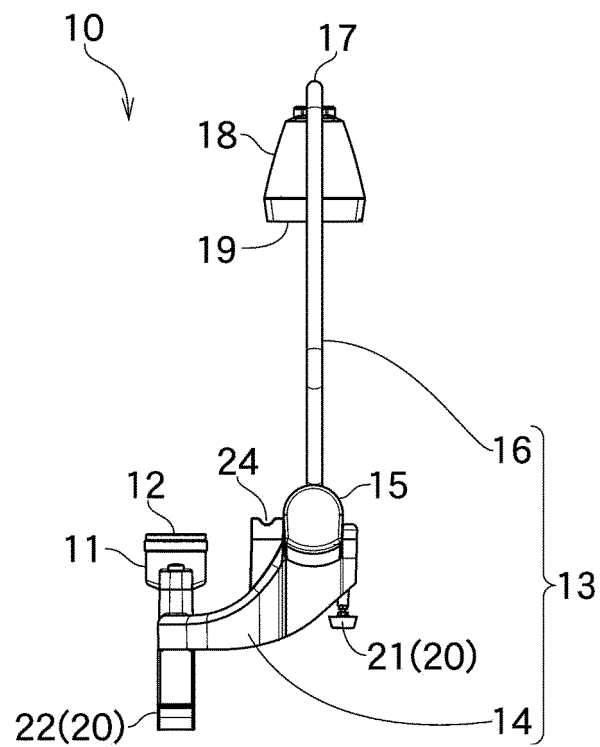


FIG. 11

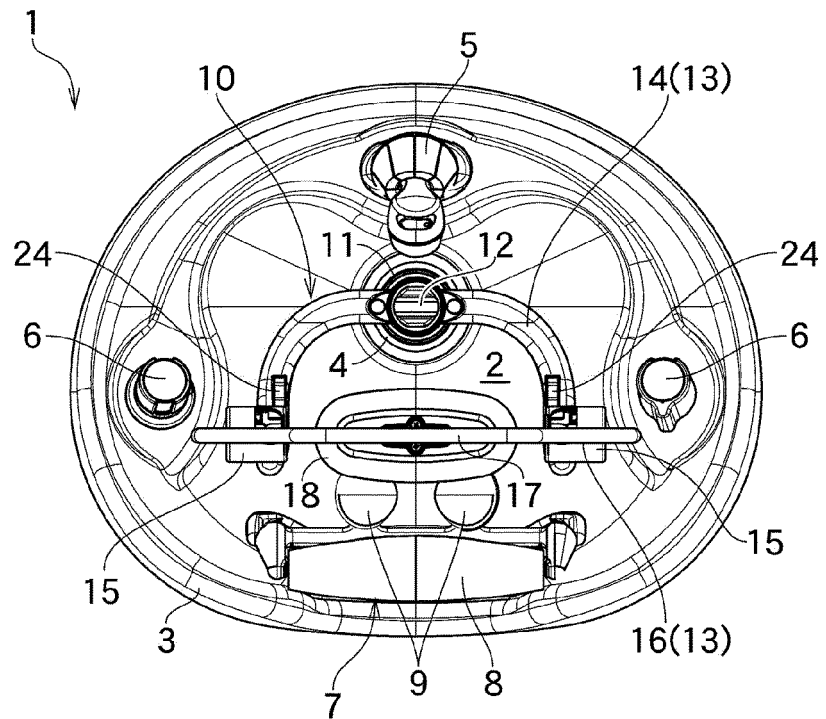


FIG. 12

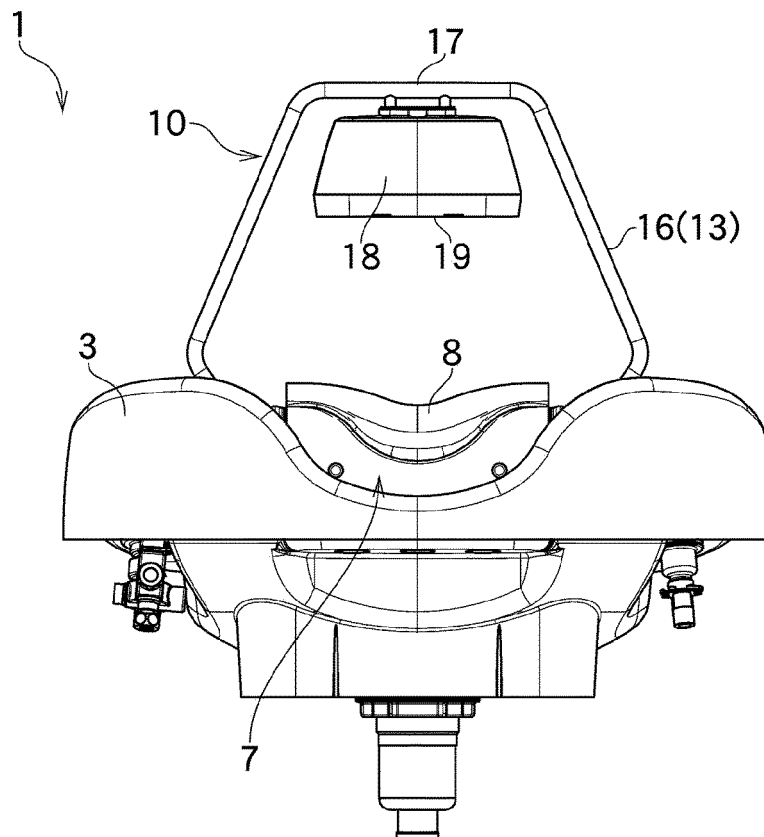


FIG. 13

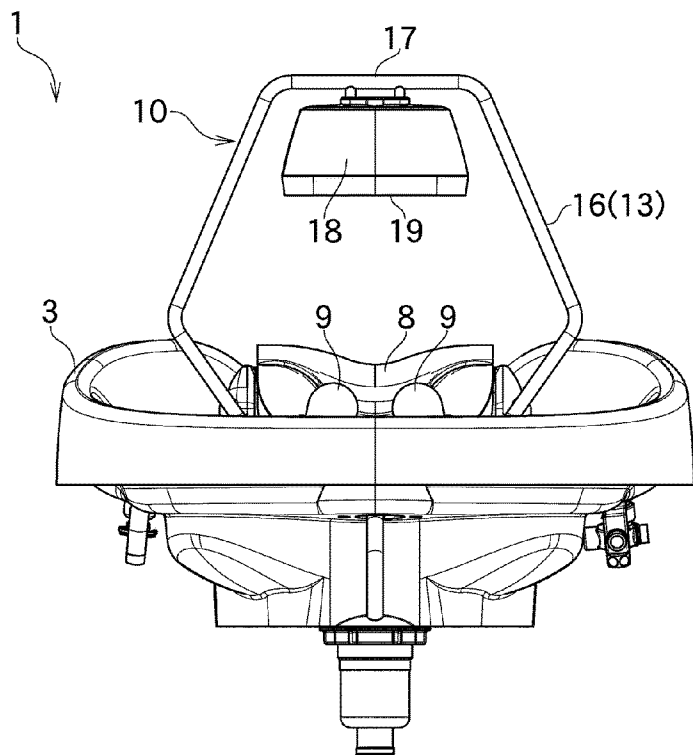


FIG. 14

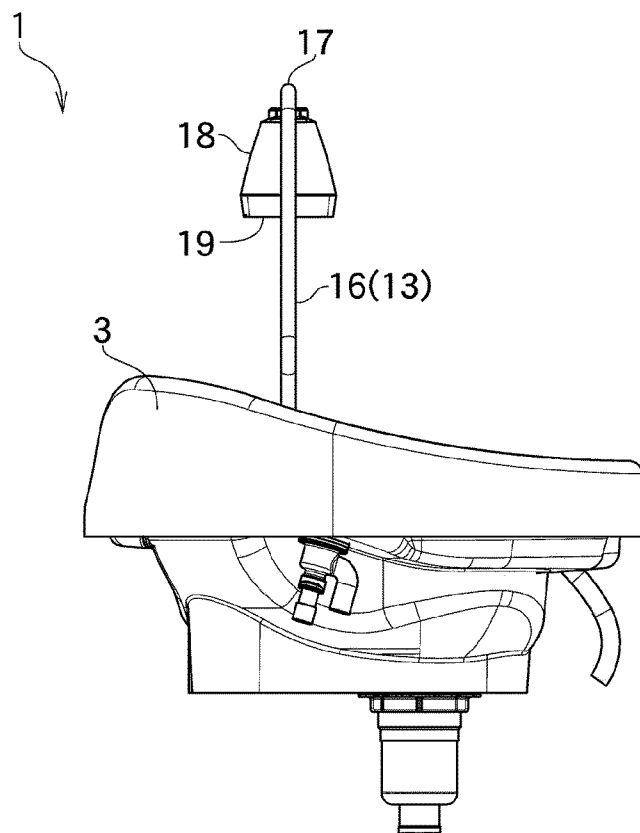


FIG. 15

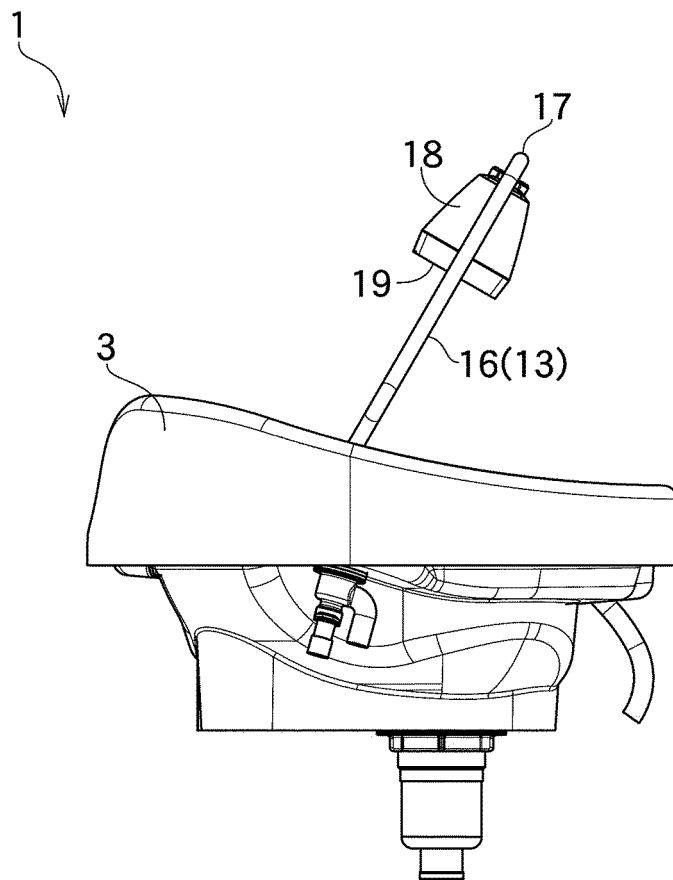


FIG. 16

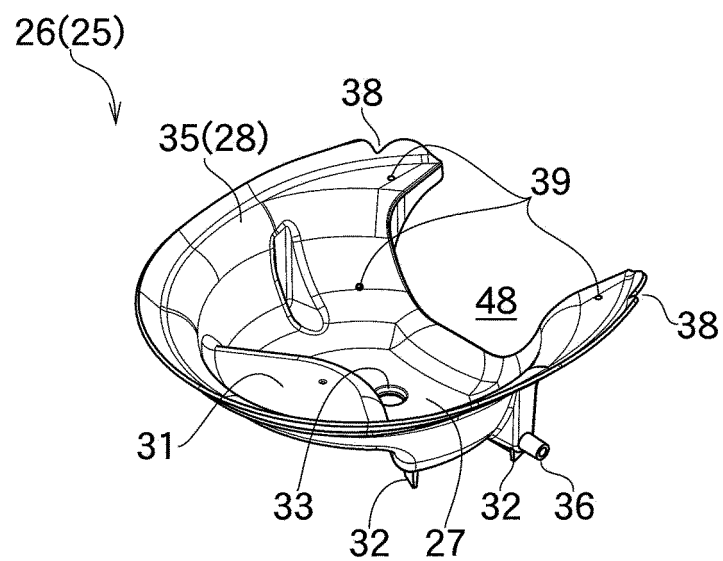


FIG. 17

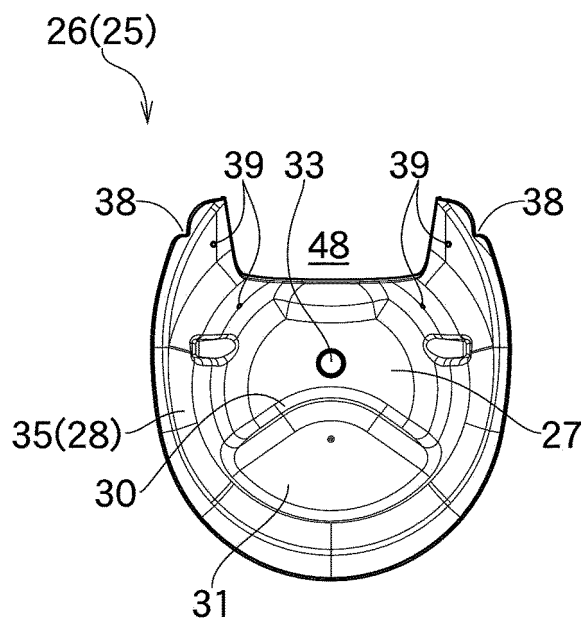


FIG. 18

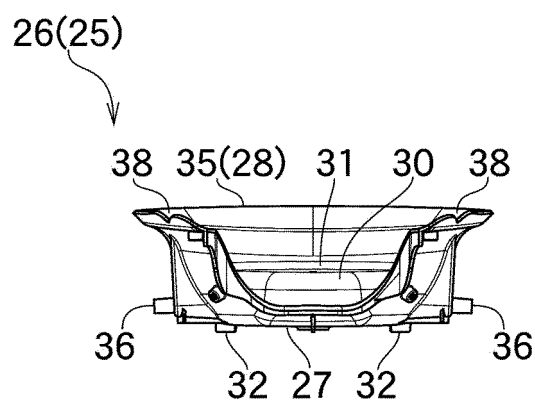


FIG. 19

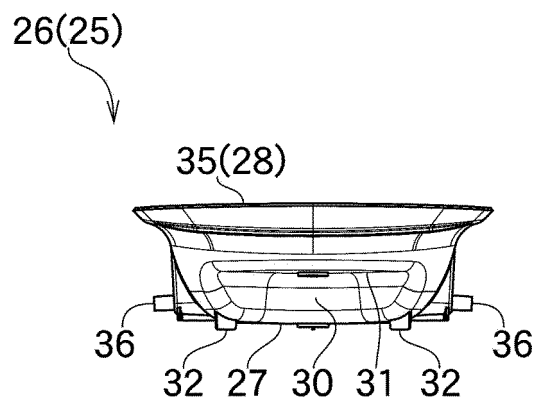


FIG. 20

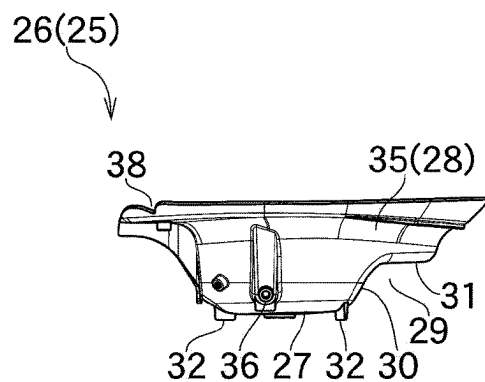


FIG. 21

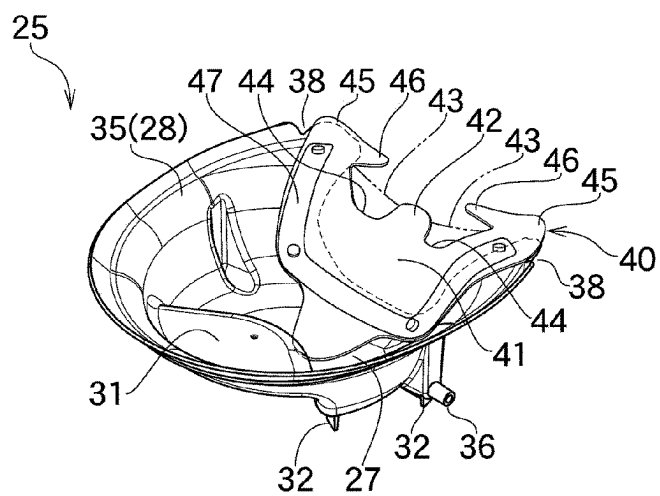


FIG. 22

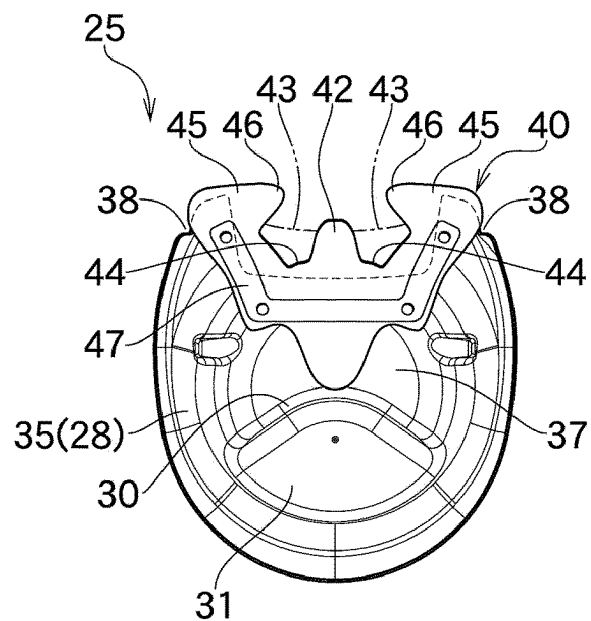


FIG. 23

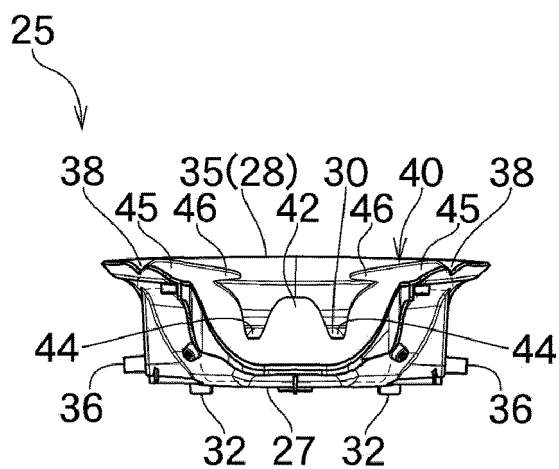


FIG. 24

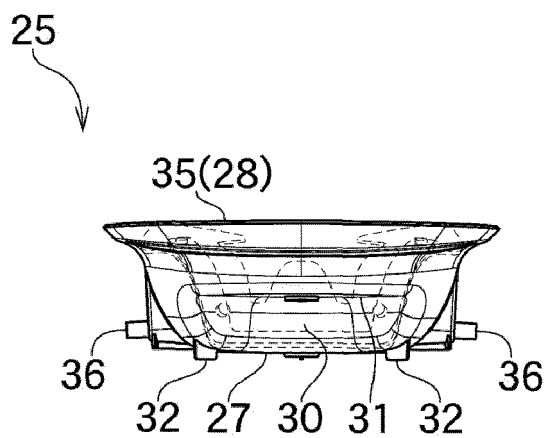


FIG. 25

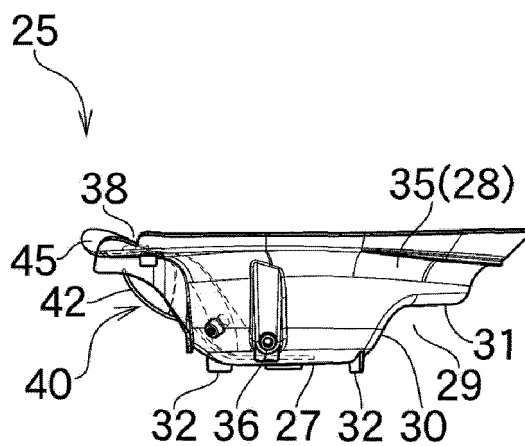


FIG. 26

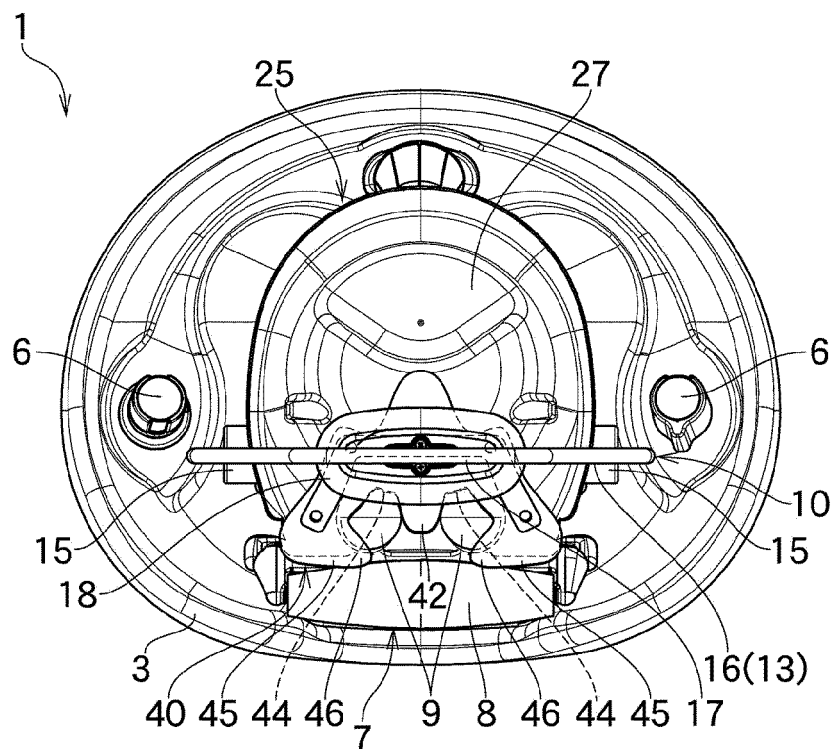


FIG. 27

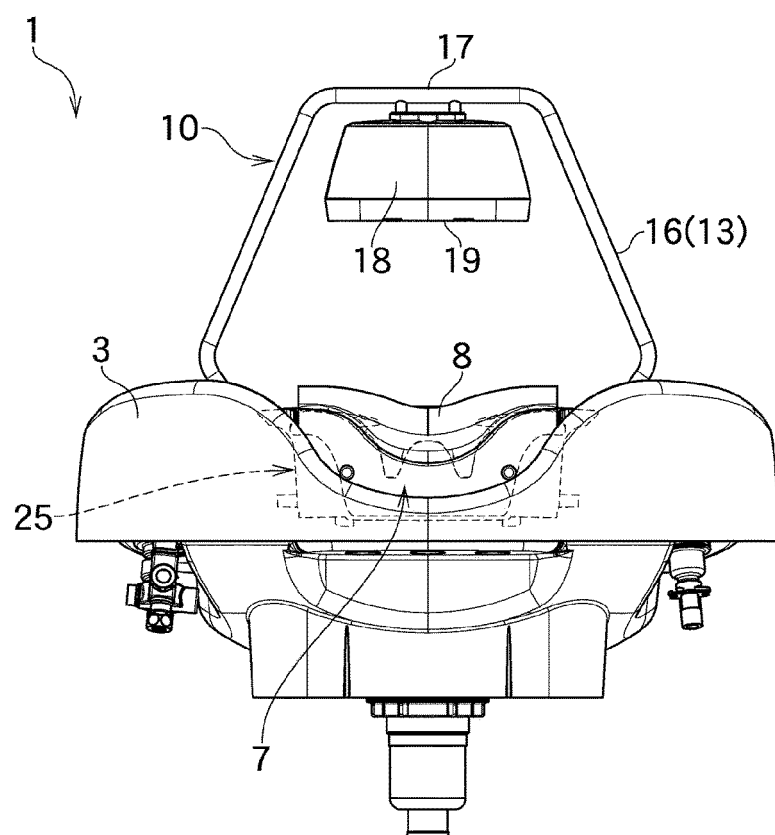


FIG. 28

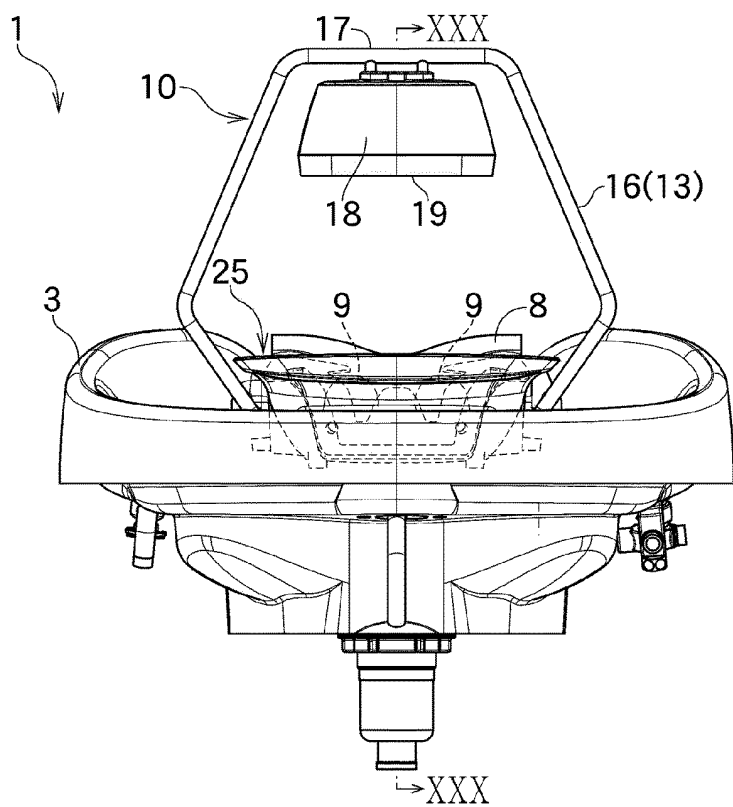


FIG. 29

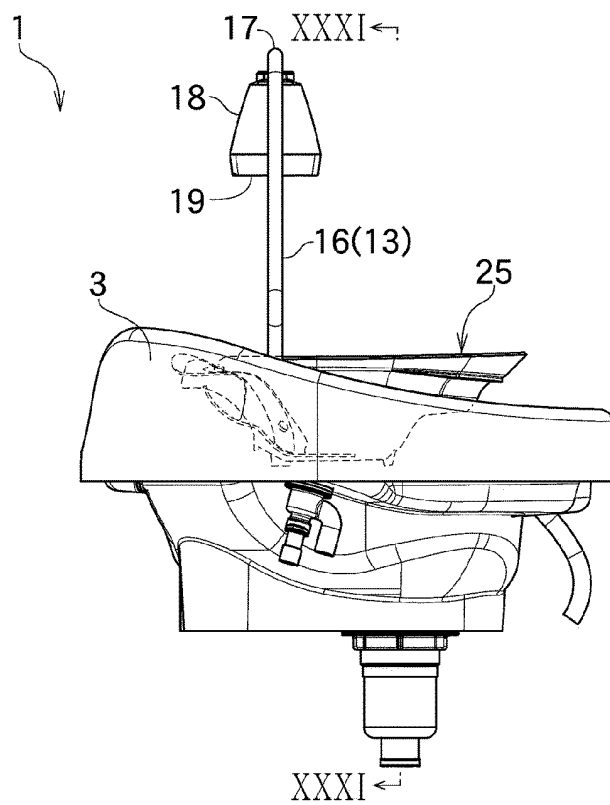


FIG. 30

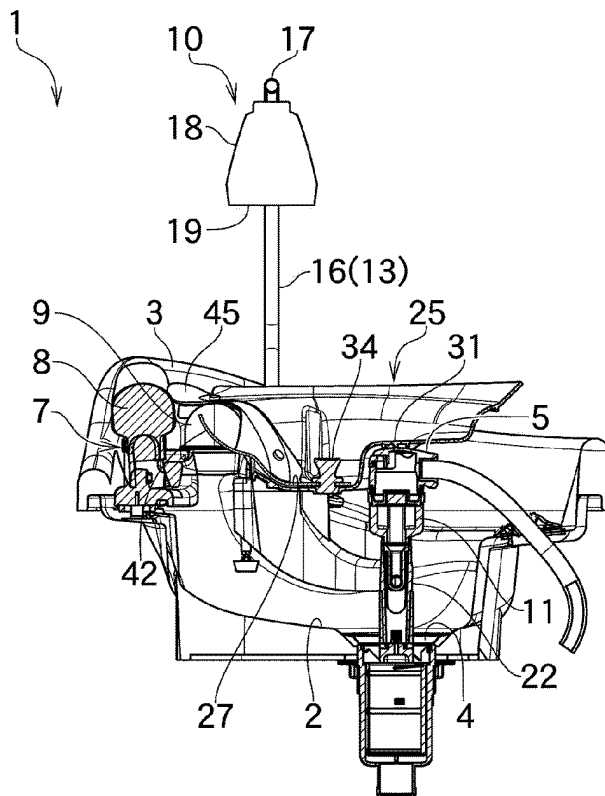


FIG. 31

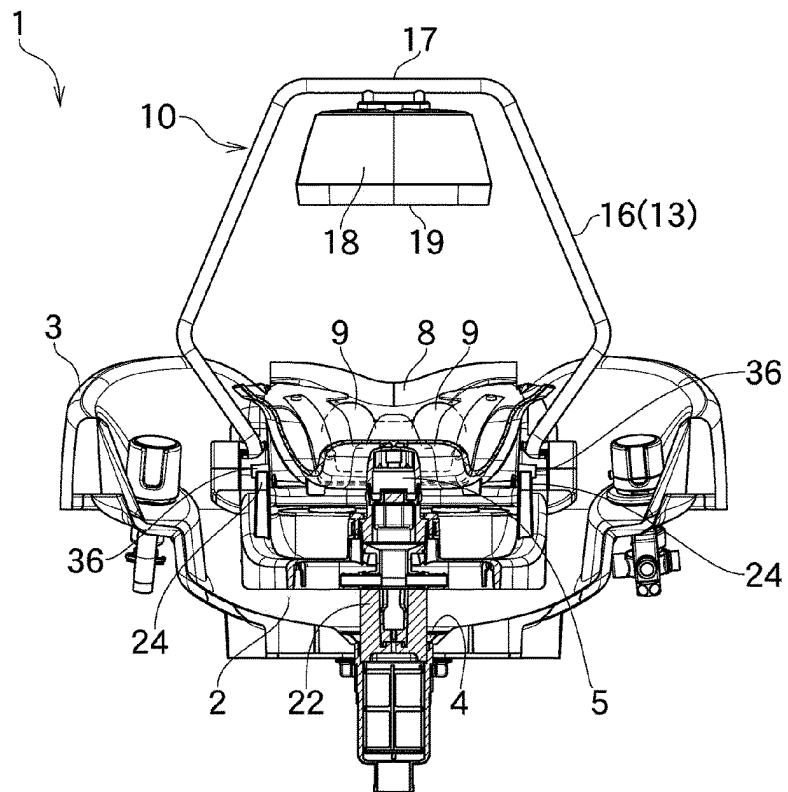


FIG. 32

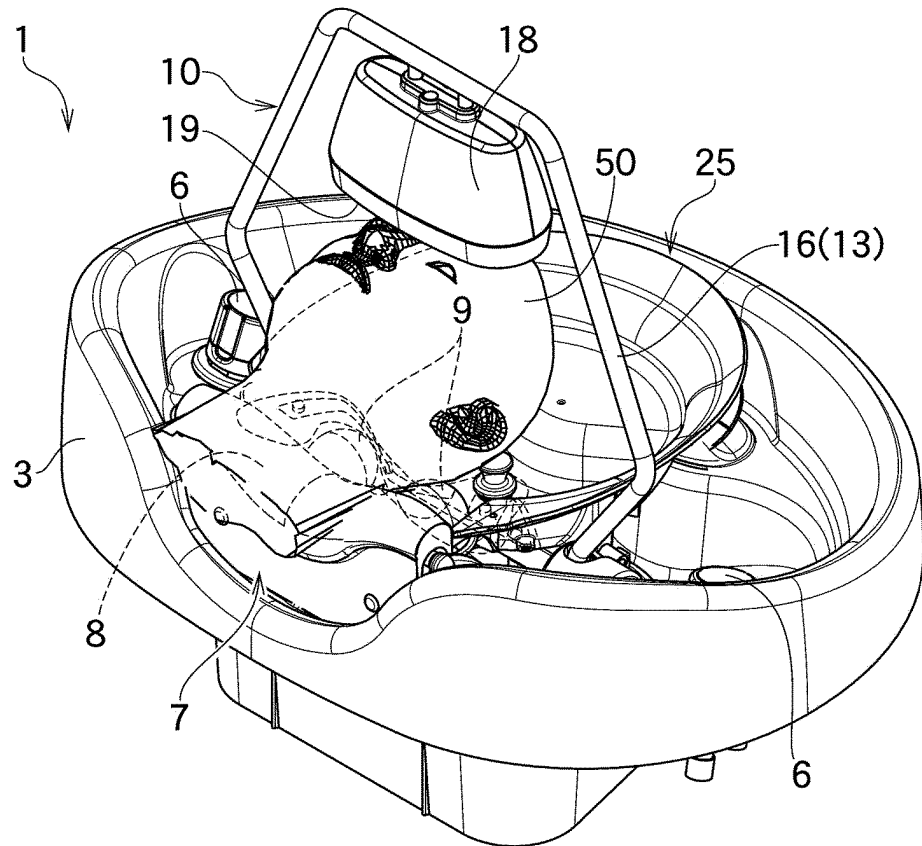


FIG. 33

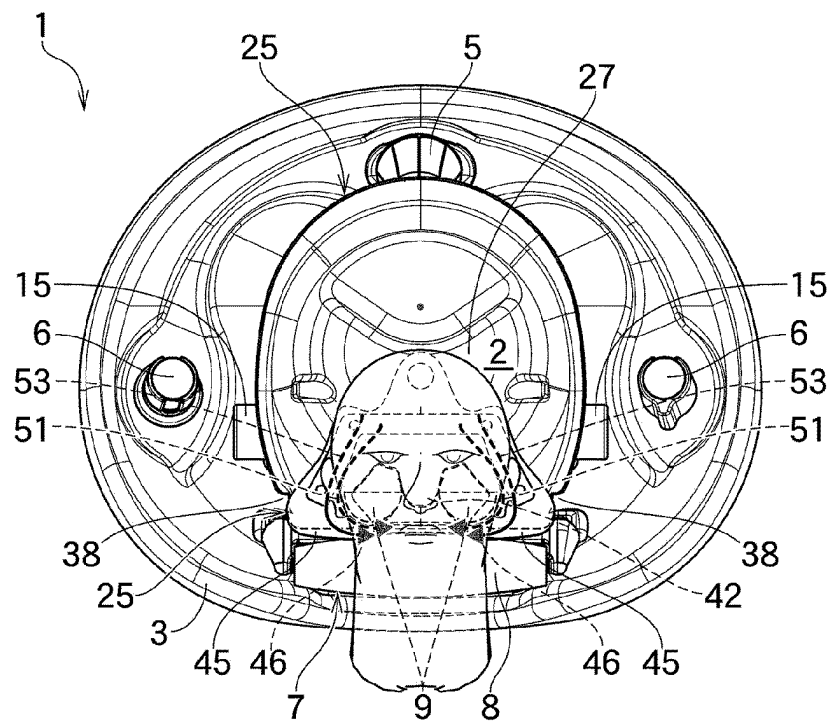


FIG. 34

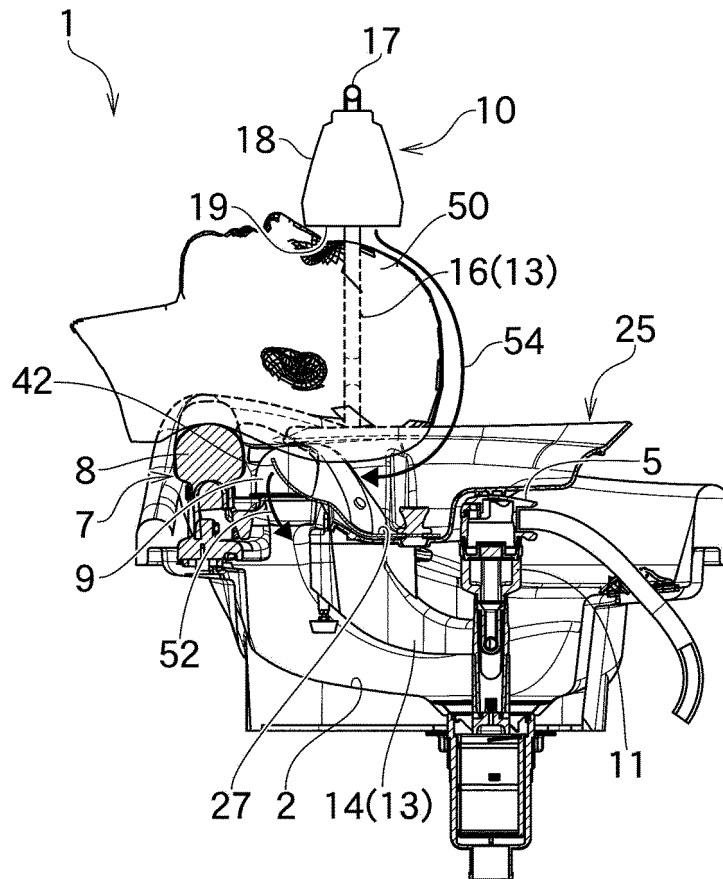


FIG. 35

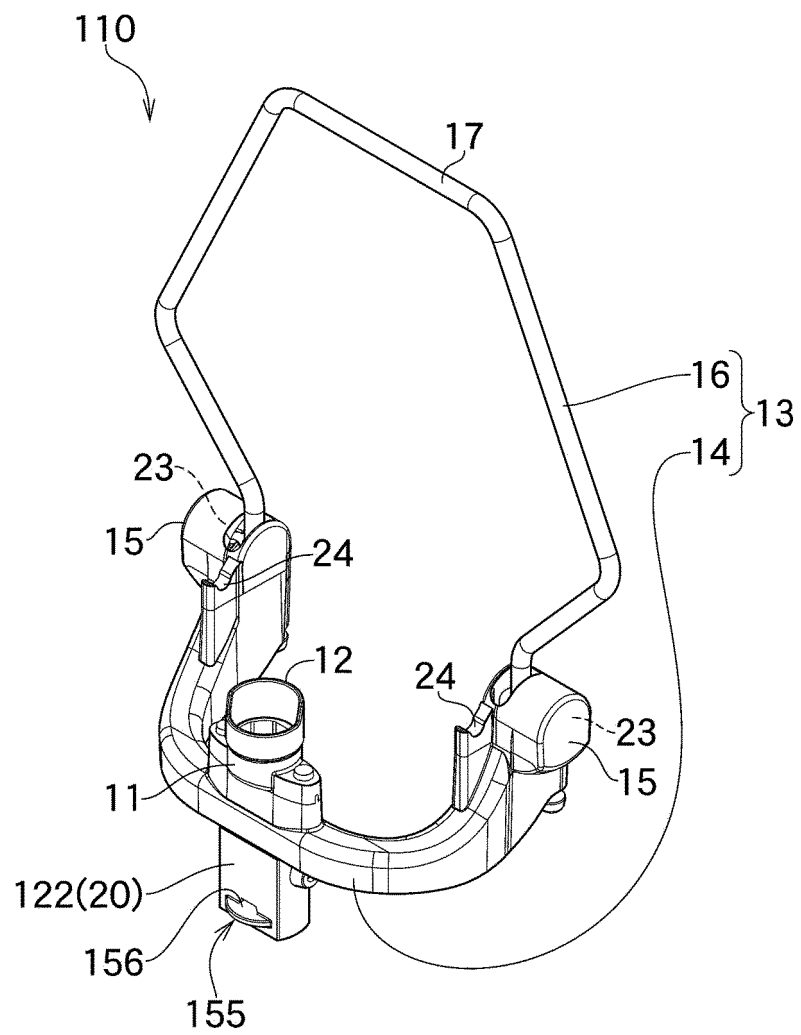


FIG. 36

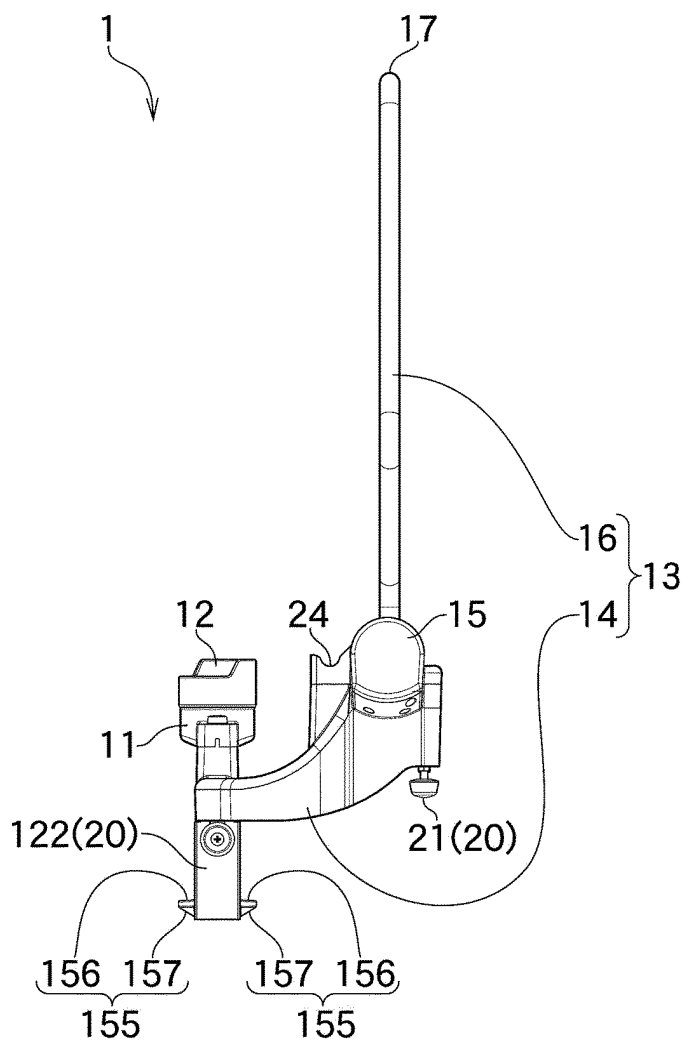


FIG. 37

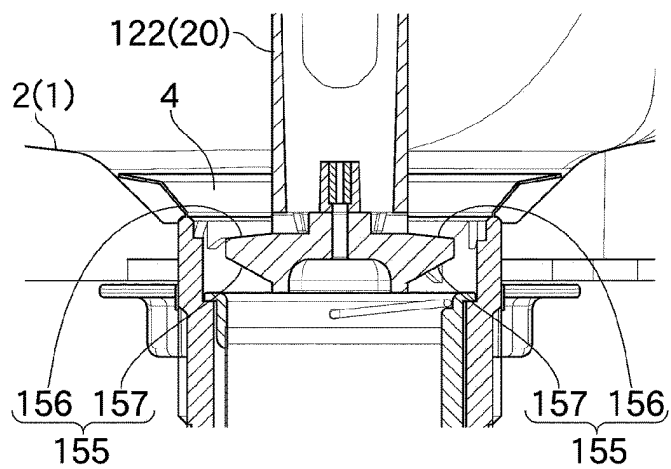


FIG. 38

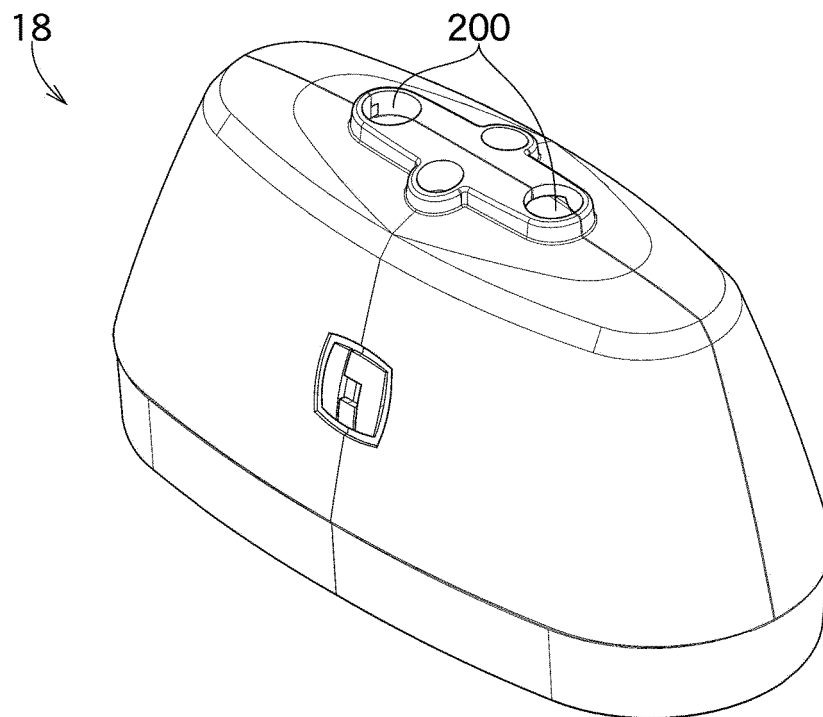


FIG. 39

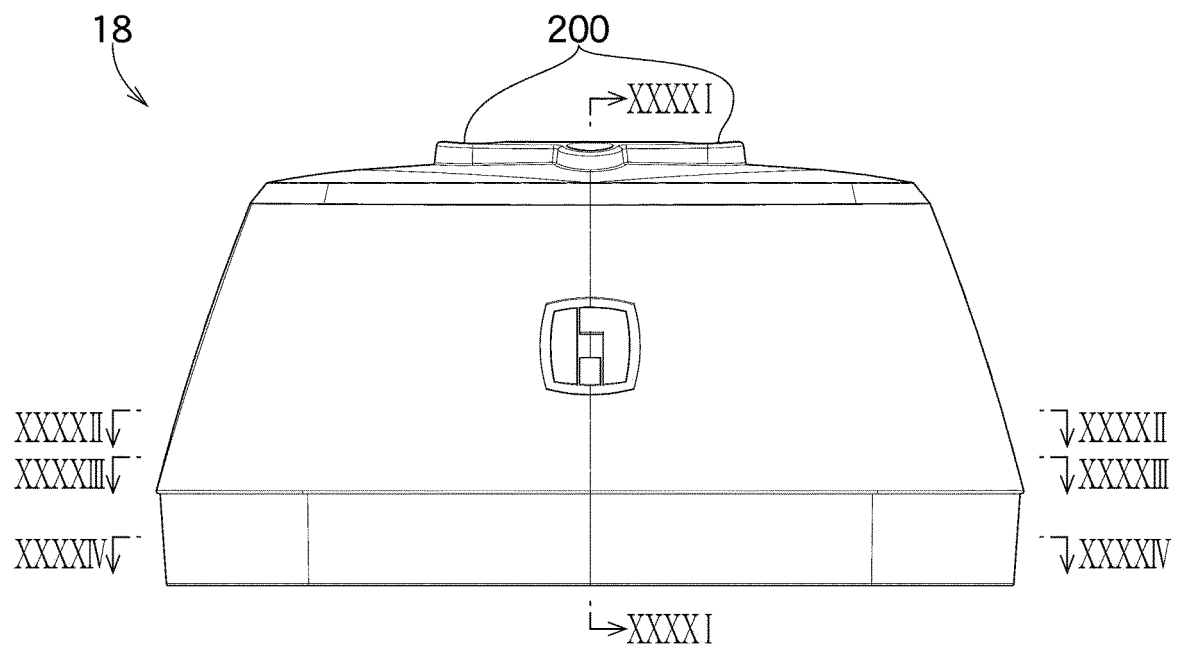


FIG. 40

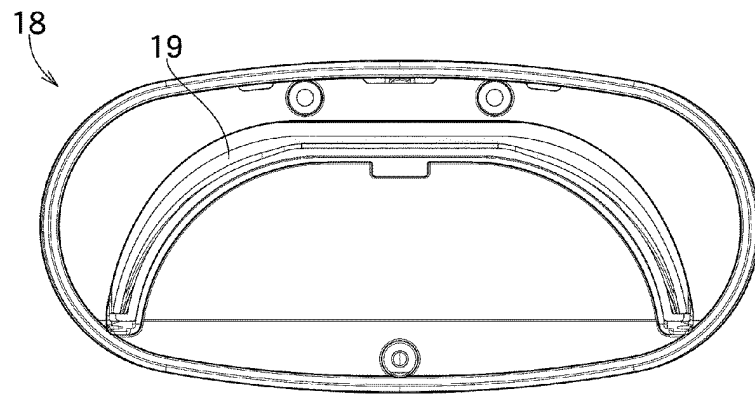


FIG. 41

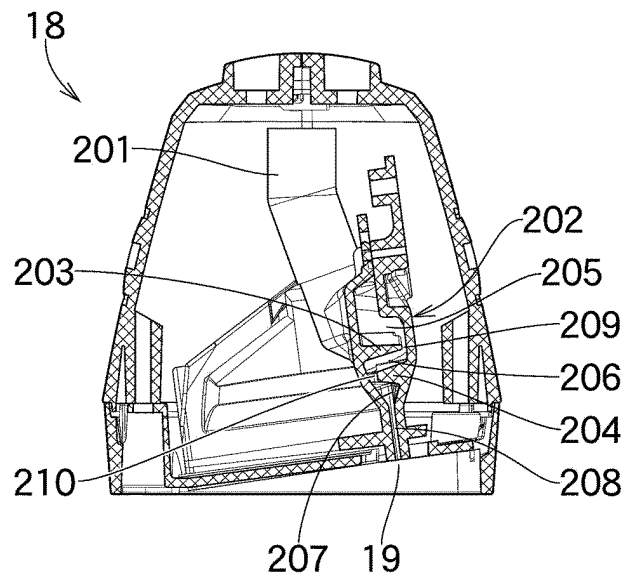


FIG. 42

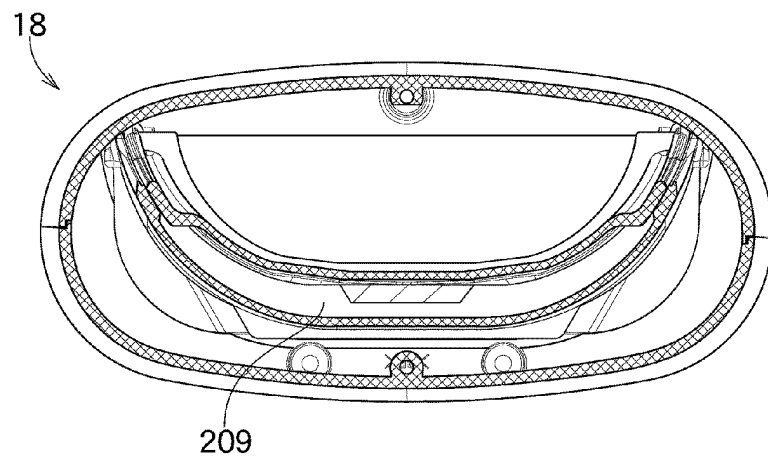


FIG. 43

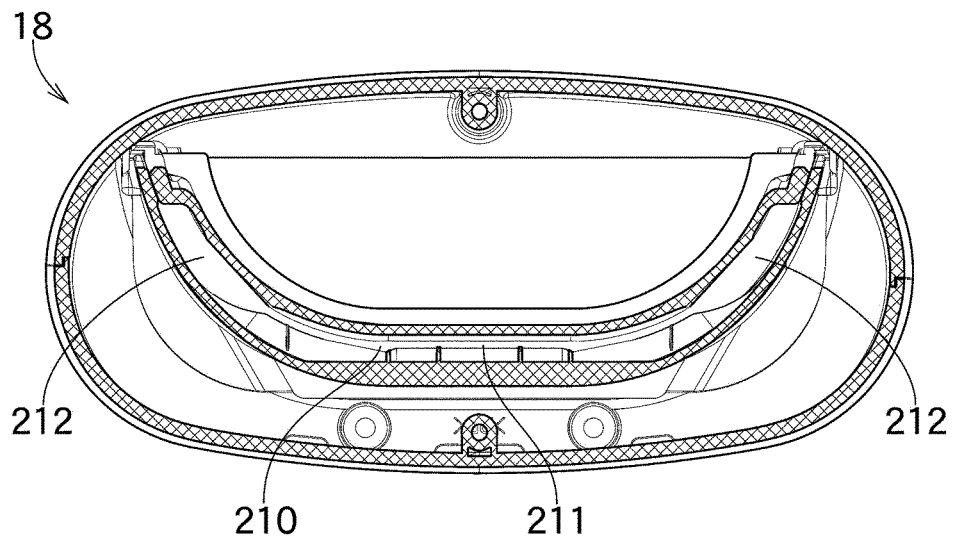
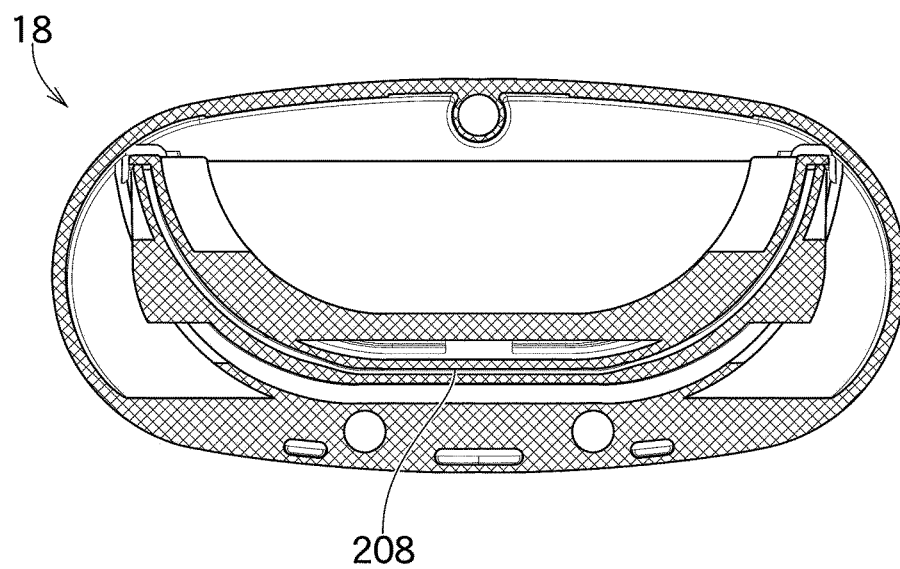


FIG. 44



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2022/001714

A. CLASSIFICATION OF SUBJECT MATTER

A45D 19/08(2006.01)i

FI: A45D19/08

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)

A45D19/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan 1922-1996

Published unexamined utility model applications of Japan 1971-2022

Registered utility model specifications of Japan 1996-2022

Published registered utility model applications of Japan 1994-2022

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 080314/1972 (Laid-open No. 037097/1973) (HORI, Miyako) 04 May 1973 (1973-05-04), specification, p. 1-4, fig. 1-3	1-4, 11
A		5-10
X	JP 2008-253594 A (THALES CO., LTD.) 23 October 2008 (2008-10-23) paragraphs [0001]-[0024], fig. 1-3	1-4, 11
Y		5-7, 11
A		8-10
Y	JP 36-013539 Y1 (OKABE, Takeo) 26 May 1961 (1961-05-26) fig. 1, 2	5-7, 11
Y	JP 2011-153522 A (KOBAYASHI PHARMACEUT CO., LTD.) 11 August 2011 (2011-08-11) paragraphs [0017], [0018], fig. 1	6-7, 11
Y	WO 95/04484 A1 (HEARN, MATTHEW, JOSEPH) 16 February 1995 (1995-02-16) paragraphs [0015], [0031], [0038], fig. 1, 3, 6	7, 11



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search

16 February 2022

Date of mailing of the international search report

01 March 2022

Name and mailing address of the ISA/JP

Japan Patent Office (ISA/JP)
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Japan

Authorized officer

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No. PCT/JP2022/001714

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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4901378 A (REDDELL; LEALYCE) 20 February 1990 (1990-02-20) entire text, all drawings	1-11
A	CD-ROM of the specification and drawings annexed to the request of Japanese Utility Model Application No. 058173/1993 (Laid-open No. 017604/1994) (IZUMI DENKI CO., LTD.) 08 March 1994 (1994-03-08), entire text, all drawings	1-11

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/JP2022/001714

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
JP 48-037097 U1	04 May 1973	(Family: none)	
JP 2008-253594 A	23 October 2008	US 2008/0244823 A1 paragraphs [0001]-[0027], fig. 1-3 KR 10-2008-0090955 A EP 1992246 A1 CN 101278776 A CA 2599092 A1	
JP 36-013539 Y1	26 May 1961	(Family: none)	
JP 2011-153522 A	11 August 2011	(Family: none)	
WO 95/04484 A1	16 February 1995	AU 7377694 A	
US 4901378 A	20 February 1990	(Family: none)	
JP 6-017604 U1	08 March 1994	(Family: none)	

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 3185374 U [0004]