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RANGE HOOD ASSEMBLY AND INTEGRATED COOKER

(57) The present disclosure provides a range hood assembly (100) and an integrated cooker (200) , and relates to the field of range hoods. The range hood assembly (100) comprises: a volute (110), wherein the end face of the volute comprises an opening (1102); a buckling part (120), arranged on the end face of the volute (110) and located on the first side of the opening (1102); a bottom plate (130) covering the opening, wherein the bottom plate comprises a first side edge (1302) and a through hole (1304), the buckling part (120) is buckled to the first side edge (1302), and the through hole (1304) avoids the first side edge (1302) in the circumferential direction of the bottom plate (130) ; and a connecting piece (140) penetrating through the through hole (1304) and connected to the volute (110).

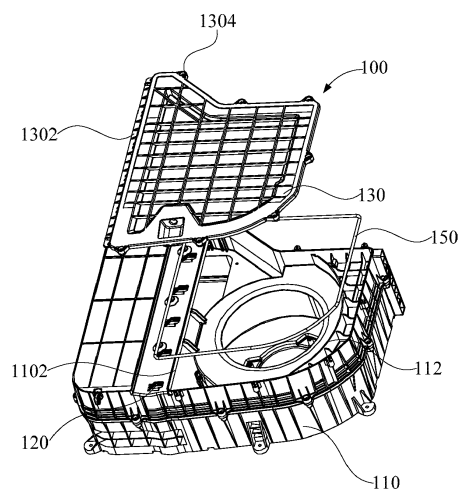


FIG. 1

Description

[0001] The present disclosure claims priority to Chinese Patent Application No. 202320686553.1 filed with China National Intellectual Property Administration on March 31, 2023 and entitled "Range Hood Assembly And Integrated Cooker", the entire contents of which are herein incorporated by reference.

[0002] The present disclosure claims priority to Chinese Patent Application No. 202320686354.0 filed with China National Intellectual Property Administration on March 31, 2023 and entitled "Integrated Cooker", the entire contents of which are herein incorporated by reference.

FIELD

[0003] The present disclosure relates to the field of range hoods, and particularly relates to a range hood assembly and an integrated cooker.

BACKGROUND

[0004] A range hood and cooker all-in-one machine has a downdraft range hood oil fume sucking device, wherein the range hood oil fume sucking device needs a sealing cavity and then can ensure a larger static pressure to enable oil fume to enter from a fume sucking mouth. At this moment, the assembling of a detachable bottom cover plate and a fan volute should meet sealing and should also meet convenient disassembling.

[0005] In a related art, the bottom cover plate is fixed through a fully movable latch, the advantage of the locking of the fully movable latch is being convenient and fast, and work hours are reduced; as the bottom cover plate and the volute need a sealing ring, the sealing ring has a certain elasticity, the extruding force of the latch has a case of being unable to tightly compress the sealing ring, this results in bad sealing performance and poor reliability, and meanwhile, the movable latch easily fails due to repeated disassembling and assembling actions, and is also easily broken due to vibration during transportation.

[0006] Therefore, how to overcome the above defects has become a problem that needs to be solved urgently.

SUMMARY

[0007] The present disclosure aims to solve at least one of the problems that exist in the prior art.

[0008] To this end, the first aspect of the present disclosure provide a range hood assembly.

[0009] The second aspect of the present disclosure provides an integrated cooker.

[0010] In view of this, the first aspect of the present disclosure provides a range hood assembly, and the range hood assembly comprises: a volute, wherein the end face of the volute comprises an opening; a buckling part, ar-

ranged on the end face of the volute and located on the first side of the opening; a bottom plate covering the opening, wherein the bottom plate comprises a first side edge and a through hole, the buckling part is buckled to the first side edge, and the through hole avoids the first side edge in the circumferential direction of the bottom plate; and a connecting piece penetrating through the through hole and connected to the volute.

[0011] The present disclosure defines a range hood assembly, and the range hood assembly is used for an integrated cooker and can meet the need of sucking oil fume of the integrated cooker. The range hood assembly comprises the volute and the bottom plate, the volute is the main frame structure of the range hood assembly, a wind cavity for accommodating a centrifugal fan is formed inside the volute, the volute is provided with a fume inlet and a fume outlet, after the centrifugal fan is started, oil fume is sucked into the volute via the fume inlet, and is discharged via the fume outlet after being pressurized by the centrifugal fan.

[0012] Wherein, the end face of the volute is provided with the opening, the centrifugal fan can be mounted in the volute through the opening, and thus the difficulty in disassembling and assembling and maintaining the centrifugal fan is lowered. During working, the oil fume includes much oil and water vapor, an oil water mixture separated from the oil fume will accumulate at the bottom of the wind cavity, through arranging the opening, this portion of oil water mixture can be discharged out of the volute, to prevent the oil water mixture from damaging the fan, and this can prevent generating a peculiar smell due to the long-term accumulation of the oil water mixture. A cover plate is connected to the volute, and after the assembling of the cover plate is completed, the cover plate can seal the opening, and then the volute is opened and closed through the cover plate.

[0013] On the above basis, the end face of the volute is provided with the buckling part, the buckling part is located at the first side of the opening, the bottom plate comprises the first side edge and the through hole, the first side edge corresponds to the first side of the opening, the through hole corresponds to the other sides of the opening except the first side, and specifically, in the circumferential direction of the bottom plate, the through hole avoids the first side edge, to avoid the interference of the through hole and the buckling part. The range hood assembly further comprises the connecting piece, the connecting piece penetrates through the through hole and is connected to the volute, to press the bottom plate onto the end face of the volute.

[0014] Specifically, during mounting the bottom plate, the bottom plate is first inclined and the first side edge of the bottom plate is buckled through the buckling part, and this avoids the warping of the first side edge of the bottom plate, to complete the initial positioning of the bottom plate. Then, the portion of the bottom plate which does not contact the volute is pressed downward towards the volute, and the entire bottom plate is buckled at the open-

ing, and meanwhile the through hole in the bottom plate is aligned with a screw hole reserved in the volute, and finally the connecting piece is screwed into the screw hole, to press the bottom plate on the volute through the connecting piece.

[0015] Through arranging the through hole and the connecting piece cooperating with the buckling part, the bottom plate can be locked on the volute after the bottom plate is subjected to buckling and initial positioning; compared with the embodiment of fixing the bottom plate only through the movable latch, the connecting piece can provide an enough pressing force to the bottom plate, firstly, this can lower the possibility that the bottom plate becomes loose due to factors such as vibration, and secondly, a sealing ring between the bottom plate and the volute is compressed tightly, and it is ensured that the sealing ring can seal the gap between the bottom plate and the volute, and thus the problems of bad sealing performance and poor reliability in the related art are solved. Meanwhile, due to the existence of the through hole, the requirement for the movable disassembling and assembling of the buckling part is obviated, thus the problems in the prior art are solved that the movable latch is easily fatigue and fails and is easily broken during transportation. Furthermore, the effects are achieved that the fixing joint of the bottom plate is optimized, the sealing reliability of the bottom plate is improved, the complexity of the disassembling and assembling of the bottom plate is lowered, and the reliability of the fixing of the bottom plate is improved.

[0016] In addition, the above range hood assembly provided in the present disclosure can further comprise following additional features.

[0017] In the above embodiment, the bottom plate comprises: the cover plate covering the opening, wherein the through hole is located in the cover plate; a straight edge connected to the side wall of the cover plate and forming the first side edge, wherein the buckling part and the end face of the volute enclose an inserting groove facing the straight edge, and the straight edge is inserted into the inserting groove.

[0018] In the embodiment, the bottom plate comprises the cover plate and the straight edge, the through hole is provided in the cover plate, after the assembling of the bottom plate is completed, the cover plate covers the opening. The straight edge is provided at the circumferential side face of the cover plate, the straight edge extends along a straight line direction, and the straight edge constitutes the first side edge of the bottom plate. Compared with the embodiment of forming the first side edge through a curved edge, constructing the first side edge through the straight edge helps lower the cooperation difficulty of the cover plate and the buckling part.

[0019] On this basis, the buckling part and the end face of the volute enclose the inserting groove facing the straight edge, during assembling, inserting the straight edge into the inserting groove can complete the initial positioning of the bottom plate on the volute. The inserting

cooperation structure has an advantage of low disassembling and assembling difficulty and helps lower the mounting difficulty of the bottom plate. Meanwhile, the inserting groove cooperation structure obviates the requirement for the movable disassembling and assembling of the buckling part, and can avoid the failure of the buckling part due to frequent movable disassembling and assembling and can further avoid the breaking of the buckling part due to jolt and motion during transportation. Furthermore, the effects are achieved that the joint of the bottom plate and the buckling part is optimized, the structure stability of the range hood assembly is improved, and the assembling complexity of the range hood assembly is lowered.

[0020] In any of the above embodiments, in the depth direction of the inserting groove, the height of the inserting groove decreases gradually.

[0021] In the embodiment, in the depth direction of the inserting groove, the height of the inserting groove decreases gradually, that is, an inserting groove with a gradually narrowed size is formed, through arranging the inserting groove with a decreasing height, the straight edge can be inserted into the inserting groove inclined, that is, there is an included angle between the bottom plate and the end face of the volute when the inserting action is completed, then pressing the cover plate downward can buckle the cover plate at the opening. Thus, firstly, this provides convenience for the initial positioning of the bottom plate, and secondly, this can lower the difficulty in aligning the through hole with the reserved screw hole in the volute, and then the effects of optimizing the shape of the inserting groove and lowering the difficulty of inserting and mounting the bottom plate are achieved.

[0022] In any of the above embodiments, the buckling part comprises multiple buckles, the multiple buckles are distributed at intervals along the straight edge, the multiple buckles and the end face of the volute enclose multiple first inserting grooves, and the first side edge is inserted into the multiple first inserting grooves.

[0023] In the embodiment, the buckling part comprises multiple buckles, the multiple buckles are distributed along the straight line direction corresponding to the extending direction of the straight edge at the first side of the through hole, and specifically, the multiple buckles are distributed at intervals in the straight line direction. Wherein, one end of the buckles extends towards the end face of the volute, and the other end of the buckles is away from the end face of the volute and extends towards the direction of the bottom plate, to enclose the first inserting grooves facing the straight edge, the multiple buckles enclose the multiple first inserting grooves, and inclinedly inserting the straight edge into the multiple first inserting grooves can complete the initial positioning of the bottom plate.

[0024] Through arranging multiple buckles to cooperate with buckling the straight edge, this helps improve the buckling stability of the buckling part to the straight edge, avoids the warping of the bottom plate during work-

ing due to factors such as vibration, and ensures that the buckling part can cooperate with the connecting piece to tightly press the bottom plate on the volute. Furthermore, the effects of optimizing the structure of the buckling part and improving the structure stability and sealing reliability of the bottom plate are achieved.

[0025] In any of the above embodiments, the range hood assembly further comprises a reinforcing rib provided on a face of the straight edge deviating from the opening, and the reinforcing rib avoids the buckles.

[0026] In the embodiment, multiple reinforcing ribs are provided on the face of the straight edge deviating from the opening, the reinforcing ribs extend in the width direction of the straight edge, and arranging the reinforcing ribs can improve the structural strength of the straight edge and avoid the bending and even breaking of the straight edge during inserting and buckling and fixing, and thus the effects of improving the positioning stability of the bottom plate and improving the sealing performance of the bottom plate are achieved.

[0027] Specifically, in the length direction of the straight edge, the reinforcing ribs are arranged to avoid the buckles, to stagger the reinforcing ribs and the buckles and then lower the possibility of the mutual interference between the buckles and the reinforcing ribs during the inclined insertion into the bottom plate, and then the strength of the straight edge and inserting convenience are both considered.

[0028] In any of the above embodiments, there are N buckles, and the range hood assembly further comprises a limiting rib provided on the face of the straight edge deviating from the opening, and there are N groups of limiting ribs, two limiting ribs form one group, the N buckles are disposed to correspond to the N groups of limiting ribs one by one, and the buckle is inserted between two limiting ribs in the same group.

[0029] In the embodiment, the volute is provided with N buckles, the N buckles and the end face of the volute respectively enclose N first inserting grooves, and the initial positioning of the bottom plate can be completed through inclinedly inserting the straight edge into the N first inserting grooves. On this basis, the straight edge is further provided with N groups of limiting ribs, each group of limiting ribs comprises two limiting ribs, and the two limiting ribs in the same group are arranged at an interval, to enclose a limiting groove between the two limiting ribs. Wherein, N limiting grooves are arranged to correspond to the ends of the N buckles one by one in the length direction of the straight edge, and during the inclined insertion into the bottom plate, the ends of the N buckles are respectively inserted into the N limiting grooves.

[0030] Through arranging the limiting ribs, the movement of the buckles in the length direction of the straight edge can be limited through inserting cooperation, to limit the amplitude of transverse movement of the bottom plate in the length direction of the straight edge, and then improve the precision of the initial positioning of the bottom plate on the volute and lower the difficulty of aligning

the through hole with the reserved screw hole in the volute, and furthermore achieve the effects of improving the assembling precision of the bottom plate and lowering the assembling complexity of the bottom plate.

5 **[0031]** In any of the above embodiments, the buckling part further comprises a snap strip, the snap strip and the end face of the volute enclose a strip-shaped second inserting groove, and at least a portion of the first side edge is inserted into the second inserting groove.

10 **[0032]** In the embodiment, the buckling part comprises the snap strip, the snap strip is provided at the first side of the opening, and the extending direction of the snap strip is consistent with the length direction of the straight edge, the first end of the snap strip is connected to the
15 end face of the volute and the other end of the snap strip is away from the end face of the volute and extends towards the direction of the bottom plate, after the assembling of the snap strip is completed, the strip-shaped second inserting groove is enclosed between the snap strip
20 and the end face of the volute, the second inserting groove faces the bottom plate, and the initial positioning of the bottom plate can be completed by inclinedly inserting at least a portion of a first side edge into the second inserting groove.

25 **[0033]** Through arranging the strip-shaped snap strip to cooperate with buckling the straight edge, this helps improve the buckling stability of the buckling part to the straight edge, avoids the warping of the bottom plate during working due to factors such as vibration, and ensures
30 that the buckling part can cooperate with the connecting piece to tightly press the bottom plate on the volute. Furthermore, the effects of optimizing the structure of the buckling part and improving the structure stability and sealing reliability of the bottom plate are achieved.

35 **[0034]** In any of the above embodiments, the range hood assembly further comprises a sealing ring provided between the bottom plate and the volute and used for sealing the gap between the bottom plate and the volute.

40 **[0035]** In the embodiment, the range hood assembly further comprises the sealing ring, the sealing ring is located at the inner side of the opening, and the sealing ring is located between the bottom plate and the volute, after the initial positioning through inserting and the connecting locking of the bottom plate are completed, the
45 bottom plate can press the sealing ring onto the volute tightly, to enable the sealing ring to fill the gap between the volute and the bottom plate through deformation, and then prevent the oil fume and the oil water mixture from leaking to the outside via the gap between the bottom
50 plate and volute. Furthermore, the effects of improving the sealing effect of the range hood assembly and improving the practicality and reliability of the range hood assembly are achieved.

55 **[0036]** In any of the above embodiments, the face of the bottom plate facing the opening comprises a mounting groove, and the range hood assembly further comprises a snap ring provided in the volute and arranged opposite to the opening, the sealing ring is provided in

the mounting groove, and the end face of the snap ring abuts on the sealing ring.

[0037] In the embodiment, the bottom plate is provided with the mounting groove, the mounting groove is located in the face of the bottom plate facing the opening, the shape of the mounting groove adapts to the shape of the sealing ring, and the positioning of the sealing ring on the bottom plate can be completed by snapping the sealing ring into the mounting groove. On this basis, the volute is provided with the snap ring, the end face of the snap ring is arranged opposite to the opening, and the shape of the snap ring adapts to the shape of the sealing ring, after the assembling of the bottom plate is completed, the end face of the snap ring can abut on the sealing ring, to improve the sealing effect of the sealing ring between the volute and the bottom plate through extruding the sealing ring, and then achieve the effect of improving the sealing reliability of the range hood assembly.

[0038] In any of the above embodiments, the top of the volute comprises an air inlet, the volute comprises an air duct therein, the bottom of the volute is provided with the opening, and the opening is opposite to the centrifugal fan; the bottom plate is connected to the volute, and covers the opening, the volute and the bottom plate enclose a mounting cavity, the volute and the bottom plate comprise the mounting cavity therein, and the range hood assembly further comprises the centrifugal fan provided in the mounting cavity, and the air intake of the centrifugal fan deviates from the air inlet.

[0039] In the embodiment, the volute and the bottom plate constitute a first housing, the volute forms all the side walls and a portion of the bottom wall of the first housing, the air duct is arranged in the volute, and the top of the volute is provided with the air inlet communicating with the top end of the air duct. The circumferential side of the air duct in the volute is formed with the space of the opening in the bottom, the bottom plate is connected to the volute, and the bottom plate covers the opening after the mounting of the bottom plate is mounted, to cooperate with the volute to enclose the mounting cavity.

[0040] Arranging the opening and the bottom plate can provide convenience for the disassembling and assembling of the centrifugal fan, during disassembling and assembling, users can mount the centrifugal fan inside the first housing through the opening, or take out the centrifugal fan that needs to be repaired or replaced through the opening. The opening can be available for the probing operation of a maintenance staff when the centrifugal fan fails. Furthermore, the effects of lowering the assembling difficulty and maintenance difficulty of the centrifugal fan are achieved.

[0041] Specifically, when the interior of the range hood assembly needs to be cleaned, users can clean the dirt remaining on the inner surface of the bottom plate after the bottom plate is disassembled, and can further probe via the opening to clean the dirt remaining on the bottom wall of the volute, and thus this provides convenience for users to clean a first liquid storage region and a second

liquid storage region, and lowers the possibility that the range hood assembly generates a peculiar smell.

[0042] The centrifugal fan is provided inside the mounting cavity, an axial air intake of the centrifugal fan faces downward and deviates from the air inlet facing upward, and the air intake and the bottom wall of the mounting cavity are arranged at an interval. After the centrifugal fan is started, oil fume enters the air duct via the air inlet from top to bottom and flows laterally via the air duct to the region between the air intake and the bottom wall of the mounting cavity, then the oil fume is sucked into the centrifugal fan via the air intake and is finally discharged into an outer smoke pipe via the circumferential side of the first housing after pressurized by the centrifugal fan. Wherein, as the oil fume needs to change direction before it is sucked into the centrifugal fan, part of oil and water will be thrown to the bottom wall of the first housing, even if the oil fume is sucked into the centrifugal fan, the oil and water adhering to the interior of the centrifugal fan will further drip to the bottom wall of the first housing via the air intake after the centrifugal fan stops, and furthermore, as the air inlet is opened in the top of the first housing, the water on the countertop of the range hood assembly will be poured into the first housing directly via the air inlet, and this finally results in the accumulation of huge oil water mixture in the first housing.

[0043] On this basis, on the bottom wall of the first housing, at least a portion of the region is concaved towards the inner side of the first housing, to form a boss at the inner side of the first housing and form a groove at the outer side of the first housing. Wherein, the side wall of the boss is provided with a drain hole which penetrates through laterally. Through arranging the boss, the oil water mixture accumulating on the bottom wall of the first housing can laterally flow out of the first housing via the drain hole, and specifically, as the oil water mixture has certain viscosity, the oil water mixture previously flowing out of the drain hole will bring the oil water mixture in the first housing to flow out, and thus the oil water mixture in the first housing is emptied, to meet the need of discharging the liquid inside the first housing, prevent the oil water mixture excessively accumulating in the first housing from damaging other electrical structures, and avoid generating peculiar smells in the first housing.

[0044] Thus it can be seen that through constructing the boss and the drain hole on the bottom wall of the first housing, the present disclosure enables the oil water mixture in the first housing to be discharged timely. Furthermore, the effects of optimizing the structure of the range hood assembly, improving the practicability of the range hood assembly and improving users' use experience.

[0045] Specifically, through constructing an inner-concave boss, the space at the inner side of the first housing can further be reasonably used, and a plugging structure for plugging the drain hole can be arranged at the inner side of the boss and does not protrude out of the bottom face of the first housing, and thus this avoids increasing the thickness of the range hood assembly due to the plug-

ging structure and ensures that the range hood assembly can be placed flat in a cupboard. Furthermore, the effects of lowering the difficulty of assembling the range hood assembly and providing convenience for the miniaturized design of the range hood assembly are achieved.

[0046] In any of the above embodiments, part of the bottom wall of the volute is concaved towards the interior of the air duct, and a first boss is formed in the air duct; the first boss is located in the air duct, and the first boss comprises a first drain hole; part of the bottom plate is concaved towards the interior of the mounting cavity, and a second boss is formed in the mounting cavity; the second boss is located in the mounting cavity, and the second boss comprises a second drain hole; wherein, on the face of the bottom plate facing the centrifugal fan, at least a portion of the region except the second boss is concaved towards the second boss.

[0047] In the embodiment, part of the bottom wall of the volute is concaved towards the region where the air duct is located, to form the first boss at the inner side of the air duct, after the first drain hole in the first boss is opened, the liquid accumulating on the bottom wall of the volute can be discharged. Arranging the first boss can prevent the accumulation of liquid on the bottom wall of the volute, and prevent a peculiar smell generated due to the accumulation from directly overflowing above the range hood assembly via the air inlet.

[0048] Specifically, a convex rib is provided on the bottom wall of the volute, and the excessively accumulating liquid needs to stride over the convex rib and then can flow to the region above the bottom plate.

[0049] In the embodiment, part of the bottom plate is concaved towards the direction of the mounting cavity, to form the second boss on the inner surface of the bottom plate, and after the second drain hole in the second boss is opened, the liquid accumulating on the bottom plate can be discharged. Arranging the second boss can prevent pouring the liquid excessively accumulating on the bottom plate into the centrifugal fan, and then can play a role of protecting the centrifugal fan. Furthermore, the effects of improving the safety and reliability of the range hood assembly and prolonging the service life of the centrifugal fan are achieved.

[0050] Specifically, the range hood assembly further comprises a sealing plug, the size of the sealing plug adapts to the size of the first drain hole or the second drain hole, and laterally inserting the sealing plug into the first drain hole or the second drain hole can close the first drain hole or the second drain hole, to stop the oil water mixture inside the first housing from leaking to the outside. Correspondingly, extracting the sealing plug can discharge the oil water mixture in the first housing via the first drain hole or the second drain hole.

[0051] Specifically, the boss forms a groove in the outer surface of the first housing, part of the sealing plug is laterally inserted into the groove, and thus the inner space of the first housing is reasonably used, and this avoids that the outward protruding of the sealing plug affects the

size and the flatness of the bottom face of the range hood assembly.

[0052] In the embodiment, the face of the bottom plate facing the centrifugal fan is the inner surface of the bottom plate, on the inner surface of the bottom plate, at least a portion of the region is concaved towards the region where the second boss is located, to enable the liquid flowing to the bottom plate to gather in the region where the second boss is located and finally accumulate around the second boss. After the second drain hole is opened, the liquid accumulating around the second boss can be discharged at the first time. Therefore, firstly, a drainage rate is improved, and secondly, the possibility is lowered that the second liquid storage region has a drainage dead spot.

[0053] Specifically, the inner surface of the bottom plate is arranged to be in a bell mouth shape, and the second boss is arranged in the central region of the bell mouth, to enable the liquid around the second boss to gather near the second boss by itself.

[0054] In any of the above embodiments, the face of the bottom plate facing the centrifugal fan comprises a drain channel; and

the drain channel presents a ring shape, and the second boss is located in the drain channel. Wherein, the bottom face of the drain channel is a first bevel face, and the first bevel face is inclined towards the direction of the second boss; and the range of the inclined angle of the first bevel face is greater than or equal to 0.2° and less than or equal to 5° .

[0055] In the embodiment, the inner surface of the bottom plate is provided with the drain channel. Specifically, the drain channel presents a ring shape, and the drain channel attaches to the margin of the bottom plate and extends, the second boss is provided in the drain channel, the oil water mixture dripping via the air intake of the centrifugal fan diffuses from the central region of the inner surface of the bottom plate towards the surrounding drain channel and finally accumulate in the drain channel, and the oil water mixture striding over the convex rib directly flows into the drain channel. After the second drain hole is opened, the oil water mixture in the drain channel can be discharged out of the first housing. Arranging the drain channel can centralizedly store the oil water mixture, and make the oil water mixture avoid in the horizontal direction the air intake above it and lower the possibility that oil gas and water vapor erode the centrifugal fan, and meanwhile, the drain channel can further play a role of collecting tough dirt and thus lower the cleaning difficulty of the bottom plate.

[0056] In the embodiment, the bottom face of the drain channel is constructed to be first bevel face, wherein the first bevel face is inclined towards the direction of the second boss, that is, the region away from the second boss is relatively high, and the region close to the second boss is relatively low, to enable the oil water mixture in the drain channel to flow to the second boss along the first bevel face, and ensure discharging the oil water mix-

ture in the second liquid storage region timely.

[0057] On this basis, the inclined angle of the first bevel face is greater than or equal to 0.2° , through limiting the inclined angle to be greater than or equal to 0.2° , it can be ensured that the first bevel face can guide the oil water mixture to the second boss, and this lowers the possibility that the oil water mixture accumulates and cannot be discharged. Meanwhile, the inclined angle of the first bevel face is less than or equal to 5° , through limiting the inclined angle to be less than or equal to 5° , this can prevent the first bevel face from excessively occupying a liquid storage space, to improve the liquid storage capacity of the first liquid storage region.

[0058] In any of the above embodiments, the bottom plate comprises: a plate piece, wherein the second boss is formed on the plate piece; a protruding part provided on the face of the plate piece facing the centrifugal fan; a surrounding edge provided on the plate piece and surrounding the protruding part, wherein the surrounding edge and the protruding part enclose the drain channel; the reinforcing rib provided on the face of the plate piece facing the centrifugal fan; wherein, the reinforcing rib crosses the surrounding edge, the reinforcing rib comprises a through hole, and the through hole is located in the drain channel.

[0059] In the embodiment, the bottom plate comprises the plate piece, the protruding part and the surrounding edge. The plate piece is embedded at the opening of the bottom of the volute and is used for closing the opening. The face of the plate piece facing the centrifugal fan is an upper surface, the protruding part is arranged in the central region of the upper surface, the surrounding edge is further arranged on the upper surface, the surrounding edge surrounds the circumferential side of the protruding part, and the surrounding edge and the protruding part is arranged at an interval, to enclose a ring-shaped drain channel between the protruding part and the surrounding edge.

[0060] The protruding part can play a role of guiding the oil water mixture, and the oil water mixture dripping onto the protruding part diffuses all around to the drain channel, to avoid the accumulation of the oil water mixture in the region below the air intake. The surrounding edge can play a role of stopping the oil water mixture, to lower the possibility that the oil water mixture leaks from the assembling gap between the plate piece and the volute.

[0061] In the embodiment, the upper surface of the plate piece is further provided with the reinforcing rib, and the reinforcing rib is arranged laterally; arranging the reinforcing rib can play a role of enhancing the structural strength of the bottom plate, lower the possibility that the bottom plate deforms or is even damaged due to the oil water mixture accumulating above it, and thus achieve the effects of improving the structural stability of the bottom plate and lowering the failure rate of the range hood assembly.

[0062] In the embodiment, the reinforcing rib crosses

the surrounding edge, that is, part of the reinforcing rib extends into the drain channel, on this basis, the through hole penetrating through the reinforcing rib is provided in the reinforcing rib located in the drain channel, to ensure that the oil water mixture in the drain channel will not be stopped by the reinforcing rib.

[0063] In any of the above embodiments, the range hood assembly further comprises a marking part provided on the bottom plate and/or the volute, in the radial direction of the volute, the marking part is arranged opposite to the boss, and the marking part is used to indicate the position of the boss; wherein, on the centrifugal fan, the face where the air intake is located is a second bevel face, the second bevel face is inclined towards the direction of the air inlet; and the range of the inclined angle of the second bevel face is greater than or equal to 1° and less than or equal to 30° .

[0064] In the embodiment, the bottom plate and/or the volute is provided with the marking part, the marking part and the protruding part are arranged opposite to each other in the radial direction of the volute, the marking part has a marking function, users can determine the position of the boss on the volute through the marking part and thus can quickly find the boss, and this provides convenience for users to open and close the drain holes and improves users' use experience.

[0065] Specifically, the marking part can be an arrow-shaped protrusion, and the direction of the arrow is consistent with the position of the first boss. The marking part can further be a luminescent piece, and users can quickly determine the position of the boss through emitted light. The marking part can further be a fluorescent coating to improve the recognition of the corresponding region.

[0066] In the embodiment, the face of the centrifugal fan forming the air intake is constructed to be the second bevel face, the second bevel face is inclined towards the direction of the air inlet, that is, the region close to the air inlet is relatively high and the region away from the air inlet is relatively low. During working, the oil fume sucked from the air inlet first flows in the air duct from top to bottom, and then turns around and flows into the air intake from bottom to top, in this regard, through arranging the second bevel face in the region where the air intake is located, the angle that the oil fume turns around can be reduced, thus the resistance to the oil fume in the first housing is reduced, and then the effects of improving the oil fume sucking efficiency of the range hood assembly and optimizing the performance of the range hood assembly are achieved.

[0067] Specifically, the inclined angle of the second bevel face is greater than or equal to 1° , to ensure that the second bevel face can effectively lower the resistance to the oil fume and improve the oil fume sucking efficiency. Meanwhile, the inclined angle of the second bevel face is less than or equal to 30° , to prevent the second bevel face from excessively occupying the inner space of the volute, and reduce the thickness of the range hood

assembly on the basis of ensuring the oil fume sucking efficiency.

[0068] The second aspect of the present disclosure provides an integrated cooker, and the integrated cooker comprises: a heating assembly; the range hood assembly in any of the above embodiments, wherein a volute is connected to the heating assembly, and the volute comprises a fume outlet; and a smoke pipe assembly in butt joint with the fume outlet.

[0069] In the embodiment, the integrated cooker provided with the range hood assembly in any of the above embodiments is defined, and thus the integrated cooker has all the advantages of the range hood assembly in any of the above embodiments and can achieve the effect that the range hood assembly in any of the above embodiments can achieve, which is not detailed herein for avoiding repetition.

[0070] On this basis, the integrated cooker further comprises the heating assembly and the smoke pipe assembly, the top of the heating assembly is provided with a fume inlet, the heating assembly is provided with a first air duct communicating with the fume inlet therein, the range hood assembly is mounted below the heating assembly, the fume outlet is provided at the circumferential side of the range hood assembly, and the range hood assembly is formed with a second air duct communicating with the first air duct and the fume outlet therein.

[0071] After the heating assembly is started, the heating assembly can heat a top container, to cook foods placed therein through a high temperature container. Oil fume and water vapor will be generated during high temperature heating to foods, after the range hood assembly is limited to start, a negative pressure is generated in the first air duct, the oil fume is sucked into the second air duct through the fume inlet and the first air duct, and is finally discharged into the smoke pipe assembly via the fume outlet, and therefore the sucking and directional discharge of the oil fume are achieved.

[0072] The additional aspects and advantages of the present disclosure will become apparent in the following description, or will be understood by the practice of the present disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0073] The above and/or additional aspects and advantages of the present disclosure will be obvious and understood easily from the following description of the embodiments in combination with the accompanying drawings. Wherein,

FIG. 1 is a first schematic view of the structure of a range hood assembly according to an embodiment of the present disclosure;

FIG. 2 is a first schematic view of the structure of a bottom plate according to an embodiment of the present disclosure;

FIG. 3 is a second schematic view of the structure of a range hood assembly according to an embodiment of the present disclosure;

FIG. 4 is a third schematic view of the structure of a range hood assembly according to an embodiment of the present disclosure;

FIG. 5 is a fourth schematic view of the structure of a range hood assembly according to an embodiment of the present disclosure;

FIG. 6 is a sectional view of the range hood assembly of the embodiment in FIG. 5 in an A-A direction;

FIG. 7 is a partial enlarged view of the range hood assembly in the embodiment of FIG. 6 in a region B;

FIG. 8 is a partial enlarged view of the range hood assembly in the embodiment of FIG. 6 in a region C;

FIG. 9 is a second schematic view of the structure of a bottom plate according to an embodiment of the present disclosure;

FIG. 10 is a fifth schematic view of the structure of a range hood assembly according to an embodiment of the present disclosure;

FIG. 11 is a partial enlarged view of the range hood assembly in the embodiment of FIG. 10 in a region D;

FIG. 12 is a sixth schematic view of the structure of a range hood assembly according to an embodiment of the present disclosure;

FIG. 13 is a partial enlarged view of the range hood assembly in the embodiment of FIG. 12 in a region E;

FIG. 14 is a seventh schematic view of the structure of a range hood assembly according to an embodiment of the present disclosure;

FIG. 15 is a first schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 16 is a partial enlarged view of the integrated cooker in the embodiment of FIG. 15 in a region F;

FIG. 17 is a second schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 18 is a third schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 19 is a sectional view of the integrated cooker of the embodiment in FIG. 18 in a G-G direction;

FIG. 20 is a fourth schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 21 is a fifth schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 22 is a partial enlarged view of the integrated cooker in the embodiment of FIG. 21 in a region H;

FIG. 23 is a sixth schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 24 is a partial enlarged view of the integrated cooker in the embodiment of FIG. 23 in a region I;

FIG. 25 is a seventh schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 26 is an eighth schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 27 is a sectional view of the integrated cooker of the embodiment in FIG. 26 in a J-J direction;

FIG. 28 is a sectional view of the integrated cooker of the embodiment in FIG. 26 in a K-K direction;

FIG. 29 is a ninth schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 30 is a partial enlarged view of the integrated cooker in the embodiment of FIG. 29 in a region L;

FIG. 31 is a tenth schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 32 is a partial enlarged view of the integrated cooker in the embodiment of FIG. 31 in a region M;

FIG. 33 is an eleventh schematic view of the structure of an integrated cooker according to an embodiment of the present disclosure;

FIG. 34 is a partial enlarged view of the integrated cooker in the embodiment of FIG. 33 in a region N;

FIG. 35 is a twelfth schematic view of the structure of an integrated cooker according to an embodiment

of the present disclosure; and

FIG. 36 is a partial enlarged view of the integrated cooker in the embodiment of FIG. 35 in a region O.

[0074] Wherein, the corresponding relationships between the reference signs and the component names in FIG. 1 to FIG. 36 are as follows:

[0075] 100 range hood assembly; 110 volute; 1102 opening; 1103 mounting cavity; 1104 air duct; 1106 air inlet; 112 snap ring; 1142 drain channel; 1144 first bevel face; 1145 plate piece; 1146 protruding part; 1147 surrounding edge; 1148 strengthening rib; 1149 via hole; 120 buckling part; 122 buckle; 1222 first inserting groove; 124 snap strip; 1242 second inserting groove; 130 bottom plate; 1302 first side edge; 1304 through hole; 1306 mounting groove; 1307 first boss; 1308 second boss; 1329 first drain hole; 1310 second drain hole; 132 cover plate; 134 straight edge; 1342 reinforcing rib; 1344 limiting rib; 140 connecting piece; 150 sealing ring; 160 centrifugal fan; 1602 air intake; 1604 second bevel face; 170 convex rib; 180 sealing plug; 190 marking part; 200 integrated cooker; 210 heating assembly; and 220 smoke pipe assembly.

DETAILED DESCRIPTION OF THE DISCLOSURE

[0076] In order to understand the above-mentioned objectives, features and advantages of the present disclosure more clearly, a further detailed description of the present disclosure will be given below in combination with the accompanying drawings and specific embodiments. It should be noted that the embodiments of the present disclosure and the features in the embodiments can be combined with each other if there is no conflict.

[0077] In the following description, numerous specific details are set forth in order to provide a thorough understanding of the present disclosure. However, the present disclosure can further be implemented in other manners other than these described herein. Therefore, the protection scope of the present disclosure is not limited to the specific embodiments disclosed below.

[0078] A range hood assembly and an integrated cooker according to some embodiments of the present disclosure are described below with reference to FIG. 1 to FIG. 36.

[0079] As shown in FIG. 1, FIG. 2, FIG. 3, FIG. 4 and FIG. 8, an embodiment of the present disclosure provides a range hood assembly 100, and the range hood assembly 100 comprises: a volute 110, wherein the end face of the volute 110 comprises an opening 1102; a buckling part 120, arranged on the end face of the volute 110 and located on the first side of the opening 1102; a bottom plate 130 covering the opening 1102, wherein the bottom plate 130 comprises a first side edge 1302 and a through hole 1304, the buckling part 120 is buckled to the first side edge 1302, and the through hole 1304 avoids the first side edge 1302 in the circumferential direction of the

bottom plate 130; and a connecting piece 140 penetrating through the through hole 1304 and connected to the volute 110.

[0080] The present disclosure defines a range hood assembly 100, and the range hood assembly 100 is used for an integrated cooker 200 and can meet the need of sucking oil fume of the integrated cooker 200. The range hood assembly 100 comprises the volute 110 and the bottom plate 130, the volute 110 is the main frame structure of the range hood assembly 100, a wind cavity for accommodating a centrifugal fan is formed inside the volute 110, the volute 110 is provided with a fume inlet and a fume outlet, after the centrifugal fan is started, oil fume is sucked into the volute 110 via the fume inlet, and is discharged via the fume outlet after being pressurized by the centrifugal fan.

[0081] Wherein, the end face of the volute 110 is provided with the opening 1102, the centrifugal fan can be mounted in the volute 110 through the opening 1102, and thus the difficulty in disassembling and assembling and maintaining the centrifugal fan is lowered. During working, the oil fume includes much oil and water vapor, an oil water mixture separated from the oil fume will accumulate at the bottom of the wind cavity, through arranging the opening 1102, this portion of oil water mixture can be discharged out of the volute 110, to prevent the oil water mixture from damaging the fan, and this can prevent generating a peculiar smell due to the long-term accumulation of the oil water mixture. A cover plate 132 is connected to the volute 110, and after the assembling of the cover plate 132 is completed, the cover plate 132 can seal the opening 1102, and then the volute 110 is opened and closed through the cover plate 132.

[0082] On the above basis, the end face of the volute 110 is provided with the buckling part 120, the buckling part 120 is located at the first side of the opening 1102, the bottom plate 130 comprises the first side edge 1302 and the through hole 1304, the first side edge 1302 corresponds to the first side of the opening 1102, the through hole 1304 corresponds to the other sides of the opening 1102 except the first side, and specifically, in the circumferential direction of the bottom plate 130, the through hole 1304 avoids the first side edge 1302, to avoid the interference of the through hole 1304 and the buckling part 120. The range hood assembly 100 further comprises the connecting piece 140, the connecting piece 140 penetrates through the through hole 1304 and is connected to the volute 110, to press the bottom plate 130 onto the end face of the volute 110.

[0083] Specifically, during mounting the bottom plate 130, the bottom plate 130 is first inclined and the first side edge 1302 of the bottom plate 130 is buckled through the buckling part 120, and this avoids the warping of the first side edge 1302 of the bottom plate 130, to complete the initial positioning of the bottom plate 130. Then, the portion of the bottom plate 130 which does not contact the volute 110 is pressed downward towards the volute 110, and the entire bottom plate 130 is buckled at the

opening 1102, and meanwhile the through hole 1304 in the bottom plate 130 is aligned with a screw hole reserved in the volute 110, and finally the connecting piece 140 is screwed into the screw hole, to press the bottom plate 130 on the volute 110 through the connecting piece 140.

[0084] Through arranging the through hole 1304 and the connecting piece 140 cooperating with the buckling part 120, the bottom plate 130 can be locked on the volute 110 after the bottom plate 130 is subjected to buckling and initial positioning; compared with the embodiment of fixing the bottom plate 130 only through the movable latch, the connecting piece 140 can provide an enough pressing force to the bottom plate 130, firstly, this can lower the possibility that the bottom plate 130 becomes loose due to factors such as vibration, and secondly, a sealing ring 150 between the bottom plate 130 and the volute 110 is compressed tightly, and it is ensured that the sealing ring 150 can seal the gap between the bottom plate 130 and the volute 110, and thus the problems of bad sealing performance and poor reliability in the related art are solved. Meanwhile, due to the existence of the through hole 1304, the requirement for the movable disassembling and assembling of the buckling part 120 is obviated, thus the problems in the prior art are solved that the movable latch is easily fatigue and fails and is easily broken during transportation. Furthermore, the effects are achieved that the fixing joint of the bottom plate 130 is optimized, the sealing reliability of the bottom plate 130 is improved, the complexity of the disassembling and assembling of the bottom plate 130 is lowered, and the reliability of the fixing of the bottom plate 130 is improved.

[0085] As shown in FIG. 2, FIG. 5, FIG. 6 and FIG. 7, in the above embodiment, the bottom plate 130 comprises: the cover plate 132 covering the opening 1102, wherein the through hole 1304 is located in the cover plate 132; a straight edge 134 connected to the side wall of the cover plate 132 and forming the first side edge 1302, wherein the buckling part 120 and the end face of the volute 110 enclose an inserting groove facing the straight edge 134, and the straight edge 134 is inserted into the inserting groove.

[0086] In the embodiment, the bottom plate 130 comprises the cover plate 132 and the straight edge 134, the through hole 1304 is provided in the cover plate 132, after the assembling of the bottom plate 130 is completed, the cover plate 132 covers the opening 1102. The straight edge 134 is provided at the circumferential side face of the cover plate 132, the straight edge 134 extends along a straight line direction, and the straight edge 134 constitutes the first side edge 1302 of the bottom plate 130. Compared with the embodiment of forming the first side edge 1302 through a curved edge, constructing the first side edge 1302 through the straight edge 134 helps lower the cooperation difficulty of the cover plate 132 and the buckling part 120.

[0087] On this basis, the buckling part 120 and the end face of the volute 110 enclose the inserting groove facing the straight edge 134, during assembling, inserting the

straight edge 134 into the inserting groove can complete the initial positioning of the bottom plate 130 on the volute 110. The inserting cooperation structure has an advantage of low disassembling and assembling difficulty and helps lower the mounting difficulty of the bottom plate 130. Meanwhile, the inserting groove cooperation structure obviates the requirement for the movable disassembling and assembling of the buckling part 120, and can avoid the failure of the buckling part 120 due to frequent movable disassembling and assembling and can further avoid the breaking of the buckling part 120 due to jolt and motion during transportation. Furthermore, the effects are achieved that the joint of the bottom plate 130 and the buckling part 120 is optimized, the structure stability of the range hood assembly 100 is improved, and the assembling complexity of the range hood assembly 100 is lowered.

[0088] As shown in FIG. 3, FIG. 6, FIG. 7 and FIG. 14, in any of the above embodiments, in the depth direction of the inserting groove, the height of the inserting groove decreases gradually.

[0089] In the embodiment, in the depth direction of the inserting groove, the height of the inserting groove decreases gradually, that is, an inserting groove with a gradually narrowed size is formed, through arranging the inserting groove with a decreasing height, the straight edge 134 can be inserted into the inserting groove inclined, that is, there is an included angle (the angle is represented by α in FIG. 3) between the bottom plate 130 and the end face of the volute 110 when the inserting action is completed, then along the direction of the arrow a in FIG. 3, pressing the cover plate 132 downward can buckle the cover plate 132 at the opening 1102. Thus, firstly, this provides convenience for the initial positioning of the bottom plate 130, and secondly, this can lower the difficulty in aligning the through hole 1304 with the reserved screw hole in the volute 110, and then the effects of optimizing the shape of the inserting groove and lowering the difficulty of inserting and mounting the bottom plate 130 are achieved.

[0090] As shown in FIG. 3, FIG. 4 and FIG. 5, in any of the above embodiments, the buckling part 120 comprises multiple buckles 122, the multiple buckles 122 are distributed at intervals along the straight edge 134, the multiple buckles 122 and the end face of the volute 110 enclose multiple first inserting grooves 1222, and the first side edge 1302 is inserted into the multiple first inserting grooves 1222.

[0091] In the embodiment, the buckling part 120 comprises multiple buckles 122, the multiple buckles 122 are distributed along the straight line direction corresponding to the extending direction of the straight edge 134 at the first side of the through hole 1304, and specifically, the multiple buckles 122 are distributed at intervals in the straight line direction. Wherein, one end of the buckles 122 extends towards the end face of the volute 110, and the other end of the buckles 122 is away from the end face of the volute 110 and extends towards the direction

of the bottom plate 130, to enclose the first inserting grooves 1222 facing the straight edge 134, the multiple buckles 122 enclose the multiple first inserting grooves 1222, and inclinedly inserting the straight edge 134 into the multiple first inserting grooves 1222 can complete the initial positioning of the bottom plate 130.

[0092] Through arranging multiple buckles 122 to cooperate with buckling the straight edge 134, this helps improve the buckling stability of the buckling part to the straight edge 134, avoids the warping of the bottom plate 130 during working due to factors such as vibration, and ensures that the buckling part can cooperate with the connecting piece 140 to tightly press the bottom plate 130 on the volute 110. Furthermore, the effects of optimizing the structure of the buckling part 120 and improving the structure stability and sealing reliability of the bottom plate 130 are achieved.

[0093] As shown in FIG. 9, FIG. 10 and FIG. 11, in any of the above embodiments, the range hood assembly 100 further comprises a reinforcing rib 1342 provided on a face of the straight edge 134 deviating from the opening 1102, and the reinforcing rib 1342 avoids the buckles 122.

[0094] In the embodiment, multiple reinforcing ribs 1342 are provided on the face of the straight edge 134 deviating from the opening 1102, the reinforcing ribs 1342 extend in the width direction of the straight edge 134, and arranging the reinforcing ribs 1342 can improve the structural strength of the straight edge 134 and avoid the bending and even breaking of the straight edge during inserting and buckling and fixing, and thus the effects of improving the positioning stability of the bottom plate 130 and improving the sealing performance of the bottom plate 130 are achieved.

[0095] Specifically, in the length direction of the straight edge 134, the reinforcing ribs 1342 are arranged to avoid the buckles 122, to stagger the reinforcing ribs 1342 and the buckles 122 and then lower the possibility of the mutual interference between the buckles 122 and the reinforcing ribs 1342 during the inclined insertion into the bottom plate 130, and then the strength of the straight edge 134 and inserting convenience are both considered.

[0096] As shown in FIG. 9, FIG. 10 and FIG. 11, in any of the above embodiments, there are N buckles 122, and the range hood assembly 100 further comprises a limiting rib 1344 provided on the face of the straight edge 134 deviating from the opening 1102, and there are N groups of limiting ribs 1344, two limiting ribs 1344 form one group, the N buckles 122 are disposed to correspond to the N groups of limiting ribs 1344 one by one, and the buckle 122 is inserted between two limiting ribs 1344 in the same group.

[0097] In the embodiment, the volute 110 is provided with N buckles 122, the N buckles 122 and the end face of the volute 110 respectively enclose N first inserting grooves 1222, and the initial positioning of the bottom plate 130 can be completed through inclinedly inserting the straight edge 134 into the N first inserting grooves

1222. On this basis, the straight edge is further provided with N groups of limiting ribs 1344, each group of limiting ribs 1344 comprises two limiting ribs 1344, and the two limiting ribs 1344 in the same group are arranged at an interval, to enclose a limiting groove between the two limiting ribs 1344. Wherein, N limiting grooves are arranged to correspond to the ends of the N buckles 122 one by one in the length direction of the straight edge 134, and during the inclined insertion into the bottom plate 130, the ends of the N buckles 122 are respectively inserted into the N limiting grooves.

[0098] Through arranging the limiting ribs 1344, the movement of the buckles 122 in the length direction of the straight edge 134 can be limited through inserting cooperation, to limit the amplitude of transverse movement of the bottom plate 130 in the length direction of the straight edge 134, and then improve the precision of the initial positioning of the bottom plate 130 on the volute 110 and lower the difficulty of aligning the through hole 1304 with the reserved screw hole in the volute 110, and furthermore achieve the effects of improving the assembling precision of the bottom plate 130 and lowering the assembling complexity of the bottom plate 130.

[0099] As shown in FIG. 12, FIG. 13 and FIG. 14, in any of the above embodiments, the buckling part 120 further comprises a snap strip 124, the snap strip 124 and the end face of the volute 110 enclose a strip-shaped second inserting groove 1242, and at least a portion of the first side edge 1302 is inserted into the second inserting groove 1242.

[0100] In the embodiment, the buckling part 120 comprises the snap strip 124, the snap strip 124 is provided at the first side of the opening 1102, and the extending direction of the snap strip 124 is consistent with the length direction of the straight edge 134, the first end of the snap strip 124 is connected to the end face of the volute 110 and the other end of the snap strip 124 is away from the end face of the volute 110 and extends towards the direction of the bottom plate 130, after the assembling of the snap strip 124 is completed, the strip-shaped second inserting groove 1242 is enclosed between the snap strip 124 and the end face of the volute 110, the second inserting groove 1242 faces the bottom plate 130, and the initial positioning of the bottom plate 130 can be completed by inclinedly inserting at least a portion of a first side edge 1302 into the second inserting groove 1242.

[0101] Through arranging the strip-shaped snap strip 124 to cooperate with buckling the straight edge 134, this helps improve the buckling stability of the buckling part to the straight edge 134, avoids the warping of the bottom plate 130 during working due to factors such as vibration, and ensures that the buckling part can cooperate with the connecting piece 140 to tightly press the bottom plate 130 on the volute 110. Furthermore, the effects of optimizing the structure of the buckling part 120 and improving the structure stability and sealing reliability of the bottom plate 130 are achieved.

[0102] As shown in FIG. 1, FIG. 15 and FIG. 16, in any

of the above embodiments, the range hood assembly 100 further comprises a sealing ring 150 provided between the bottom plate 130 and the volute 110 and used for sealing the gap between the bottom plate 130 and the volute 110.

[0103] In the embodiment, the range hood assembly 100 further comprises the sealing ring 150, the sealing ring 150 is located at the inner side of the opening 1102, and the sealing ring 150 is located between the bottom plate 130 and the volute 110, after the positioning through inserting and the connecting locking of the bottom plate 130 are completed, the bottom plate 130 can press the sealing ring 150 onto the volute 110 tightly, to enable the sealing ring 150 to fill the gap between the volute 110 and the bottom plate 130 through deformation, and then prevent the oil fume and the oil water mixture from leaking to the outside via the gap between the bottom plate 130 and volute 110. Furthermore, the effects of improving the sealing effect of the range hood assembly 100 and improving the practicality and reliability of the range hood assembly 100 are achieved.

[0104] As shown in FIG. 1, FIG. 15 and FIG. 16, in any of the above embodiments, the face of the bottom plate 130 facing the opening 1102 comprises a mounting groove 1306, and the range hood assembly 100 further comprises a snap ring 112 provided in the volute 110 and arranged opposite to the opening 1102, the sealing ring 150 is provided in the mounting groove 1306, and the end face of the snap ring 112 abuts on the sealing ring 150.

[0105] In the embodiment, the bottom plate 130 is provided with the mounting groove 1306, the mounting groove 1306 is located in the face of the bottom plate 130 facing the opening 1102, the shape of the mounting groove 1306 adapts to the shape of the sealing ring 150, and the positioning of the sealing ring 150 on the bottom plate 130 can be completed by snapping the sealing ring 150 into the mounting groove 1306. On this basis, the volute 110 is provided with the snap ring 112, the end face of the snap ring 112 is arranged opposite to the opening 1102, and the shape of the snap ring 112 adapts to the shape of the sealing ring 150, after the assembling of the bottom plate 130 is completed, the end face of the snap ring 112 can abut on the sealing ring 150, to improve the sealing effect of the sealing ring 150 between the volute 110 and the bottom plate 130 through extruding the sealing ring 150, and then achieve the effect of improving the sealing reliability of the range hood assembly 100.

[0106] As shown in FIG. 35, FIG. 36, FIG. 20, FIG. 21, FIG. 22, FIG. 23 and FIG. 24, in any of the above embodiments, the top of the volute 110 comprises an air inlet 1106, the volute 110 comprises an air duct 1104 therein, the bottom of the volute 110 is provided with the opening 1102, and the opening 1102 is opposite to the centrifugal fan 160; the bottom plate 130 is connected to the volute 110, and covers the opening 1102, the volute 110 and the bottom plate 130 enclose

a mounting cavity 1103, the volute 110 and the bottom plate 130 comprise the mounting cavity 1103 therein, and the range hood assembly 100 further comprises the centrifugal fan 160 provided in the mounting cavity 1103, and the air intake 1602 of the centrifugal fan 160 deviates from the air inlet 1106.

[0107] Wherein, the arrow in FIG. 36 shows the flow direction of the oil fume.

[0108] In the embodiment, the volute 110 and the bottom plate 130 constitute a first housing, the volute 110 forms all the side walls and a portion of the bottom wall of the first housing, the air duct 1104 is arranged in the volute 110, and the top of the volute 110 is provided with the air inlet 1106 communicating with the top end of the air duct 1104. The circumferential side of the air duct 1104 in the volute 110 is formed with the space of the opening 1102 in the bottom, the bottom plate 130 is connected to the volute 110, and the bottom plate 130 covers the opening 1102 after the mounting of the bottom plate 130 is mounted, to cooperate with the volute 110 to enclose the mounting cavity 1103.

[0109] Arranging the opening 1102 and the bottom plate 130 can provide convenience for the disassembling and assembling of the centrifugal fan 160, during disassembling and assembling, users can mount the centrifugal fan 160 inside the first housing through the opening 1102, or take out the centrifugal fan 160 that needs to be repaired or replaced through the opening 1102. The opening 1102 can further be available for the probing operation of a maintenance staff when the centrifugal fan 160 fails. Furthermore, the effects of lowering the assembling difficulty and maintenance difficulty of the centrifugal fan 160 are achieved.

[0110] Specifically, when the interior of the range hood assembly 100 needs to be cleaned, users can clean the dirt remaining on the inner surface of the bottom plate 130 after the bottom plate 130 is disassembled, and can further probe via the opening 1102 to clean the dirt remaining on the bottom wall of the volute 110, and thus this provides convenience for users to clean a first liquid storage region and a second liquid storage region, and lowers the possibility that the range hood assembly 100 generates a peculiar smell.

[0111] The centrifugal fan 160 is provided inside the mounting cavity 1103, an axial air intake 1602 of the centrifugal fan 160 faces downward and deviates from the air inlet 1106 facing upward, and the air intake 1602 and the bottom wall of the mounting cavity 1103 are arranged at an interval. After the centrifugal fan 160 is started, oil fume enters the air duct 1104 via the air inlet 1106 from top to bottom and flows laterally via the air duct 1104 to the region between the air intake 1602 and the bottom wall of the mounting cavity 1103, then the oil fume is sucked into the centrifugal fan 160 via the air intake 1602 and is finally discharged into an outer smoke pipe via the circumferential side of the first housing after pressurized by the centrifugal fan 160. Wherein, as the oil fume needs to change direction before it is sucked into the centrifugal

fan 160, part of oil and water will be thrown to the bottom wall of the first housing, even if the oil fume is sucked into the centrifugal fan 160, the oil and water adhering to the interior of the centrifugal fan 160 will further drip to the bottom wall of the first housing via the air intake 1602 after the centrifugal fan 160 stops, and furthermore, as the air inlet 1106 is opened in the top of the first housing, the water on the countertop of the range hood assembly 100 will be poured into the first housing directly via the air inlet 1106, and this finally results in the accumulation of huge oil water mixture in the first housing.

[0112] On this basis, on the bottom wall of the first housing, at least a portion of the region is concaved towards the inner side of the first housing, to form a boss at the inner side of the first housing and form a groove at the outer side of the first housing. Wherein, the side wall of the boss is provided with a drain hole which penetrates through laterally. Through arranging the boss, the oil water mixture accumulating on the bottom wall of the first housing can laterally flow out of the first housing via the drain hole, and specifically, as the oil water mixture has certain viscosity, the oil water mixture previously flowing out of the drain hole will bring the oil water mixture in the first housing to flow out, and thus the oil water mixture in the first housing is emptied, to meet the need of discharging the liquid inside the first housing, prevent the oil water mixture excessively accumulating in the first housing from damaging other electrical structures, and avoid generating peculiar smells in the first housing.

[0113] Thus it can be seen that through constructing the boss and the drain hole on the bottom wall of the first housing, the present disclosure enables the oil water mixture in the first housing to be discharged timely. Furthermore, the effects of optimizing the structure of the range hood assembly 100, improving the practicability of the range hood assembly 100 and improving users' use experience.

[0114] Specifically, through constructing an inner-concave boss, the space at the inner side of the first housing can further be reasonably used, and a plugging structure for plugging the drain hole can be arranged at the inner side of the boss and does not protrude out of the bottom face of the first housing, and thus this avoids increasing the thickness of the range hood assembly 100 due to the plugging structure and ensures that the range hood assembly 100 can be placed flat in a cupboard. Furthermore, the effects of lowering the difficulty of assembling the range hood assembly 100 and providing convenience for the miniaturized design of the range hood assembly 100 are achieved.

[0115] As shown in FIG. 36 and FIG. 20, in any of the above embodiments, the integrated cooker further comprises a convex rib 170 provided on the bottom wall of the first housing, the convex rib 170 is located in the first housing, and the convex rib 170 is laterally arranged between the first boss 1307 and the second boss 1308.

[0116] In this embodiment, the bottom wall of the first housing is further provided with the convex rib 170, the

convex rib 170 presents a strip shape, and the two ends of the convex rib 170 are connected to the side wall of the first housing. Wherein, a first convex rib 170 is laterally arranged between the first boss 1307 and the second boss 1308, to cooperate with the bottom wall of the first housing and the side wall of the first housing to enclose a first liquid storage region and a second liquid storage region. The first liquid storage region is located at a first side of the first convex rib 170, the first boss 1307 is located in the first liquid storage region, the oil water mixture thrown out of the air duct 1104 or the liquid poured from the air inlet 1106 accumulates in the first liquid storage region, and the liquid in the first liquid storage region can be discharged by opening the first drain hole 1329. The second liquid storage region is located at a second side of a second convex rib 170, the second boss 1308 is located in the second liquid storage region, the oil water mixture dripping out of the air intake 1602 of the centrifugal fan 160 accumulates in the second liquid storage region, and the liquid in the second liquid storage region can be discharged by opening the second drain hole 1310.

[0117] Arranging the convex rib 170 enables the partitioned storage and partitioned discharge of the liquid accumulating in the first housing, and specifically, the liquid accumulates at a relatively fast rate in the first liquid storage region, especially when there is a liquid poured into the air inlet 1106, the first liquid storage region will be quickly filled. In this regard, when the liquid accumulates at a relatively low rate, due to the shielding of the convex rib 170, users can individually open the first drain hole 1329 to discharge the liquid in the first liquid storage region, and the operation of frequently opening the second drain hole 1310 is obviated. When the liquid accumulates at a relatively fast rate, the liquid crosses the convex rib 170 and flows into the second liquid storage region, to share a liquid storage pressure through the second liquid storage region. Furthermore, the effects of optimizing the structural layout of the integrated cooker and providing convenience for users to carry out a water discharging operation are achieved.

[0118] As shown in FIG. 21 and FIG. 22, in any of the above embodiments, part of the bottom wall of the volute 110 is concaved towards the interior of the air duct 1104, and a first boss 1307 is formed in the air duct 1104; the first boss 1307 is located in the air duct 1104, and the first boss 1307 comprises a first drain hole 1329.

[0119] In the embodiment, part of the bottom wall of the volute 110 is concaved towards the region where the air duct 1104 is located, to form the first boss 1307 at the inner side of the air duct 1104, after the first drain hole 1329 in the first boss 1307 is opened, the liquid accumulating on the bottom wall of the volute 110 can be discharged. Arranging the first boss 1307 can prevent the accumulation of liquid on the bottom wall of the volute 110, and prevent a peculiar smell generated due to the accumulation from directly overflowing above the range hood assembly 100 via the air inlet 1106.

[0120] Specifically, a convex rib 170 is provided on the bottom wall of the volute 110, and the excessively accumulating liquid needs to stride over the convex rib 170 and then can flow to the region above the bottom plate 130.

[0121] As shown in FIG. 22, FIG. 23, FIG. 25 and FIG. 26, in any of the above embodiments, part of the bottom plate 130 is concaved towards the interior of the mounting cavity 1103, and the second boss 1308 is formed in the mounting cavity 1103; the second boss 1308 is located in the mounting cavity 1103, and the second boss 1308 comprises the second drain hole 1310.

[0122] Wherein, the arrow in FIG. 25 shows the flow direction of the liquid.

[0123] In the embodiment, part of the bottom plate 130 is concaved towards the direction of the mounting cavity 1103, to form the second boss 1308 on the inner surface of the bottom plate 130, and after the second drain hole 1310 in the second boss 1308 is opened, the liquid accumulating on the bottom plate 130 can be discharged. Arranging the second boss 1308 can prevent pouring the liquid excessively accumulating on the bottom plate 130 into the centrifugal fan 160, and then can play a role of protecting the centrifugal fan 160. Furthermore, the effects of improving the safety and reliability of the range hood assembly 100 and prolonging the service life of the centrifugal fan 160 are achieved.

[0124] As shown in FIG. 21, FIG. 22, FIG. 23 and FIG. 24, the range hood assembly 100 further comprises a sealing plug 180, the size of the sealing plug 180 adapts to the size of the first drain hole 1329 or the second drain hole 1310, and laterally inserting the sealing plug 180 into the first drain hole 1329 or the second drain hole 1310 can close the first drain hole 1329 or the second drain hole 1310, to stop the oil water mixture inside the first housing from leaking to the outside. Correspondingly, extracting the sealing plug 180 can discharge the oil water mixture in the first housing via the first drain hole 1329 or the second drain hole 1310.

[0125] Specifically, the boss forms a groove in the outer surface of the first housing, part of the sealing plug 180 is laterally inserted into the groove, and thus the inner space of the first housing is reasonably used, and this avoids that the outward protruding of the sealing plug 180 affects the size and the flatness of the bottom face of the range hood assembly 100.

[0126] In any of the above embodiments, on the face of the bottom plate 130 facing the centrifugal fan 160, at least part of the region except the second boss 1308 is concaved towards the second boss 1308.

[0127] In the embodiment, the face of the bottom plate 130 facing the centrifugal fan 160 is the inner surface of the bottom plate 130, on the inner surface of the bottom plate 130, at least a portion of the region is concaved towards the region where the second boss 1308 is located, to enable the liquid flowing to the bottom plate 130 to gather in the region where the second boss 1308 is located and finally accumulate around the second boss

1308. After the second drain hole 1310 is opened, the liquid accumulating around the second boss 1308 can be discharged at the first time. Therefore, firstly, a drainage rate is improved, and secondly, the possibility is lowered that the second liquid storage region has a drainage dead spot.

[0128] Specifically, the inner surface of the bottom plate 130 is arranged to be in a bell mouth shape, and the second boss 1308 is arranged in the central region of the bell mouth, to enable the liquid around the second boss 1308 to gather near the second boss 1308 by itself.

[0129] As shown in FIG. 25 and FIG. 26, in any of the above embodiments, the face of the bottom plate 130 facing the centrifugal fan 160 comprises a drain channel 1142; and the drain channel 1142 presents a ring shape, and the second boss 1308 is located in the drain channel 1142.

[0130] In the embodiment, the inner surface of the bottom plate 130 is provided with the drain channel 1142. Specifically, the drain channel 1142 presents a ring shape, and the drain channel 1142 attaches to the margin of the bottom plate 130 and extends, the second boss 1308 is provided in the drain channel 1142, the oil water mixture dripping via the air intake 1602 of the centrifugal fan 160 diffuses from the central region of the inner surface of the bottom plate 130 towards the surrounding drain channel 1142 and finally accumulate in the drain channel 1142, and the oil water mixture striding over the convex rib 170 directly flows into the drain channel 1142. After the second drain hole 1310 is opened, the oil water mixture in the drain channel 1142 can be discharged out of the first housing. Arranging the drain channel 1142 can centralizedly store the oil water mixture, and make the oil water mixture avoid in the horizontal direction the air intake 1602 above it and lower the possibility that oil gas and water vapor erode the centrifugal fan 160, and meanwhile, the drain channel 1142 can further play a role of collecting tough dirt and thus lower the cleaning difficulty of the bottom plate 130.

[0131] As shown in FIG. 26, FIG. 27, FIG. 28, FIG. 29 and FIG. 30, in any of the above embodiments, the bottom face of the drain channel 1142 is the first bevel face 1144, and the first bevel face 1144 is inclined towards the direction of the second boss 1308; the range of the inclined angle of the first bevel face 1144 is greater than or equal to 0.2° and less than or equal to 5° .

[0132] In the embodiment, the bottom face of the drain channel 1142 is constructed to be first bevel face 1144, wherein the first bevel face 1144 is inclined towards the direction of the second boss 1308, that is, the region away from the second boss 1308 is relatively high, and the region close to the second boss 1308 is relatively low, to enable the oil water mixture in the drain channel 1142 to flow to the second boss 1308 along the first bevel face 1144, and ensure discharging the oil water mixture in the second liquid storage region timely.

[0133] On this basis, the inclined angles β_1 and β_2 of the first bevel face 1144 are greater than or equal to 0.2° ,

through limiting the inclined angle to be greater than or equal to 0.2° , it can be ensured that the first bevel face 1144 can guide the oil water mixture to the second boss 1308, and this lowers the possibility that the oil water mixture accumulates and cannot be discharged. Meanwhile, the inclined angle of the first bevel face 1144 is less than or equal to 5° , through limiting the inclined angle to be less than or equal to 5° , this can prevent the first bevel face 1144 from excessively occupying a liquid storage space, to improve the liquid storage capacity of the first liquid storage region.

[0134] As shown in FIG. 26, in any of the above embodiments, the bottom plate 130 comprises: a plate piece 1145, wherein the second boss 1308 is formed on the plate piece 1145; a protruding part 1146 provided on the face of the plate piece 1145 facing the centrifugal fan 160; a surrounding edge 1147 provided on the plate piece 1145 and surrounding the protruding part 1146, wherein the surrounding edge 1147 and the protruding part 1146 enclose the drain channel 1142.

[0135] In the embodiment, the bottom plate 130 comprises the plate piece 1145, the protruding part 1146 and the surrounding edge 1147. The plate piece 1145 is embedded at the opening 1102 of the bottom of the volute 110 and is used for closing the opening 1102. The face of the plate piece 1145 facing the centrifugal fan 160 is an upper surface, the protruding part 1146 is arranged in the central region of the upper surface, the surrounding edge 1147 is further arranged on the upper surface, the surrounding edge 1147 surrounds the circumferential side of the protruding part 1146, and the surrounding edge 1147 and the protruding part 1146 is arranged at an interval, to enclose a ring-shaped drain channel 1142 between the protruding part 1146 and the surrounding edge 1147.

[0136] The protruding part 1146 can play a role of guiding the oil water mixture, and the oil water mixture dripping onto the protruding part 1146 diffuses all around to the drain channel 1142, to avoid the accumulation of the oil water mixture in the region below the air intake 1602. The surrounding edge 1147 can play a role of stopping the oil water mixture, to lower the possibility that the oil water mixture leaks from the assembling gap between the plate piece 1145 and the volute 110.

[0137] As shown in FIG. 31 and FIG. 32, in any of the above embodiments, the bottom plate 130 further comprises a strengthening rib 1148 provided on the face of the plate piece 1145 facing the centrifugal fan 160.

[0138] In the embodiment, the upper surface of the plate piece 1145 is further provided with the strengthening rib 1148, and the strengthening rib 1148 is arranged laterally; arranging the strengthening rib 1148 can play a role of enhancing the structural strength of the bottom plate 130, lower the possibility that the bottom plate 130 deforms or is even damaged due to the oil water mixture accumulating above it, and thus achieve the effects of improving the structural stability of the bottom plate 130 and lowering the failure rate of the range hood assembly

100.

[0139] As shown in FIG. 31 and FIG. 32, in any of the above embodiments, the strengthening rib 1148 crosses the surrounding edge 1147, the strengthening rib 1148 comprises a via hole 1149, and the via hole 1149 is located in the drain channel 1142.

[0140] In the embodiment, the strengthening rib 1148 crosses the surrounding edge 1147, that is, part of the strengthening rib 1148 extends into the drain channel 1142, on this basis, the via hole 1149 penetrating through the strengthening rib 1148 is provided in the strengthening rib 1148 located in the drain channel 1142, to ensure that the oil water mixture in the drain channel 1142 will not be stopped by the strengthening rib 1148.

[0141] As shown in FIG. 33, FIG. 34, FIG. 35 and FIG. 36, in any of the above embodiments, the range hood assembly 100 further comprises a marking part 190 provided on the bottom plate 130 and/or the volute 110, in the radial direction of the volute 110, the marking part 190 is arranged opposite to the boss, and the marking part 190 is used to indicate the position of the boss.

[0142] In the embodiment, the bottom plate 130 and/or the volute 110 is provided with the marking part 190, the marking part 190 and the protruding part 1146 are arranged opposite to each other in the radial direction of the volute 110, the marking part 190 has a marking function, users can determine the position of the boss on the volute 110 through the marking part 190 and thus can quickly find the boss, and this provides convenience for users to open and close the drain holes and improves users' use experience.

[0143] Specifically, the marking part 190 can be an arrow-shaped protrusion, and the direction of the arrow is consistent with the position of the first boss 1307. The marking part 190 can further be a luminescent piece, and users can quickly determine the position of the boss through emitted light. The marking part 190 can further be a fluorescent coating to improve the recognition of the corresponding region.

[0144] As shown in FIG. 36, in any of the above embodiments, on the centrifugal fan 160, the face where the air intake 1602 is located is the second bevel face 1604, and the second bevel face 1604 is inclined towards the direction of the air inlet 1106; the range of the inclined angle of the second bevel face 1604 is greater than or equal to 1° and less than or equal to 30° .

[0145] In the embodiment, the face of the centrifugal fan 160 forming the air intake 1602 is constructed to be the second bevel face 1604, the second bevel face 1604 is inclined towards the direction of the air inlet 1106, that is, the region close to the air inlet 1106 is relatively high and the region away from the air inlet 1106 is relatively low. During working, the oil fume sucked from the air inlet 1106 first flows in the air duct 1104 from top to bottom, and then turns around and flows into the air intake 1602 from bottom to top, in this regard, through arranging the second bevel face 1604 in the region where the air intake 1602 is located, the angle that the oil fume turns around

can be reduced, thus the resistance to the oil fume in the first housing is reduced, and then the effects of improving the oil fume sucking efficiency of the range hood assembly 100 and optimizing the performance of the range hood assembly 100 are achieved.

[0146] Specifically, the inclined angle α of the second bevel face 1604 is greater than or equal to 1° , to ensure that the second bevel face 1604 can effectively lower the resistance to the oil fume and improve the oil fume sucking efficiency. Meanwhile, the inclined angle of the second bevel face 1604 is less than or equal to 30° , to prevent the second bevel face 1604 from excessively occupying the inner space of the volute 110, and reduce the thickness of the range hood assembly 100 on the basis of ensuring the oil fume sucking efficiency.

[0147] As shown in FIG. 15, FIG. 16 and FIG. 17, an embodiment of the present disclosure provides an integrated cooker 200, and the integrated cooker 200 comprises: a heating assembly 210; the range hood assembly 100 in any of the above embodiments, wherein a volute 110 is connected to the heating assembly 210, and the volute 110 comprises a fume outlet; and a smoke pipe assembly 220 in butt joint with the fume outlet.

[0148] In the embodiment, the integrated cooker 200 provided with the range hood assembly 100 in any of the above embodiments is defined, and thus the integrated cooker 200 has all the advantages of the range hood assembly 100 in any of the above embodiments and can achieve the effect that the range hood assembly 100 in any of the above embodiments can achieve, which is not detailed herein for avoiding repetition.

[0149] On this basis, the integrated cooker 200 further comprises the heating assembly 210 and the smoke pipe assembly 220, the top of the heating assembly 210 is provided with a fume inlet, the heating assembly 210 is provided with a first air duct communicating with the fume inlet therein, the range hood assembly 100 is mounted below the heating assembly 210, the fume outlet is provided at the circumferential side of the range hood assembly 100, and the range hood assembly 100 is formed with a second air duct communicating with the first air duct and the fume outlet therein.

[0150] After the heating assembly 210 is started, the heating assembly 210 can heat a top container, to cook foods placed therein through a high temperature container. Oil fume and water vapor will be generated during high temperature heating to foods, after the range hood assembly 100 is limited to start, a negative pressure is generated in the first air duct, the oil fume is sucked into the second air duct through the fume inlet and the first air duct, and is finally discharged into the smoke pipe assembly 220 via the fume outlet, and therefore the sucking and directional discharge of the oil fume are achieved.

[0151] It needs to be specified that in the claims, the specification and the accompanying drawings of the specification of the present disclosure, the term of "multiple" indicates two or more than two, unless otherwise explicitly defined; the orientation or position relations in-

dictated by the terms of "upper", "lower" and the like are based on the orientation or position relations shown in the accompanying drawings, and they are just intended to more conveniently describe the present disclosure and make the description simpler, and are not intended to indicate or imply that the devices or units as indicated should have specific orientations as described or should be configured or operated in specific orientations, and then such description should not be construed as limitations to the present disclosure; the phrases of "connected to", "mounting", "fixing" and the like should be understood in a broad sense, for example, the term "connected to" can be a fixed connection between multiple objects, and can also be a removable connection between multiple objects, or an integral connection; it can be a direct connection between multiple objects, and can also be an indirect connection between multiple objects through an intermediate medium. A person of ordinary skills in the art could understand the specific meanings of the terms in the present disclosure according to the specific situations of the above data.

[0152] In the claims, the specification and the accompanying drawings of the specification of the present disclosure, the phrases of "one embodiment", "some embodiments" and "specific embodiments" and the like mean that specific features, structures, materials or characteristics described in combination with the embodiment(s) or example(s) are included in at least one embodiment or example of the present disclosure. In the claims, the specification and the accompanying drawings of the specification of the present disclosure, the schematic representation of the above phrases does not necessarily refer to the same embodiment or example. Moreover, the particular features, structures, materials or characteristics as described may be combined in a suitable manner in any one or more of the embodiments or examples.

[0153] The descriptions above are only some embodiments of the present disclosure, and are not used to limit the present disclosure. For a person skilled in the art, the present disclosure may have various changes and variations. Any modifications, equivalent substitutions, improvements and etc. made within the spirit and principle of the present disclosure shall all be included in the protection scope of the present disclosure.

Claims

1. A range hood assembly (100), characterized by:

a volute (110), wherein an end face of the volute (110) comprises an opening (1102);
 a buckling part (120), arranged on the end face of the volute (110) and located on a first side of the opening (1102);
 a bottom plate (130) covering the opening (1102), wherein the bottom plate (130) comprises

a first side edge (1302) and a through hole (1304), the buckling part (120) is buckled to the first side edge, and the through hole (1304) avoids the first side edge (1302) in a circumferential direction of the bottom plate (130); and a connecting piece (140) penetrating through the through hole (1304) and connected to the volute (110).

2. The range hood assembly (100) according to claim 1, wherein the bottom plate (130) comprises:

a cover plate (132) covering the opening (1102), wherein the through hole (1304) is located in the cover plate (132); and
 a straight edge (134) connected to a side wall of the cover plate (132) and forming the first side edge (1302), wherein the buckling part (120) and the end face of the volute (110) enclose an inserting groove facing the straight edge (134), and the straight edge (134) is inserted into the inserting groove.

3. The range hood assembly (100) according to claim 2, wherein in a depth direction of the inserting groove, a height of the inserting groove decreases gradually.

4. The range hood assembly (100) according to claim 2, wherein the buckling part (120) comprises: multiple buckles (122), wherein the multiple buckles (122) are distributed at intervals along the straight edge (134), the multiple buckles (122) and the end face of the volute (110) enclose multiple first inserting grooves (1222), and the first side edge (1302) is inserted into the multiple first inserting grooves (1222).

5. The range hood assembly (100) according to claim 4, further comprising: a reinforcing rib (1342) provided on a face of the straight edge (134) away from the opening (1102), wherein the reinforcing rib (1342) avoids the buckles (122).

6. The range hood assembly (100) according to claim 4, wherein there are N buckles (122), and the range hood assembly (100) further comprises: a limiting rib (1344) provided on a face of the straight edge (134) away from the opening (1102), and there are N groups of limiting ribs (1344), two limiting ribs (1344) form one group, each of the N buckles (122) is disposed to correspond to a respective group of the N groups of limiting ribs (1344), and the buckle (122) is inserted between two limiting ribs (1344) in a same group.

7. The range hood assembly (100) according to claim 2, wherein the buckling part (120) further comprises:

a snap strip (124), wherein the snap strip (124) and the end face of the volute (110) enclose a strip-shaped second inserting groove (1242), and at least a portion of the first side edge (1302) is inserted into the second inserting groove (1242).

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8. The range hood assembly (100) according to any of claims 1 to 7, further comprising:

a sealing ring (150) provided between the bottom plate (130) and the volute (110) and used for sealing a gap between the bottom plate (130) and the volute (110).

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9. The range hood assembly (100) according to claim 8, wherein, a face of the bottom plate (130) facing the opening (1102) comprises a mounting groove (1306), and the range hood assembly (100) further comprises:

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a snap ring (112) provided in the volute (110) and arranged opposite the opening (1102), wherein the sealing ring (150) is provided in the mounting groove (1306), and an end face of the snap ring (112) abuts on the sealing ring (150).

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10. The range hood assembly (100) according to any of claims 1 to 7, wherein

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the volute (110) has an air inlet (1106) at a top thereof, an air duct (1104) therein, and an opening (1102) at a bottom thereof, the opening (1102) being opposite a centrifugal fan (160); the bottom plate (130) is connected to the volute (110) and covers the opening (1102), the volute (110) and the bottom plate (130) enclosing a mounting cavity (1103), and the range hood assembly (100) further comprises:

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the centrifugal fan (160) provided in the mounting cavity (1103), wherein an air intake (1602) of the centrifugal fan (160) is disposed away from the air inlet (1106).

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11. The range hood assembly (100) according to claim 10, wherein

part of a bottom wall of the volute (110) is concaved towards an interior of the air duct (1104) and forms a first boss (1307) in the air duct (1104);

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the first boss (1307) is located in the air duct (1104), and the first boss (1307) comprises a first drain hole (1329);

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part of the bottom plate (130) is concaved towards an interior of the mounting cavity (1103) and forms a second boss (1308) in the mounting cavity (1103);

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the second boss (1308) is located in the mounting cavity (1103), and the second boss (1308) comprises a second drain hole (1310);

wherein, on a face of the bottom plate (130) facing the centrifugal fan (160), at least a portion of a region thereof except the second boss (1308) is concaved towards the second boss (1308).

12. The range hood assembly (100) according to claim 11, wherein

the face of the bottom plate (130) facing the centrifugal fan (160) comprises a drain channel (1142); and

the drain channel (1142) is in a ring shape, and the second boss (1308) is located in the drain channel (1142);

wherein, a bottom face of the drain channel (1142) is a first bevel face (1144), and the first bevel face (1144) is inclined towards a direction in which the second boss (1308) is located; and an inclined angle of the first bevel face (1144) is greater than or equal to 0.2° and less than or equal to 5°.

13. The range hood assembly (100) according to claim 11, wherein the bottom plate (130) comprises:

a plate piece (1145), wherein the second boss (1308) is formed on the plate piece (1145);

a protruding part (1146) provided on a face of the plate piece (1145) facing the centrifugal fan (160);

a surrounding edge (1147) provided on the plate piece (1145) and surrounding the protruding part (1146), wherein the surrounding edge (1147) and the protruding part (1146) enclose a drain channel (1142);

a reinforcing rib (1342) provided on the face of the plate piece (1145) facing the centrifugal fan (160);

wherein the reinforcing rib (1342) crosses the surrounding edge (1147), the reinforcing rib (1342) comprises a through hole, and the through hole is located in the drain channel (1142).

14. The range hood assembly (100) according to claim 11, further comprising:

a marking part (190) provided on the bottom plate (130) and/or the volute (110), wherein in a radial direction of the volute (110), the marking part (190) is arranged opposite the boss, and the marking part (190) is used to indicate a position of the boss;

wherein, on the centrifugal fan (160), a face where the air intake (1602) is located is a second bevel face (1604), the second bevel face (1604) is inclined towards a direction in which the air

inlet (1106) is located; and
an inclined angle of the second bevel face
(1604) is greater than or equal to 1° and less
than or equal to 30° .

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15. An integrated cooker (200), comprising:

a heating assembly (210);
the range hood assembly (100) according to any
of claims 1 to 14, wherein the volute (110) is
connected to the heating assembly (210), and
the volute (110) comprises a fume outlet; and
a smoke pipe assembly (220) in butt joint with
the fume outlet.

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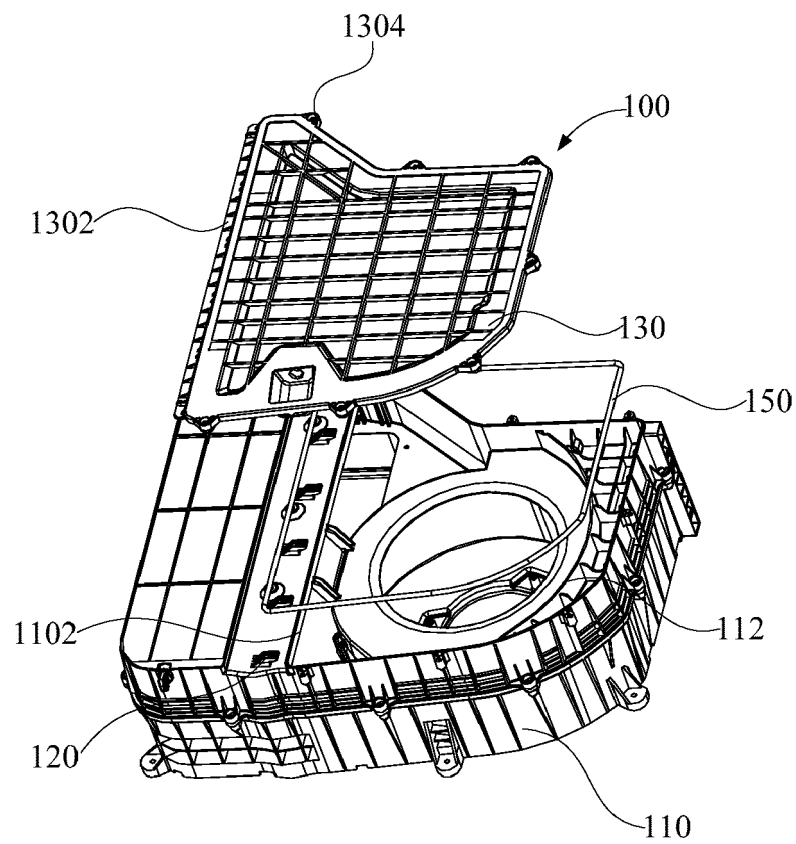


FIG. 1

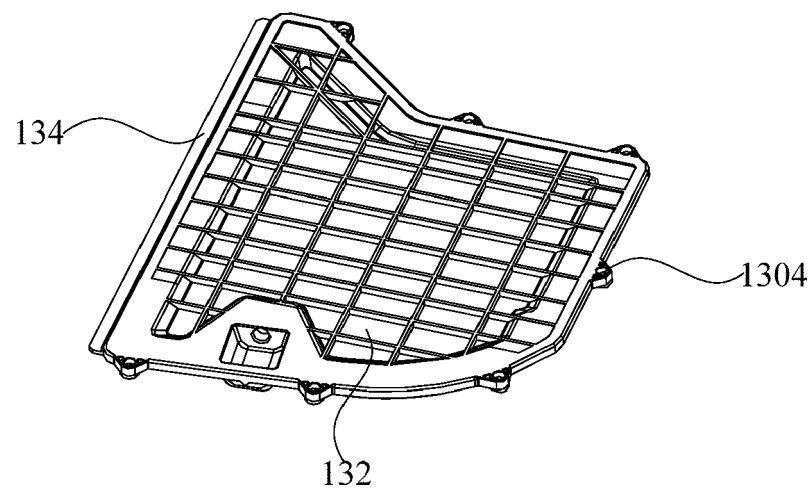


FIG. 2

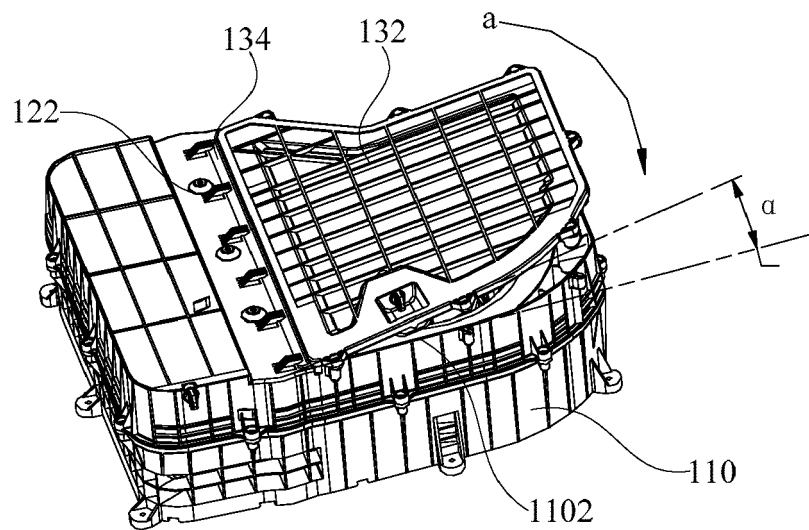


FIG. 3

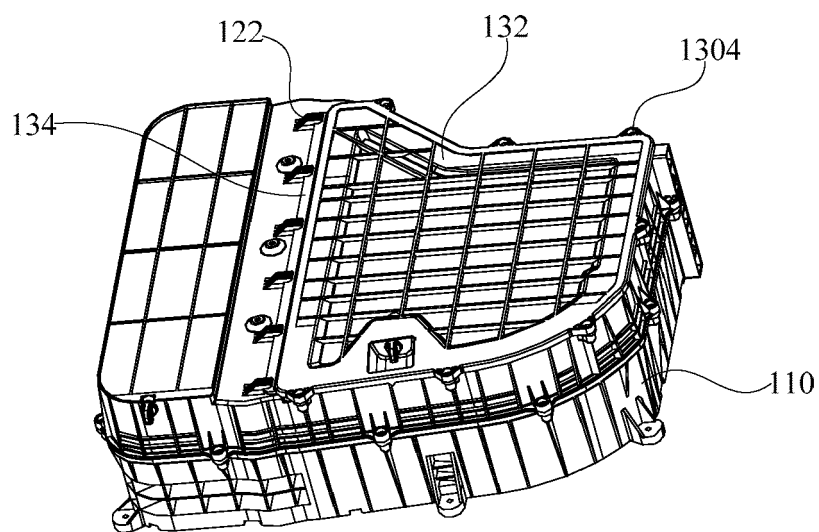


FIG. 4

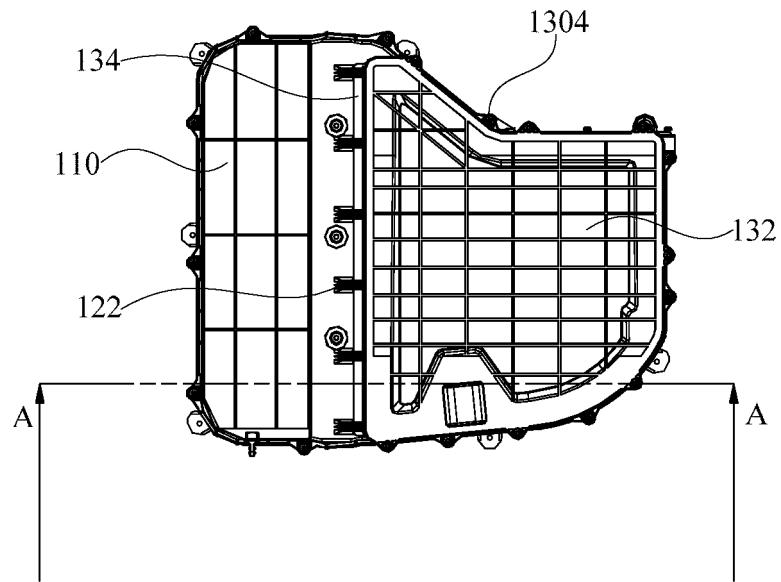


FIG. 5

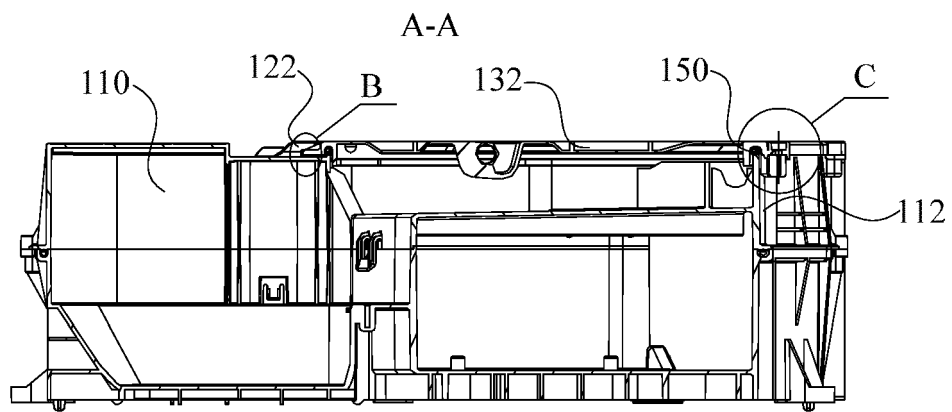


FIG. 6

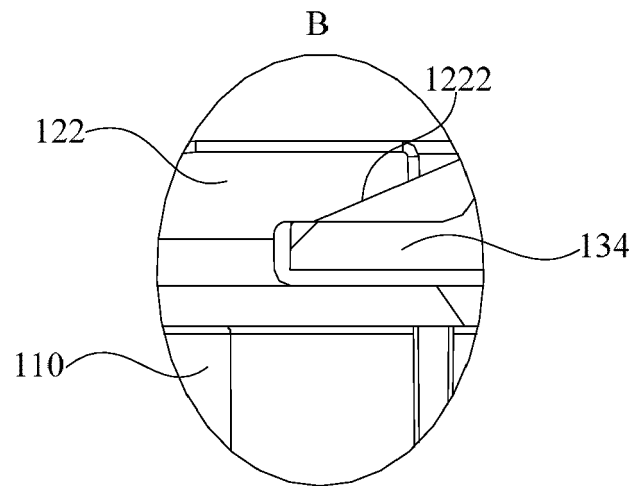


FIG. 7

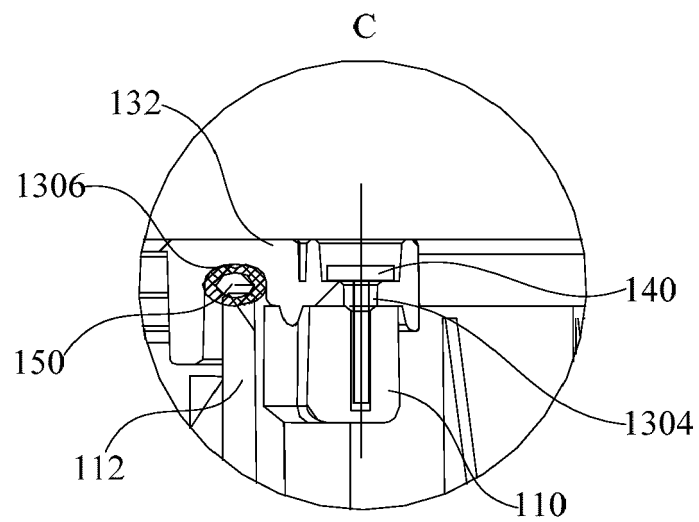


FIG. 8

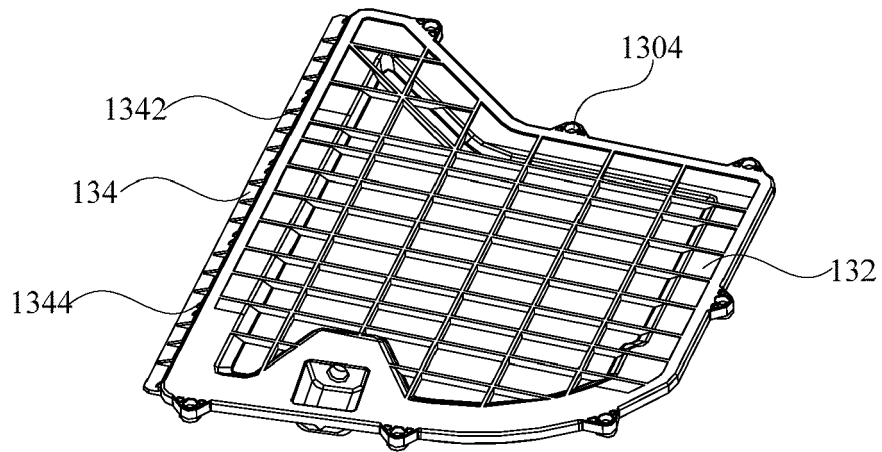


FIG. 9

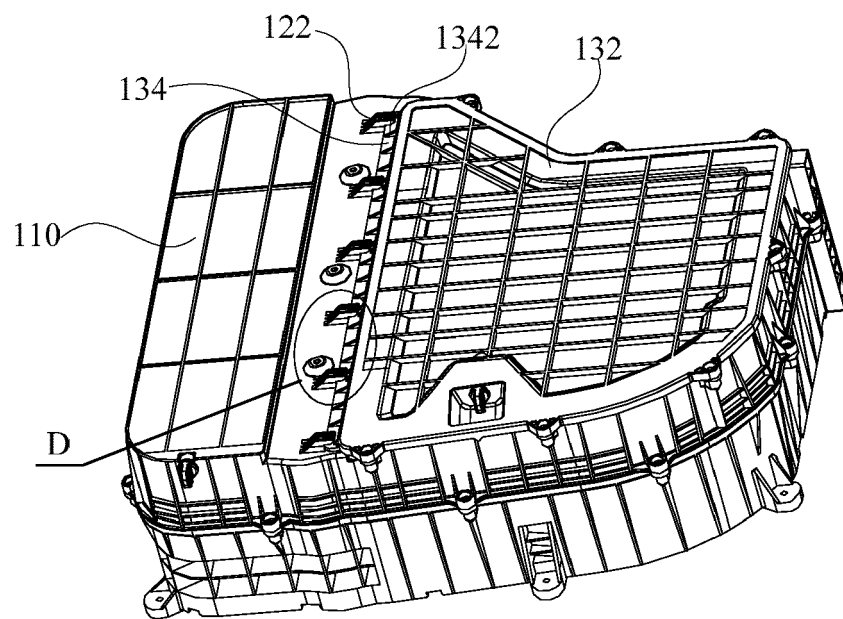


FIG. 10

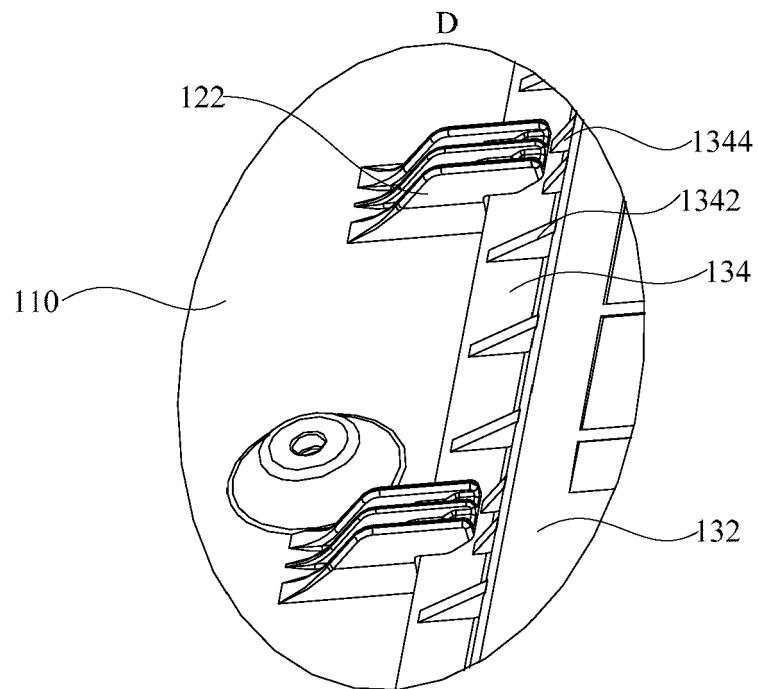


FIG. 11

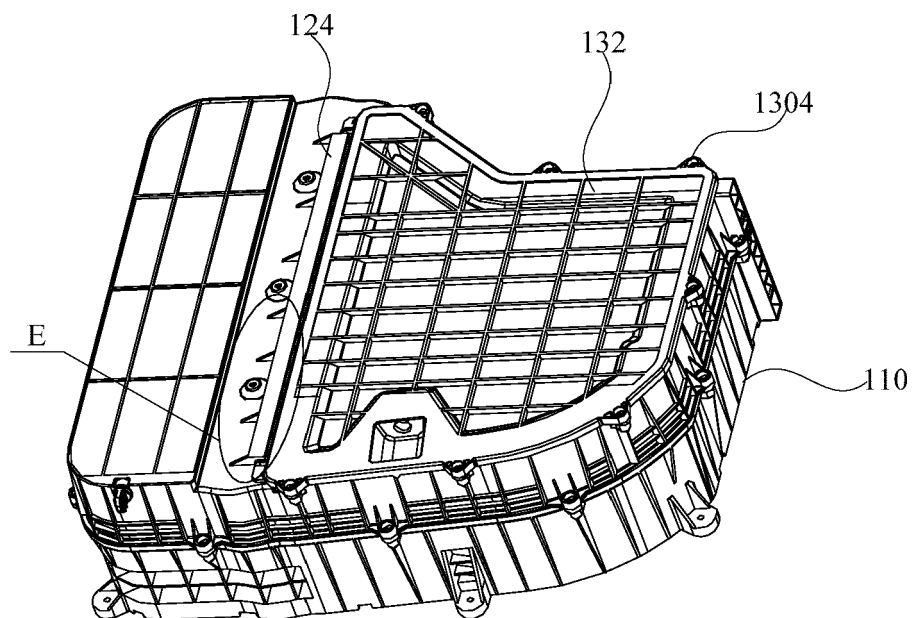


FIG. 12

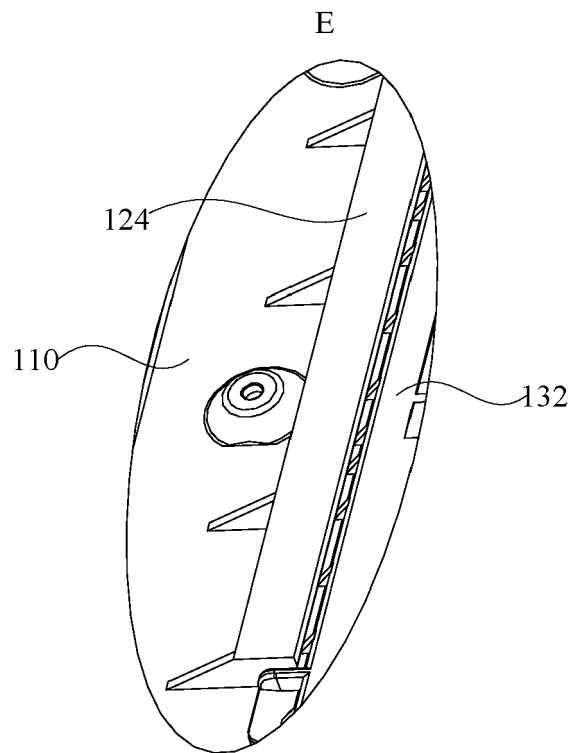


FIG. 13

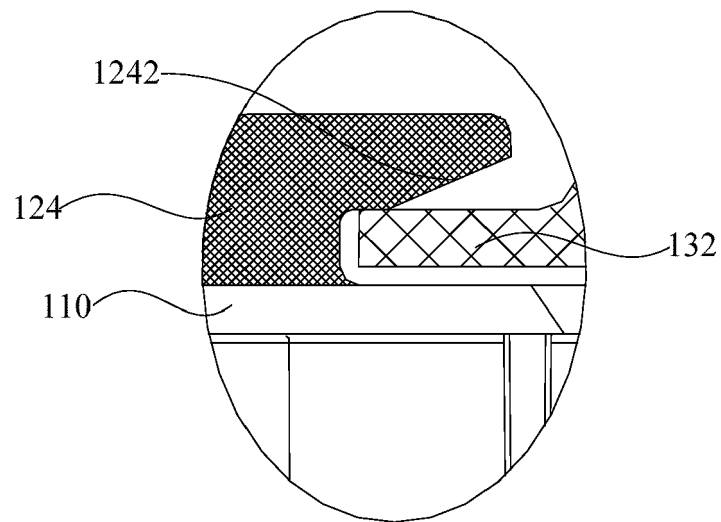


FIG. 14

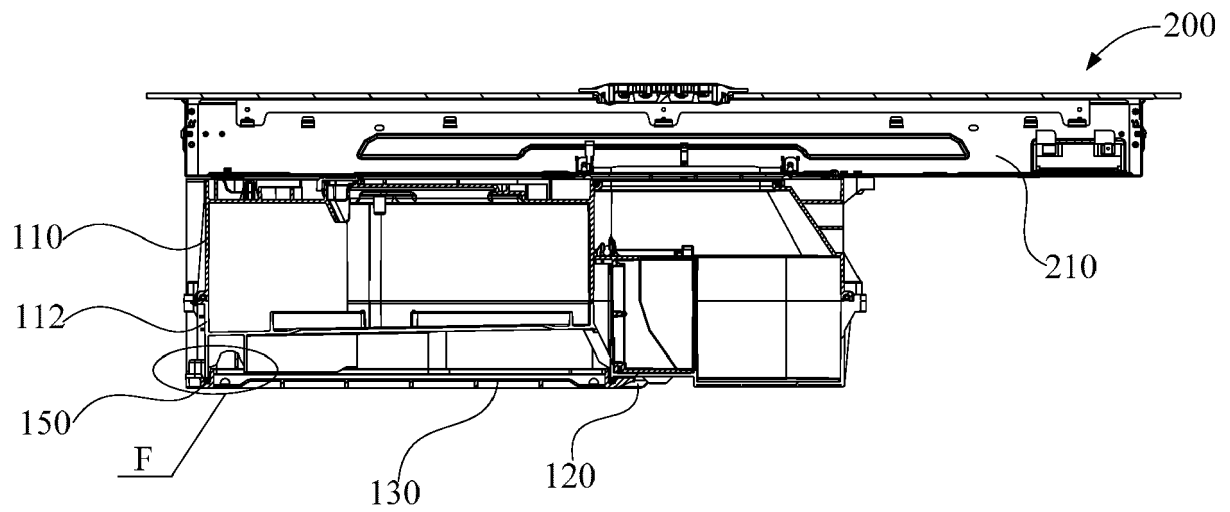


FIG. 15

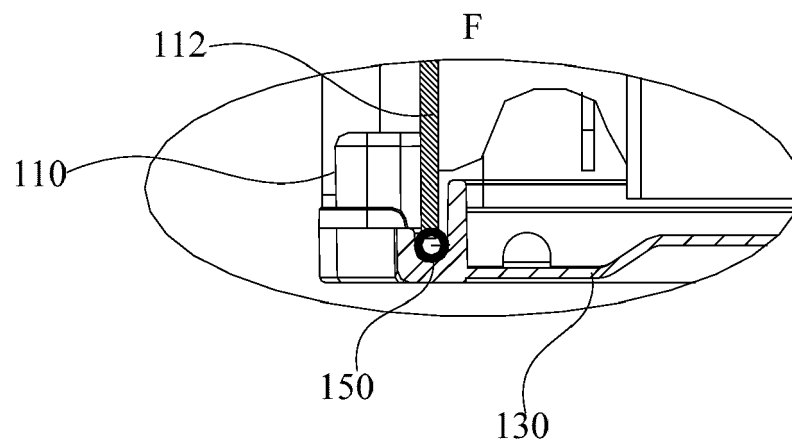


FIG. 16

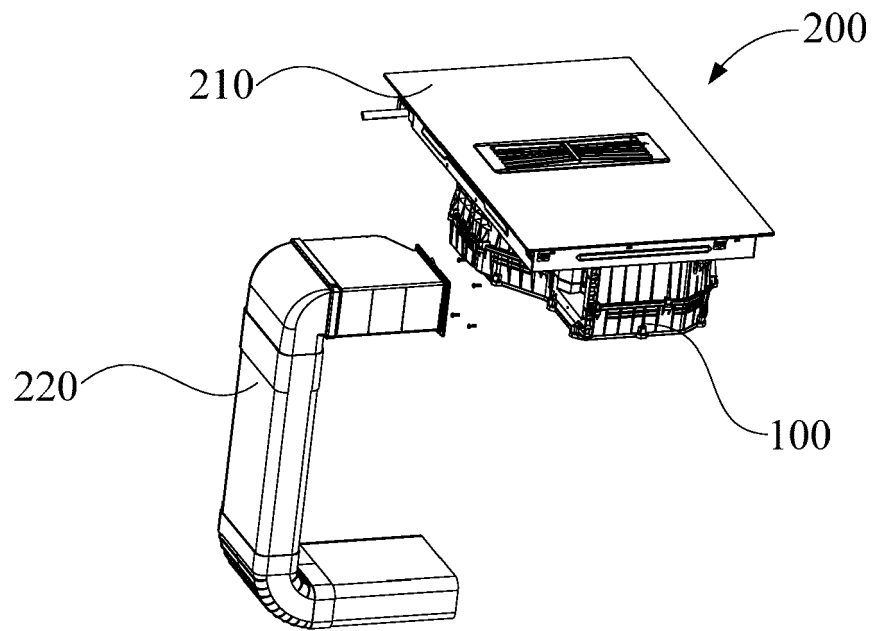


FIG. 17

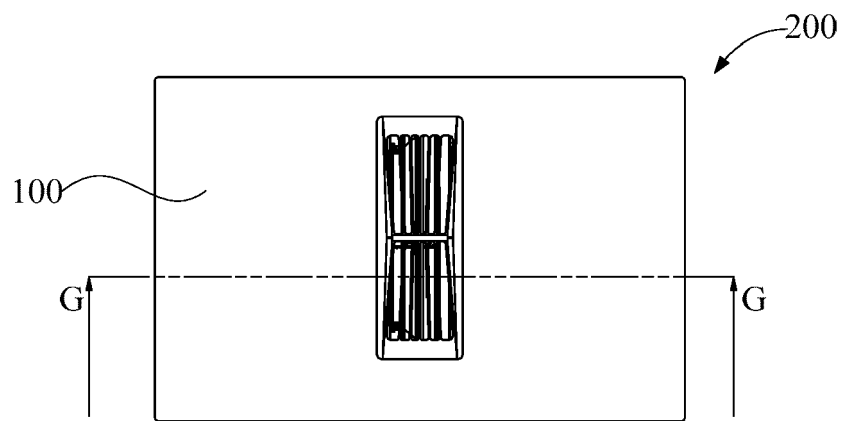


FIG. 18

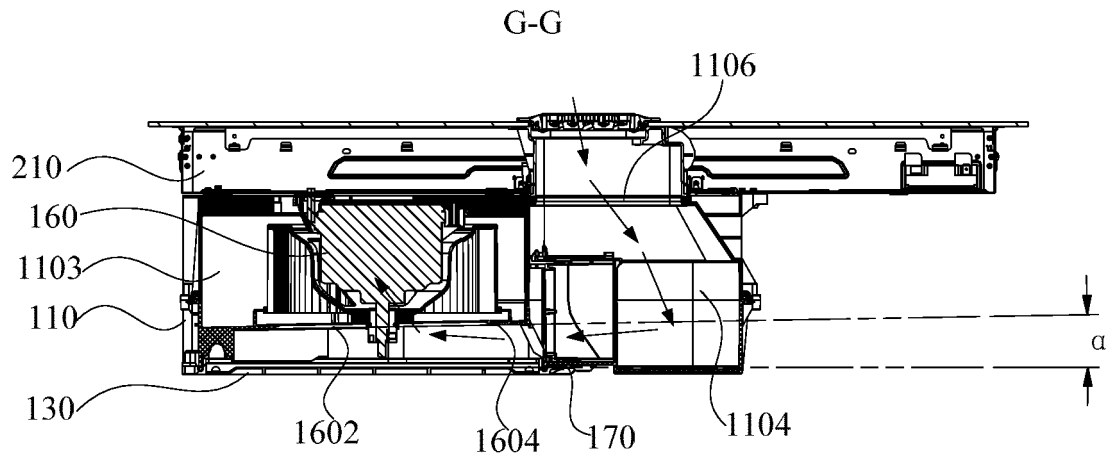


FIG. 19

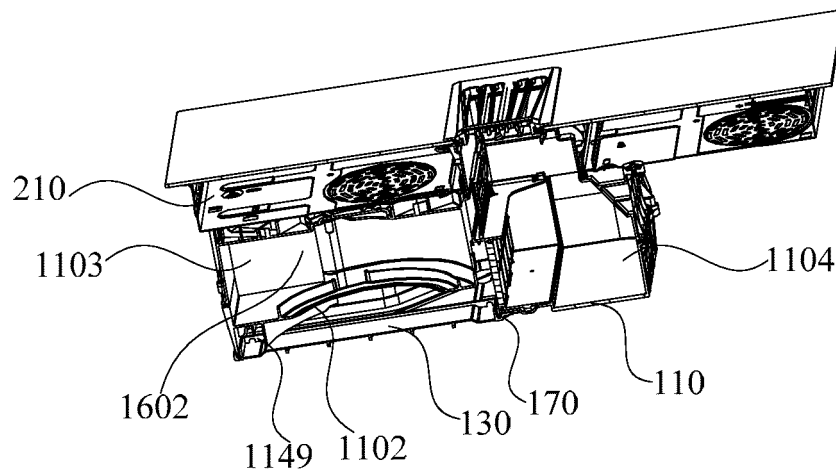


FIG. 20

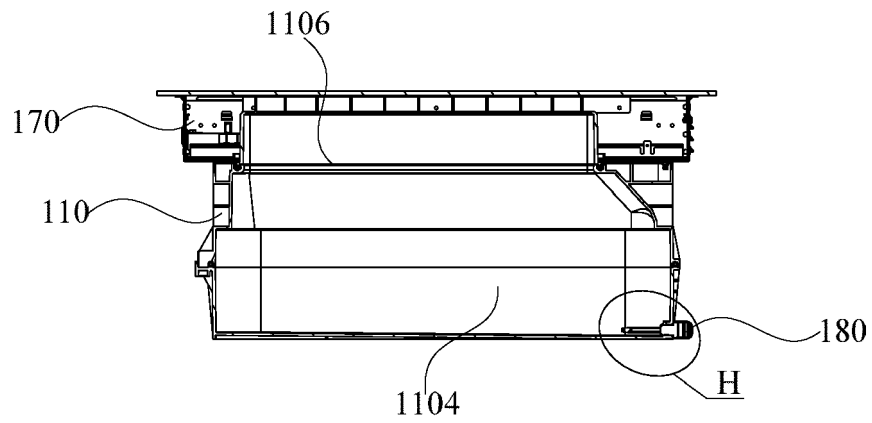


FIG. 21

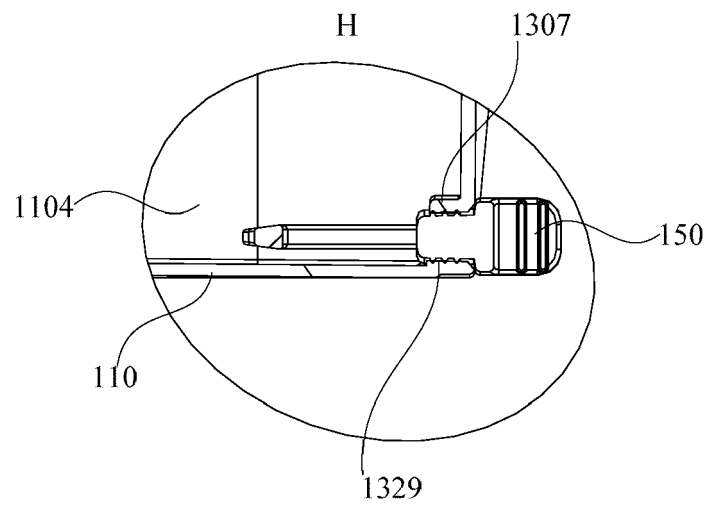


FIG. 22

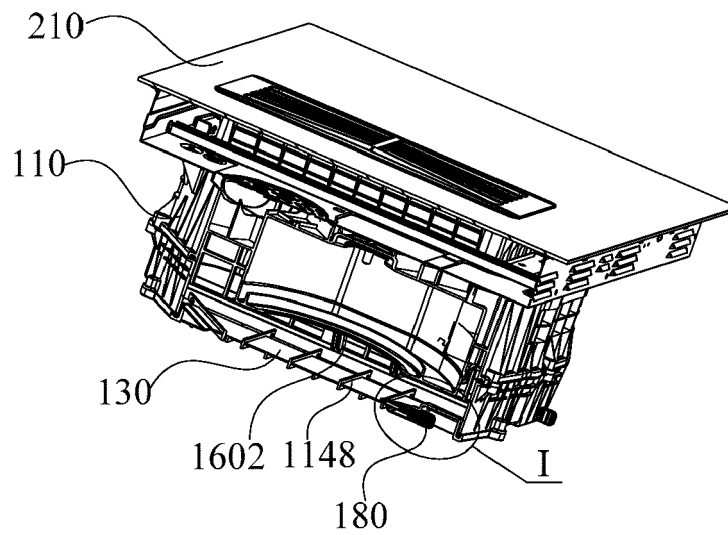


FIG. 23

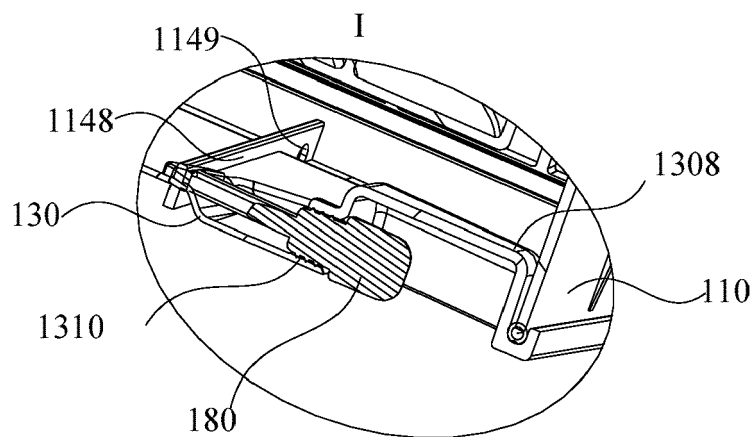


FIG. 24

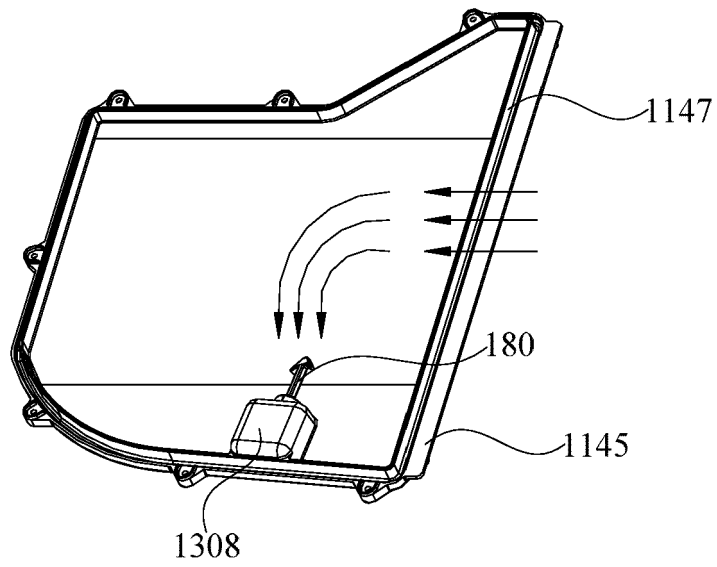


FIG. 25

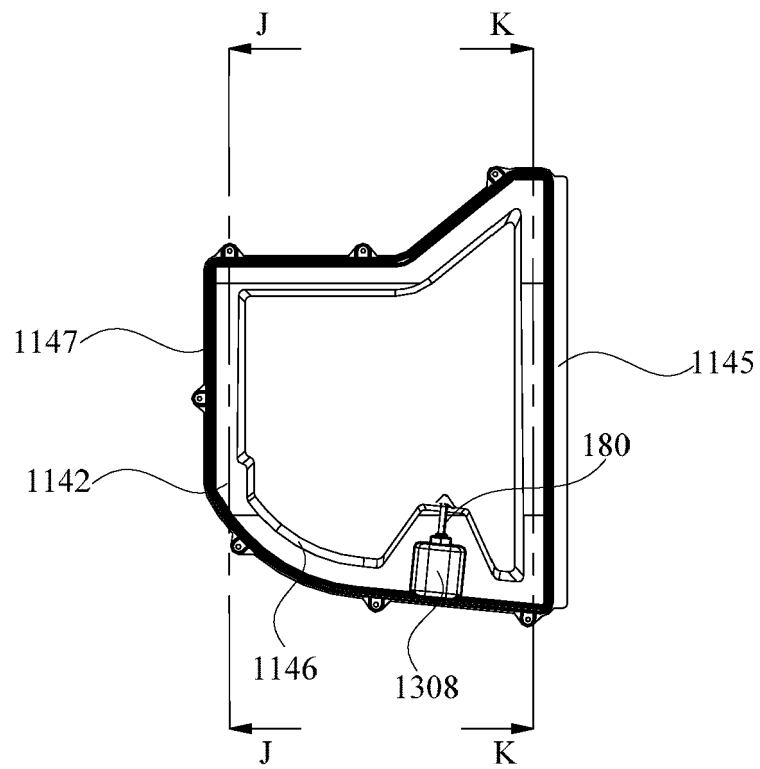


FIG. 26

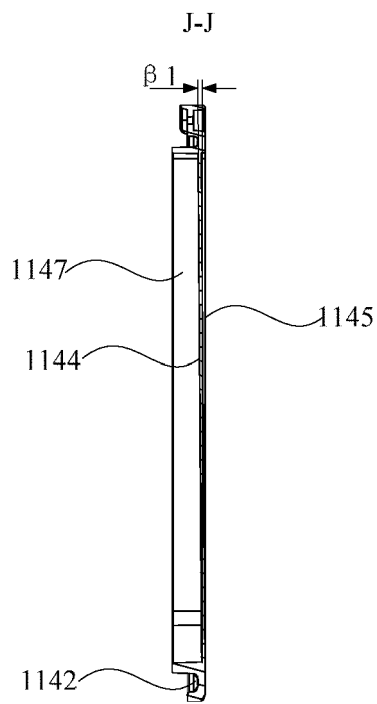


FIG. 27

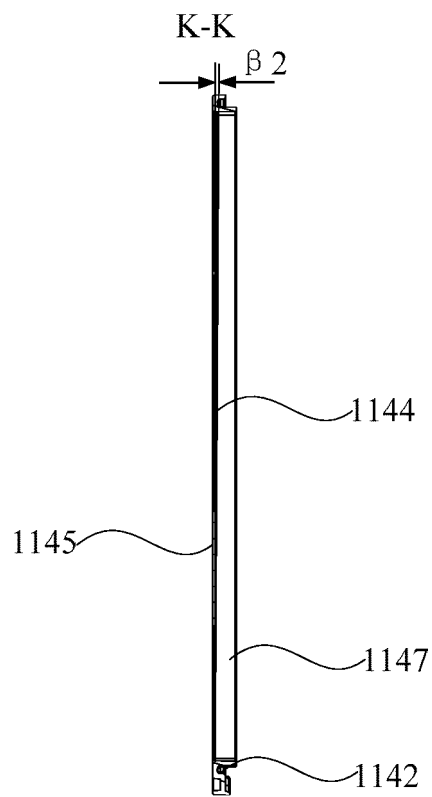


FIG. 28

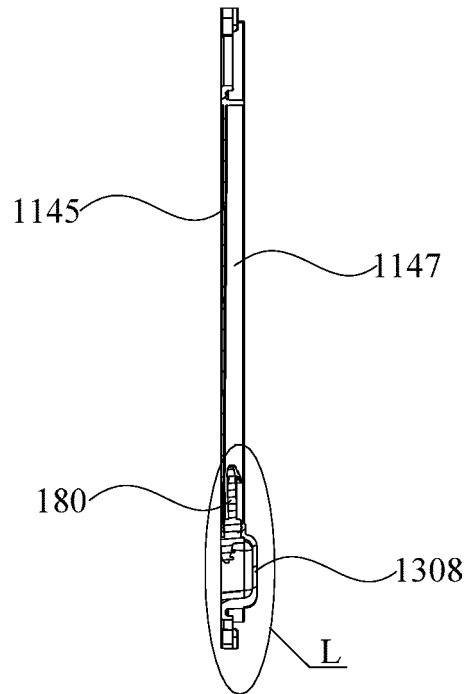


FIG. 29

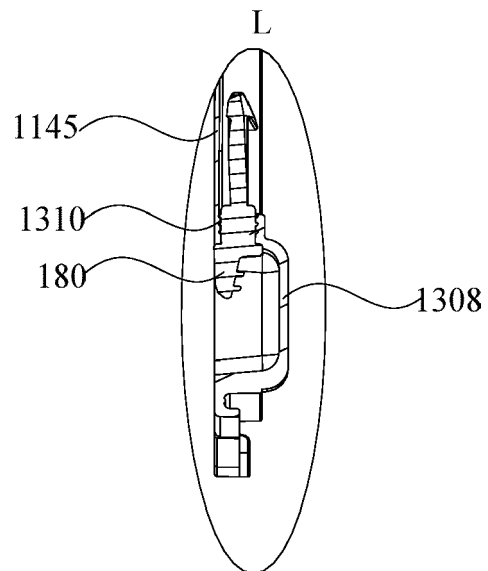


FIG. 30

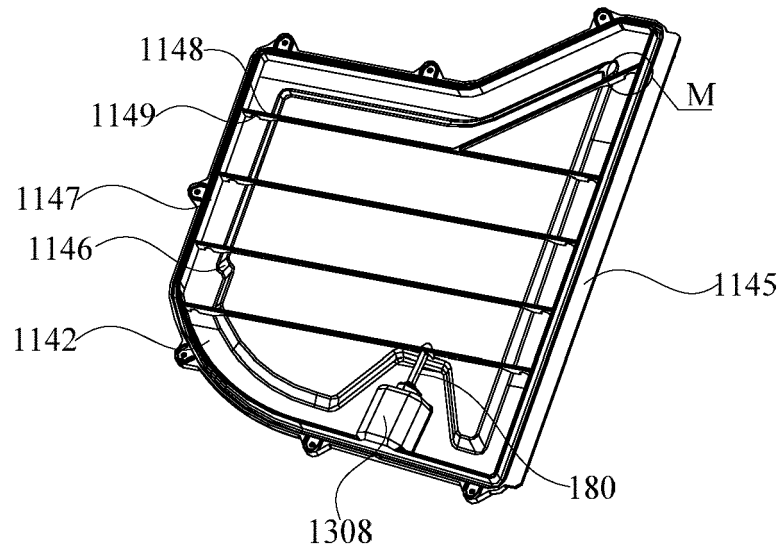


FIG. 31

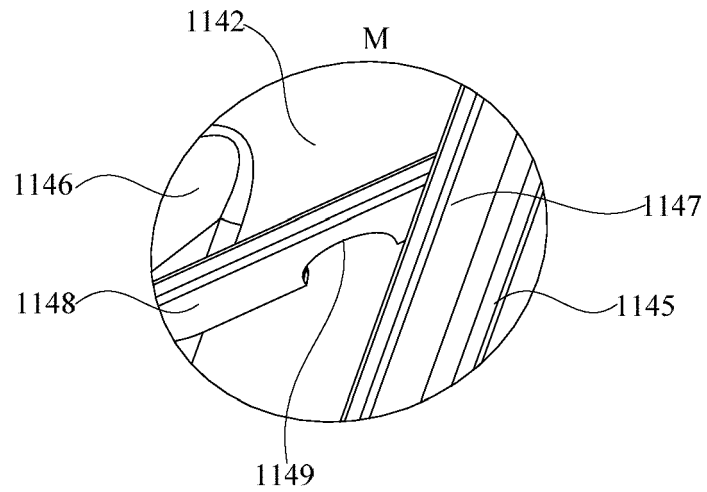


FIG. 32

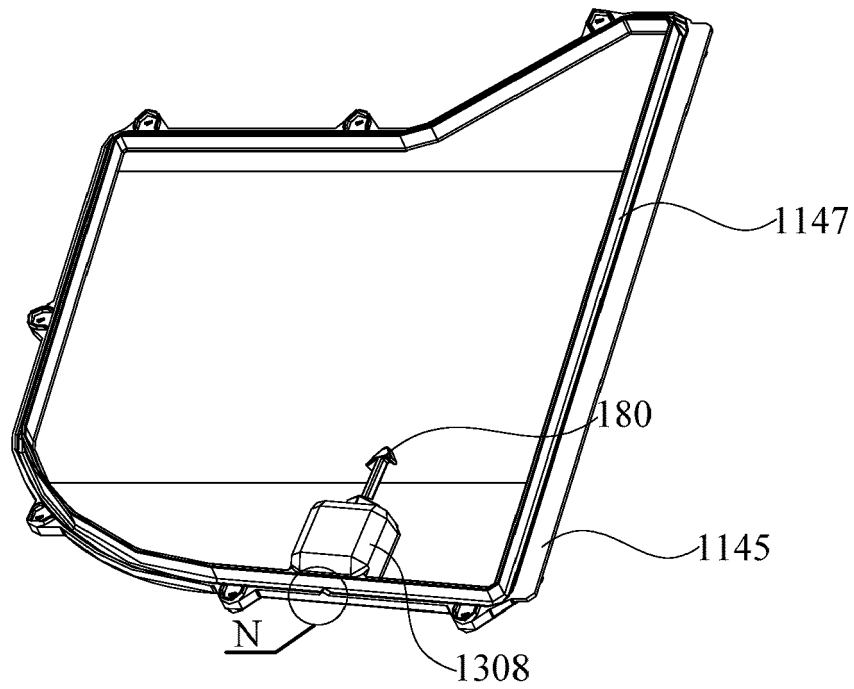


FIG. 33

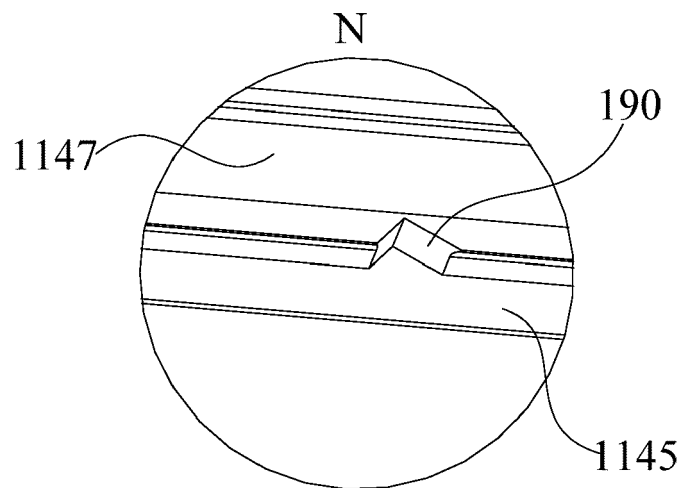


FIG. 34

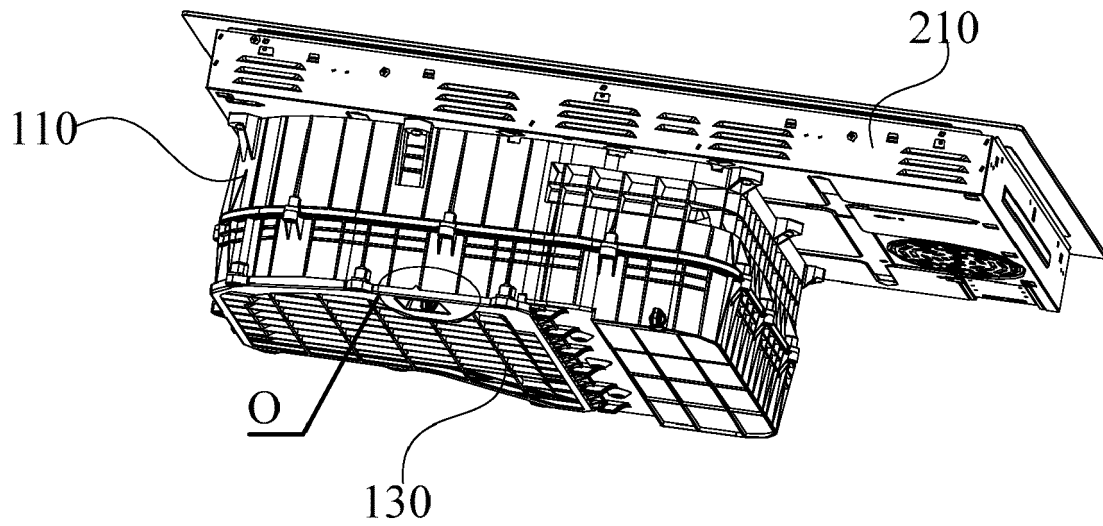


FIG. 35

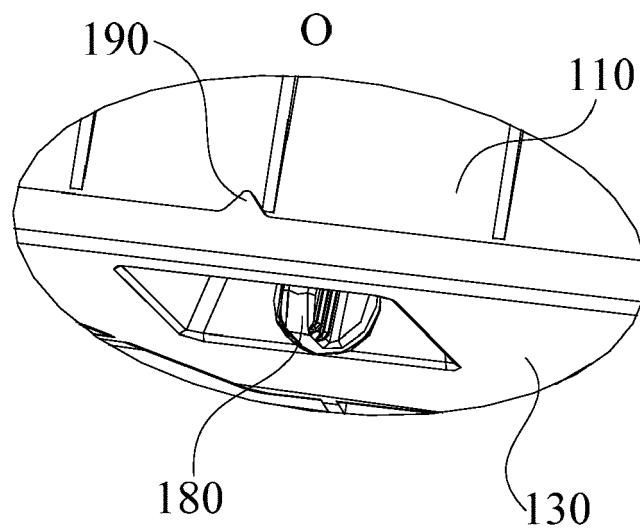


FIG. 36

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CN 202320686553 [0001]
- CN 202320686354 [0002]