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(54) **WATER OUTPUT DEVICE**

(57) A water output device (1) includes a faucet (10) and a rack (20, 50). The faucet (10) includes a main body (101) and at least one inlet tube (11). The main body (101) has an outlet (101b), and the at least one inlet tube (11) is connected to a rear side (101c) of the main body (101). The rack (20, 50) includes a receiving plate (22), and the receiving plate (22) has a first connecting portion (221) and a receiving portion (222). The first connecting portion (221) is connected to the rear side (101c) of the main body (101) of the faucet (10). The receiving portion (222) has a first side (222a) and a second side (222b), which are opposite. The first side (222a) of the receiving portion (222) is located at a top portion of the main body (101) and is connected to the first connecting portion (221). The second side (222b) of the receiving portion (222) extends in a direction away from the first side (222a) of the receiving portion (222).

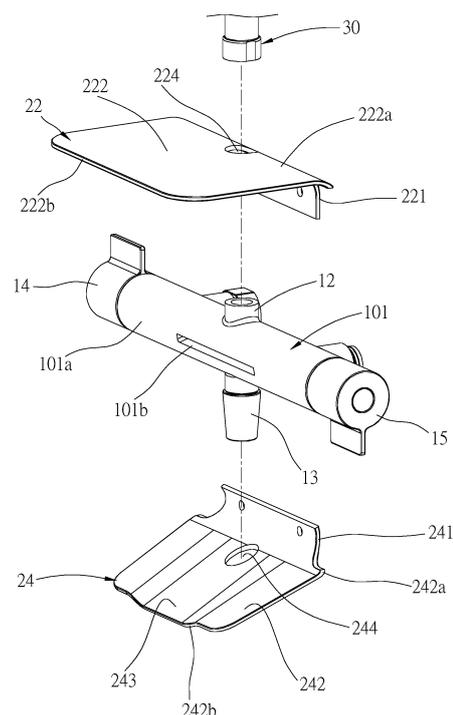


FIG.3

Description

BACKGROUND

Technical Field

[0001] The present invention relates generally to a bathroom accessory, and more particularly to a bathroom accessory providing a space for receiving objects.

Description of Related Art

[0002] For the convenience of a user to obtain cleansers, cleaning tools, or bath supplies during showering and cleaning, a shelf is often disposed around the faucet for storing supplies such as the cleanser, the cleaning tools, the bath supplies, and so on.

[0003] The shelves on the market are classified into sucker-type and fixed-type according to their attaching way. The sucker-type shelves are easily aging and need to be attached to a certain kind of wall. The fixed type may damage the wall. Additionally, the shelves are usually located in a moisture environment, so that bacteria and mold may grow easily. Thus, the conventional shelf is not convenience for the user to use and possibly has safety concerns, so that the conventional shelf has room for improvement.

SUMMARY OF THE INVENTION

[0004] In view of the above, the primary objective of the present invention is to provide a water output device and a rack which is firm to provide a space for receiving objects.

[0005] The present invention provides a water output device, including a faucet and a rack. The faucet includes a main body and at least one inlet tube, wherein the main body has an outlet, and the at least one inlet tube is connected to a rear side of the main body. The rack includes a receiving plate, wherein the receiving plate has a first connecting portion and a receiving portion. The first connecting portion is detachably connected to the rear side of the main body of the faucet. The receiving portion has a first side and a second side, which are opposite. The first side of the receiving portion is located above a top portion of the main body and is connected to the first connecting portion, and the second side of the receiving portion extends in a direction away from the first side of the receiving portion

[0006] With the aforementioned design, the rack could provide a receiving space, wherein the receiving plate is detachably connected to the faucet and is located above the main body of the faucet, so that the rack could be firmly engaged with the faucet to solve the problem that the conventional shelf may fall down easily from the wall surface, and the rack could be easily disassembled to clean by the user, thereby solving the problem of mold growth on the conventional faucet, on the conventional

shelf, or between the conventional faucet and the conventional shelf due to a moisture environment.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The present invention will be best understood by referring to the following detailed description of some illustrative embodiments in conjunction with the accompanying drawings, in which

FIG. 1 is a perspective view of the water output device of a first embodiment according to the present invention;

FIG. 2 is an enlarged partial view of a marked region A in FIG. 1;

FIG. 3 is an exploded view, showing a part of the components shown in FIG. 2;

FIG. 4 is similar to FIG. 2, showing an enlarged partial view of the water output device seen from another perspective;

FIG. 5 is an exploded view, showing a part of the components shown in FIG. 4;

FIG. 6 is a side view of the water output device of the first embodiment according to the present invention; and

FIG. 7 is a schematic view of the rack of the water output device of a second embodiment according to the present invention.

30 DETAILED DESCRIPTION OF THE INVENTION

[0008] As illustrated in FIG. 1 to FIG. 6, a water output device 1 of a first embodiment according to the present invention includes a faucet 10 and a rack 20, wherein the faucet 10 includes a main body 101, two inlet tubes 11, an upward outlet tube 12, a downward outlet tube 13, and two shower controls. A front side 101a of the main body 101 has an outlet 101b, and a rear side 101c of the main body 101 is connected to the two inlet tubes 11, wherein the front side 101a of the main body 101 and the rear side 101c of the main body 101 face opposite directions. The two shower controls include a first knob 14 and a second knob 15 respectively disposed at a right side and a left side of the main body 101, wherein the right side of the main body 101 and the left side of the main body 101 face opposite directions. A top portion of the main body 101 has the upward outlet tube 12, and a bottom portion of the main body 101 has the downward outlet tube 13, wherein the top portion of the main body 101 and the bottom portion of the main body 101 faces opposite directions. A direction from the bottom portion to the top portion is perpendicular to a direction from the right side to the left side and is perpendicular to a direction from the rear side to the front side. The two inlet tubes 11 are respectively connected to a cold water supply and a hot water supply. By turning the first knob 14, a user could open or block paths for water to flow through of the two inlet tubes 11.

[0009] Additionally, the user could turn the second knob 15 to switch a path for water flowing from the two inlet tubes 11 into the main body 101, so that water could flow through one of the outlet 101b, the upward outlet tube 12, and the downward outlet tube 13. With such design, the faucet 10 could provide water outputted in various directions for the user to use. In the current embodiment, a number of the inlet tube 11 is two as an example, but the number of the inlet tube 11 could be one or more than two in other embodiments. The upward outlet tube 12 is adapted to be connected to a spout 30, so that water in the main body 101 could flow through the upward outlet tube 12 and flow out of one or more outlet of the spout 30, thereby providing water for the user to take a shower.

[0010] As illustrated in FIG. 3, the rack 20 includes a receiving plate 22 and a guiding plate 24. The receiving plate 22 has a first connecting portion 221 and a receiving portion 222, wherein the first connecting portion 221 is connected to the rear side 101c of the main body 101 of the faucet 10, and the receiving portion 222 has a first side 222a and a second side 222b, which are opposite. The first side 222a of the receiving portion 222 is located above the top portion of the main body 101 and is connected to the first connecting portion 221. The second side 222b of the receiving portion 222 extends in a direction away from the first side 222a of the receiving portion 222 to form a surface for the user to put objects. In the current embodiment, the surface is a flat surface as an example. Practically, the surface could be a surface in a curved shape or a surface having a slot for putting objects. The receiving portion 222 of the receiving plate 22 has a first perforation 224, wherein the upward outlet tube 12 could pass through the first perforation 224, and the spout 30 is connected to an end of the upward outlet tube 12 passed through the first perforation 224, so that the receiving plate 22 could be firmly disposed between the spout 30 and the faucet 10 by passing the upward outlet tube 12 through the first perforation 224.

[0011] It's worthy to mention that the first connecting portion 221 of the receiving plate 22 is detachably connected to the faucet 10. As illustrated in FIG. 4 and FIG. 5, the water output device 1 includes two fasteners 40. The first connecting portion 221 of the receiving plate 22 has two through holes 225 fit for the two fasteners 40. The fasteners 40 pass through the through holes 225 of the first connecting portion 221 and are screwed into the main body 101 of the faucet 10 to engage the receiving plate 22 with the faucet 10, so that the receiving plate 22 could be firmly engaged with the faucet 10. The receiving plate 22 connected to the faucet 10 in a detachable way facilitates the user to disassemble and assemble the receiving plate 22 for cleaning or replacing the faucet 10 and the receiving plate 22, thereby solving the problem that mold easily grows on a conventional faucet, on a conventional shelf, or between the conventional faucet and the conventional shelf due to a moisture environment. In the current embodiment, a number of the fas-

tener 40 and a number of the through holes 225 of the receiving plate 22 both are two as an example. In other embodiments, the number of the fastener 40 and the number of the through hole 225 of the receiving plate 22 could be one or more than two. Regardless of the number of the fastener and the number of the through hole, the fastener and the through hole could engage the receiving plate 22 with the faucet 10. Additionally, in the current embodiment, the fasteners 40 are screws as an example. Practically, the fastener could be a screw nail and other similar members.

[0012] As illustrated in FIG. 3 to FIG. 5, the guiding plate 24 has a second connecting portion 241 and a guiding portion 242, wherein the second connecting portion 241 is adapted to be connected to the rear side 101c of the main body 101 of the faucet 10, and the guiding portion 242 is adapted to guide water flowing out of the outlet 101b of the faucet 10. The guiding portion 242 has a first side 242a and a second side 242b, which are opposite. The first side 242a of the guiding portion 242 is located at the bottom portion of the main body 101 of the faucet 10 and is connected to the second connecting portion 241. The second side 242b of the guiding portion 242 extends in a direction away from the first side 242a of the guiding portion 242 to form a guiding surface, wherein the guiding surface of the guiding portion 242 has a guiding groove 243, so that water could flow through the guiding groove 243 in a direction from the outlet 101b to a front side of the faucet 10 for the user to obtain and to use water easily. Furthermore, the guiding portion 242 could transform a columnar water flow outputted through the outlet 101b into a waterfall. In other embodiments, the guiding surface could be surfaces in different forms and is not limited to having the guiding groove 243 in the current embodiment. For example, the guiding surface could be a flat surface without the guiding groove 243.

[0013] As illustrated in FIG. 3 to FIG. 5, the guiding portion 242 of the guiding plate 24 has a second perforation 244, and the downward outlet tube 13 could pass through the second perforation 244. An end of the downward outlet tube 13 passing out of the second perforation 244 could output water, thereby providing water outputted in various directions for the user to use.

[0014] The second connecting portion 241 of the guiding plate 24 is detachably connected to the faucet 10. As illustrated in FIG. 5, the second connecting portion 241 of the guiding plate 24 has two through holes 245 corresponding to the two fasteners 40. The fasteners 40 pass through the through holes 245 of the second connecting portion 241 and are screwed into the main body 101 of the faucet 10 to engage the guiding plate 24 with the faucet 10, so that the guiding plate 24 could be firmly engaged with the faucet 10. The guiding plate 24 connected to the faucet 10 in a detachable way facilitates the user to disassemble and assemble the guiding plate 24 for cleaning or replacing the faucet 10 and the guiding plate 24, thereby avoid mold growing on the guiding plate 24 due to a moisture environment. At the same time, the

user could optionally mount the guiding plate 24 to the faucet 10 according to different situations. In the current embodiment, a number of the fastener 40 and a number of the through hole 245 of the guiding plate 24 both are two as an example. In the other embodiment, the number of the fastener 40 and the number of the through hole 245 of the guiding plate 24 could be one or more than two, as long as the fastener and the through hole could achieve an efficacy of engaging the guiding plate 24 with the faucet 10.

[0015] It's worthy to mentioned, in the current embodiment, the first connecting portion 221 of the receiving plate 22 and the second connecting portion 241 of the guiding plate 24 are overlapped and are passed through by the two fasteners 40. Each of the two fasteners 40 passes through one of the two through holes 225 of the receiving plate 22 and corresponding one of the two through holes 245 of the guiding plate 24 to connect the receiving plate 22 and the guiding plate 24 to the faucet 10. However, in other embodiment, the receiving plate 22 and the guiding plate 24 could be disposed without overlapping. For example, the first connecting portion of the receiving plate could be fixed to the faucet 10 by two fasteners, and the guiding plate could be fixed to the faucet 10 by another two fasteners. In this way, the receiving plate and the guiding plate could be connected to the faucet as well. As illustrated in FIG. 5 and FIG. 6, the main body 101 of the faucet 10 is disposed between the receiving portion 222 and the guiding portion 242, and the first knob 14 and the second knob 15 of the two shower controls are respectively disposed at opposite sides of the main body 101. An acute angle θ is formed between the receiving portion 222 and the guiding portion 242. The first connecting portion 221 has a first arc surface 221a, and the second connecting portion 241 has a second arc surface 241a, wherein a curvature of the first arc surface 221a and a curvature of the second arc surface 241a are fitted a surface of the rear side 101c of the faucet 10, so that the first connecting portion 221 and the second connecting portion 241 are tightly fitted with the faucet 10.

[0016] As illustrated in FIG. 7 which is a schematic view of a rack 50 of a water output device of a second embodiment according to the present invention, the water output device of the second embodiment according to the present invention has almost same structure as that of the first embodiment, except that in the current embodiment, a receiving plate and a guiding plate are integrally formed as a monolithic unit. In other words, the first connecting portion 221 of the receiving plate 22 of the rack 50 is connected to the second connecting portion 241 of the guiding plate 24. In the current embodiment, the first connecting portion 221 has the through holes 225 described in the aforementioned embodiment, but the second connecting portion 241 does not have any through hole.

[0017] In view of the above, the water output device and the rack of the present invention could provide a

space for receiving objects, and since the receiving plate 22 and the guiding plate 24 are connected to the faucet 10 in a detachable way, the receiving plate 22 and the guiding plate 24 could not only be firmly connected to the faucet 10, but also be easily disassembled and assembled, facilitating the user to clean or to replace the faucet 10, the receiving plate 22, and the guiding plate 24, thereby solving the problem that mold easily grows on a conventional faucet, on a conventional rack, or between the conventional faucet and the conventional rack. Additionally, with the guiding portion 242, the water could be guided by the guiding portion 242 to flow through the outlet 101b to the front side of the faucet 10 for the user to use easily.

[0018] It must be pointed out that the embodiment described above is only a preferred embodiment of the present invention. All equivalent structures which employ the concepts disclosed in this specification and the appended claims should fall within the scope of the present invention.

Claims

1. A water output device (1), comprising:

a faucet (10) comprising a main body (101) and at least one inlet tube (11), wherein the main body (101) has an outlet (101b), and the at least one inlet tube (11) is connected to a rear side (101c) of the main body (101);

a rack (20, 50) comprising a receiving plate (22), wherein the receiving plate (22) has a first connecting portion (221) and a receiving portion (222); the first connecting portion (221) is detachably connected to the rear side (101c) of the main body (101) of the faucet (10), and the receiving portion (222) has a first side (222a) and a second side (222b), which are opposite; the first side (222a) of the receiving portion (222) is located above a top portion of the main body (101) and is connected to the first connecting portion (221), and the second side (222b) of the receiving portion (222) extends in a direction away from the first side (222a) of the receiving portion (222) .

2. The water output device (1) as claimed in claim 1, wherein the faucet (10) has an upward outlet tube (12) adapted to be connected to a spout (30); the receiving portion (222) of the receiving plate (22) has a first perforation (224), and the upward outlet tube (12) passes through the first perforation (224).

3. The water output device (1) as claimed in claim 1, further comprising a guiding plate (24), wherein the guiding plate (24) has a second connecting portion (241) and a guiding portion (242); the second con-

necting portion (241) is adapted to be connected to the rear side (101c) of the main body (101) of the faucet (10), and the guiding portion (242) has a first side (242a) and a second side (242b), which are opposite; the first side (242a) of the guiding portion (242) is located at a bottom portion of the main body (101) and is connected to the second connecting portion (241); the second side (242b) of the guiding portion (242) extends in a direction away from the first side (242a) of the guiding portion (242); the guiding portion (242) is adapted to guide water outputted through the outlet (101b) of the faucet (10).

4. The water output device (1) as claimed in claim 3, wherein the second connecting portion (241) of the guiding plate (24) is detachably connected to the faucet (10), and the second connecting portion (241) and the first connecting portion (221) are overlapped.
5. The water output device (1) as claimed in claim 4, further comprising at least one fastener (40), wherein the first connecting portion (221) of the receiving plate (22) has at least one through hole (225), and the second connecting portion (241) of the guiding plate has at least one through hole (245); the at least one fastener (40) passes through the at least one through hole (225) of the first connecting portion (221) and the at least one through hole (245) of the second connecting portion (241) and is screwed into the faucet (10), thereby engaging the receiving plate (22) and the guiding plate (24) with the faucet (10).
6. The water output device (1) as claimed in claim 3, wherein the faucet (10) has a downward outlet tube (13); the guiding portion (242) of the guiding plate (24) has a second perforation (244), and the downward outlet tube (13) passes through the second perforation (244).
7. The water output device (1) as claimed in claim 3, wherein the first connecting portion (221) has a first arc surface (221a), and the second connecting portion (241) has a second arc surface (241a); a curvature of the first arc surface (221a) and a curvature of the second arc surface (241a) are fitted a surface of the rear side of the faucet (10).
8. The water output device (1) as claimed in claim 3, wherein the faucet (10) comprising two shower controls respectively disposed at opposite sides of the main body (101); the main body (101) of the faucet (10) is disposed between the receiving portion (222) and the guiding portion (242), and an acute angle is formed between the receiving portion (222) and the guiding portion (242).
9. The water output device (1) as claimed in claim 3, wherein the guiding portion (242) has a guiding

groove (243) adapted to guide water outputted through the outlet (101b) of the faucet (10).

10. The water output device (1) as claimed in claim 3, wherein the receiving plate (22) and the guiding plate (24) are integrally formed as a monolithic unit.

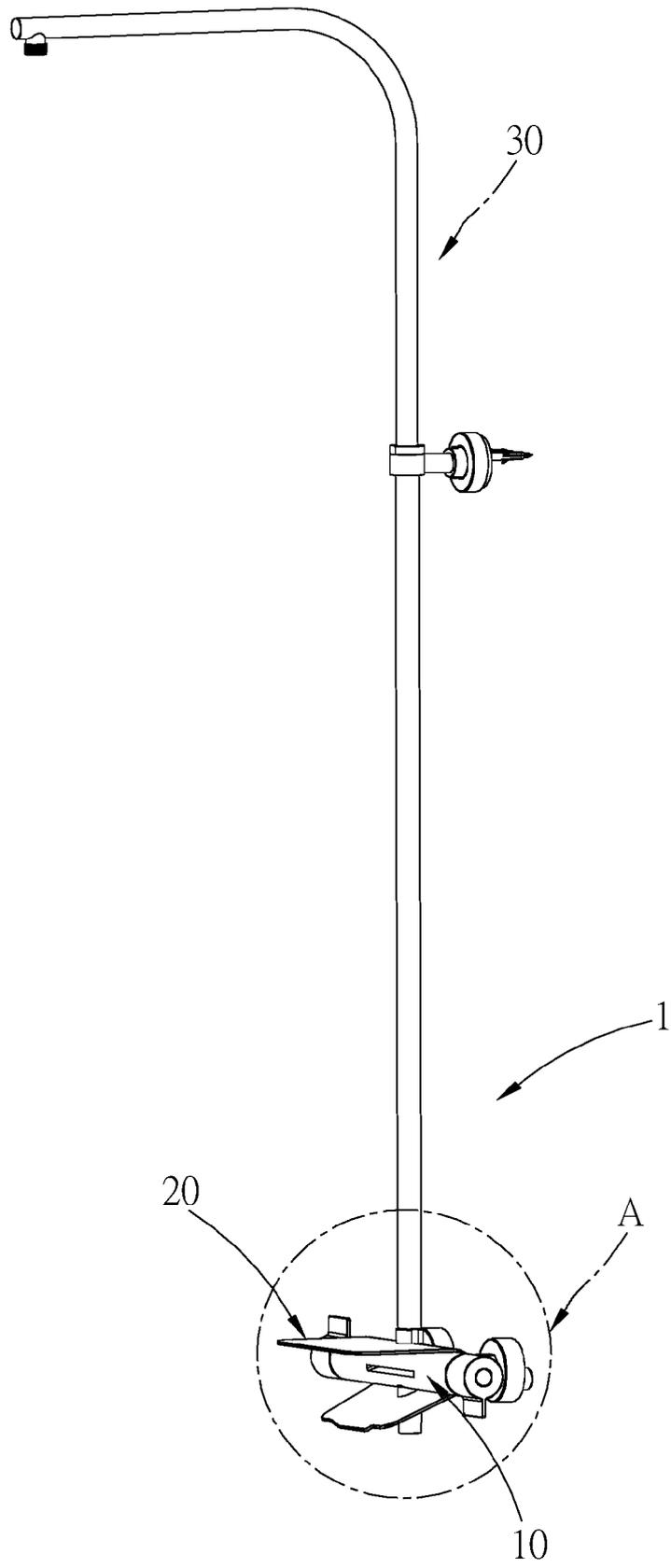


FIG.1

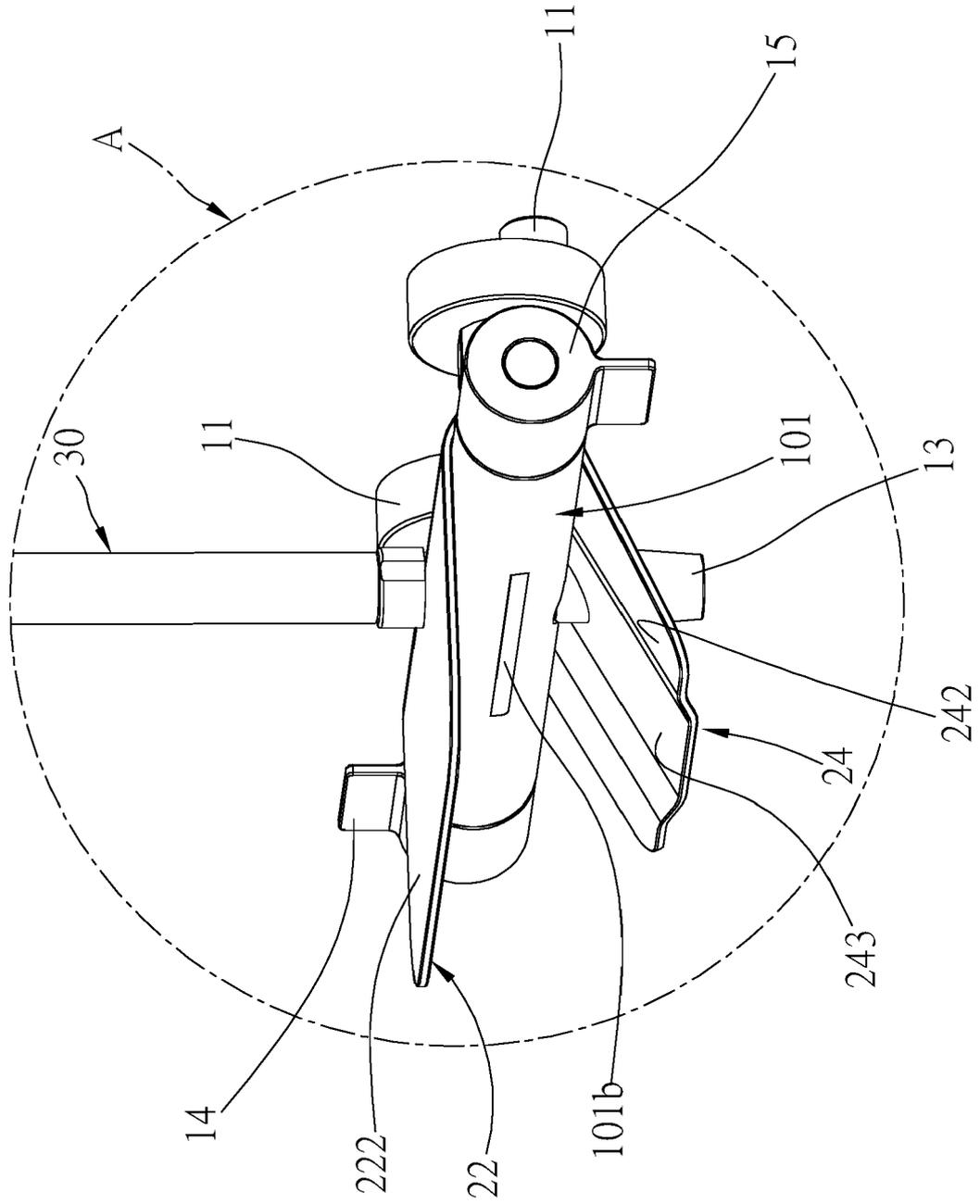


FIG. 2

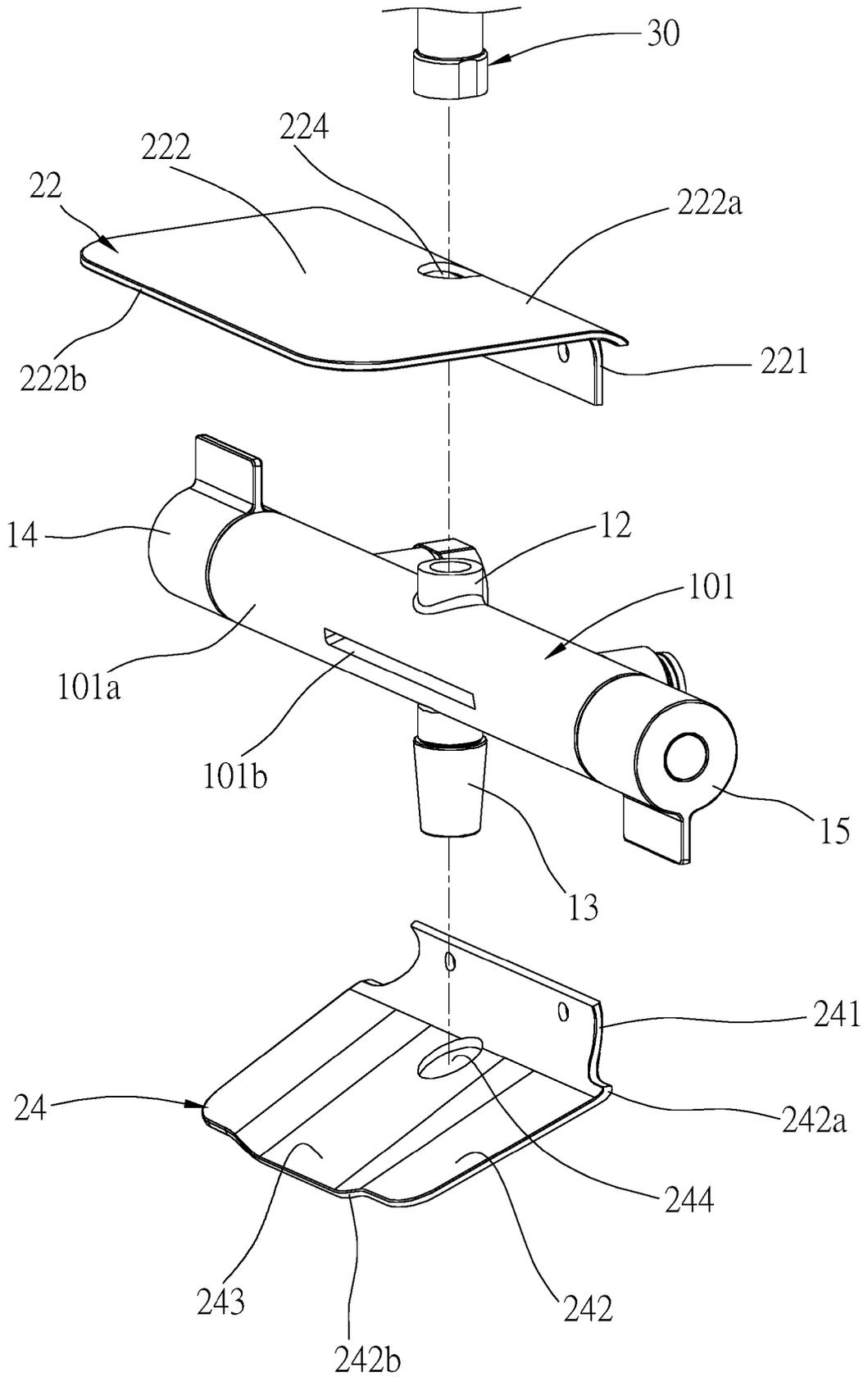


FIG.3

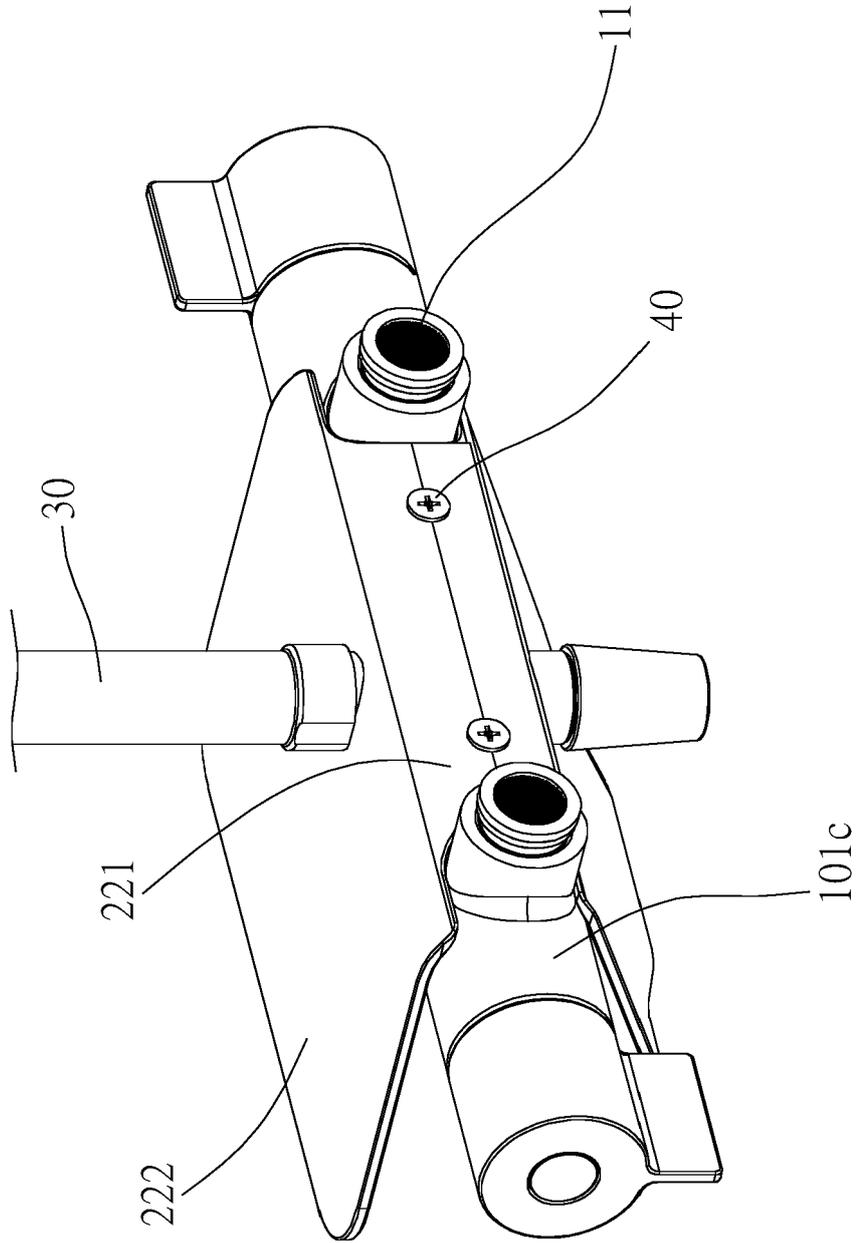


FIG. 4

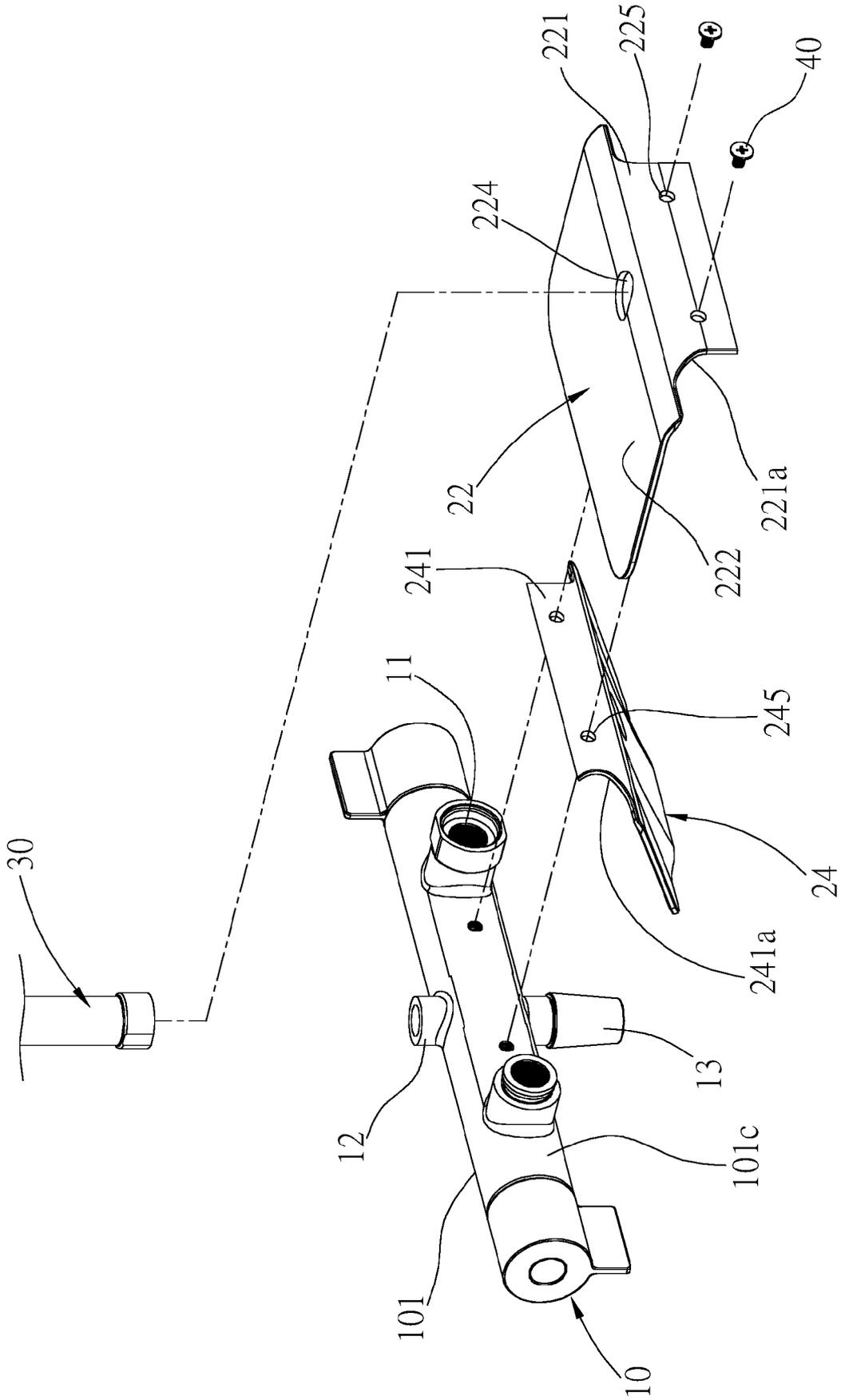


FIG.5

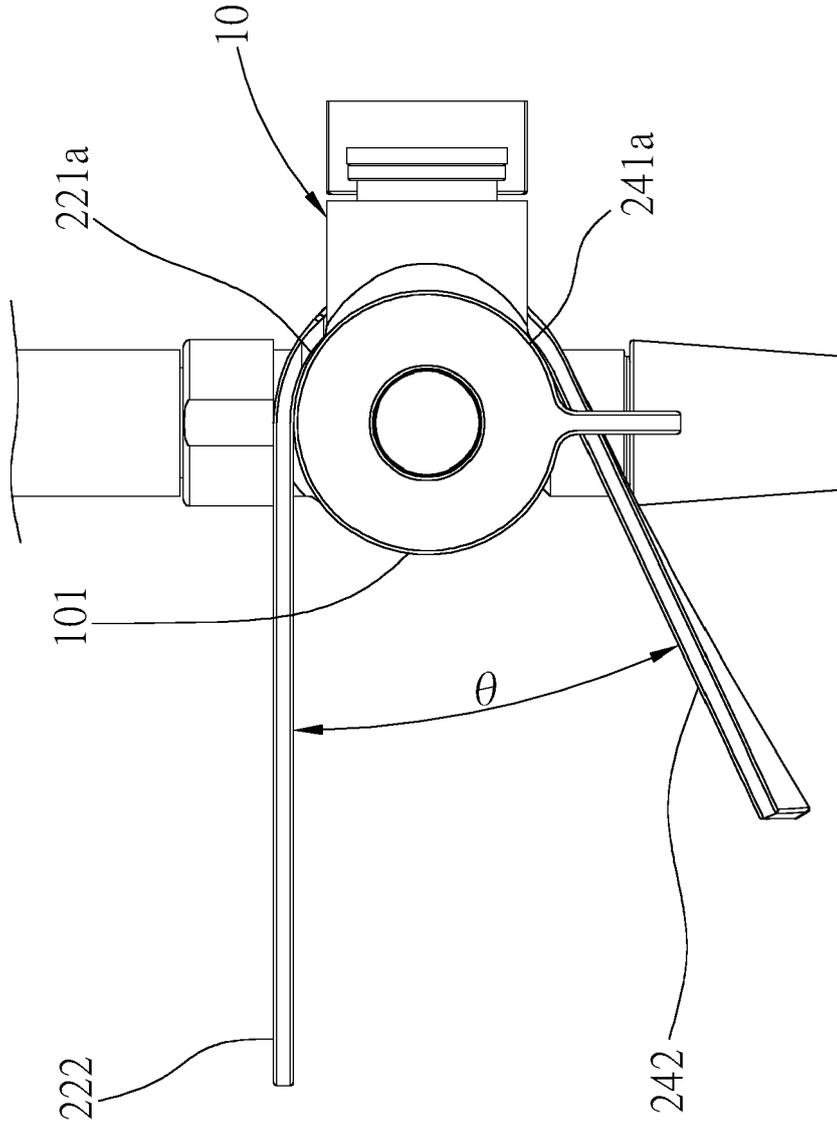


FIG.6

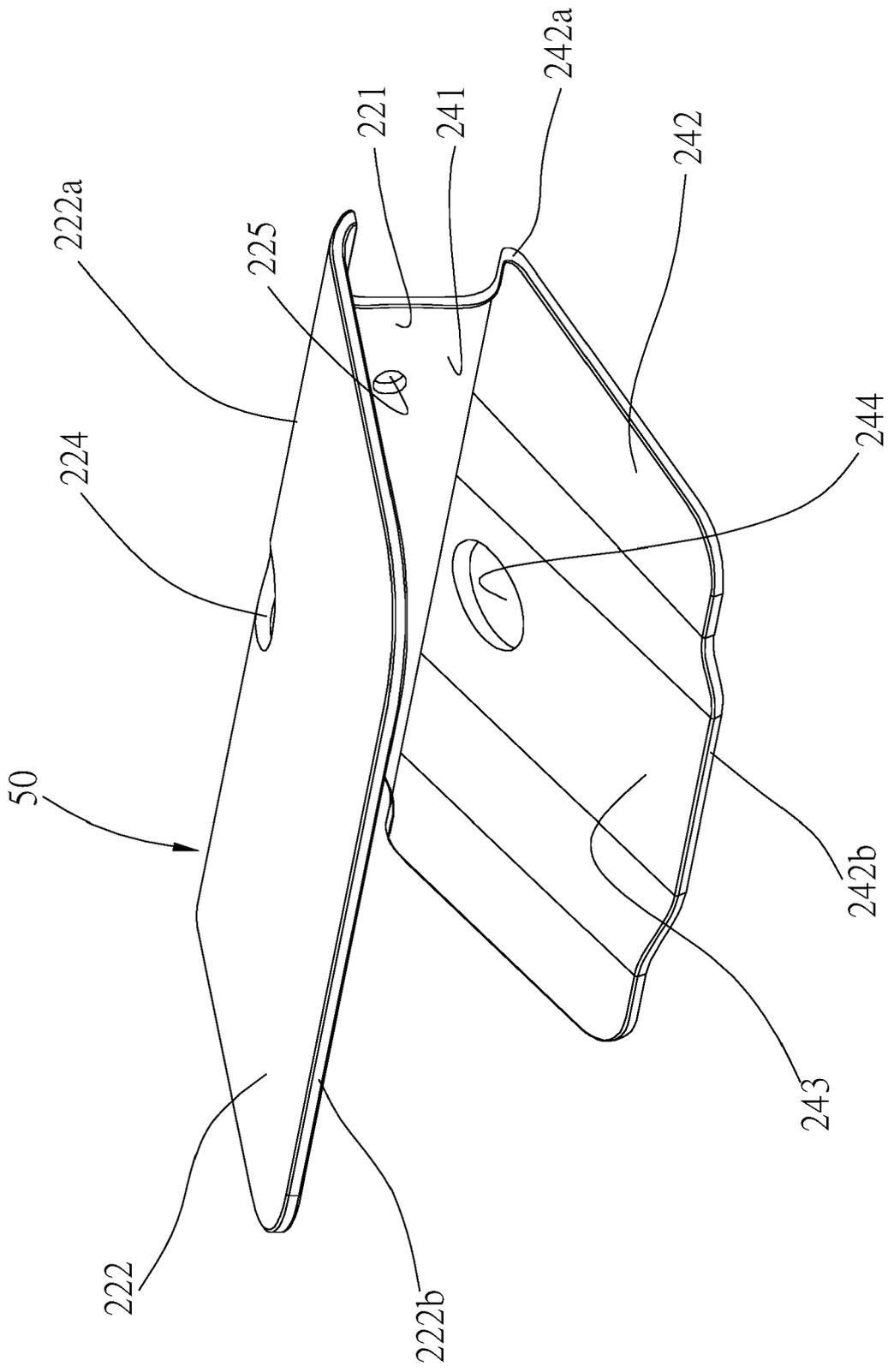


FIG.7



EUROPEAN SEARCH REPORT

Application Number
EP 21 17 8273

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ANNEX TO THE EUROPEAN SEARCH REPORT
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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